A Benchmarking and Best Practices Analysis
Appendix Report

Prepared for

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

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ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY
BENCHMARKING AND BEST PRACTICES ANALYSIS
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SECTION 1.1: ALASKA

Alaska is a state rich in majestic natural beauty and abundant natural, mineral, seafood, oil and gas resources. Located on the northwestern edge of the North American continent adjacent to Canada and across the Bering Sea from Russia, the state is geographically separated from the continental United States. As a frontier state, Alaska's population density and economic diversity is markedly different compared to many other U.S. states. Reflecting Alaska's abundance of natural resources, in particular oil, nearly 90 percent of state revenues are generated through oil production and one third of the state's jobs are associated with the oil industry.[1]

Like other oil-dependent and producing states, Alaska benefited from the oil boom that began prior to the Great Recession of 2007-2009. Today, however, Alaska's economy is experiencing the adverse effects of the world's slowing economic growth, glut in oil production and resultant decline in oil prices. Many of the industries that exist in Alaska are also dependent on the oil industry, and they, too, have been adversely impacted by the fallout from the decline in this industry. Today, Alaska is dealing with these adverse impacts, and their effect is particularly evident in the state's treasury. Additionally, the state is very reliant upon the federal government for expenditures in military installations. Sequestration policies of the last few years have impacted Alaska's economy as well. The federal government also owns more than 59 percent of Alaskan lands.[2]

The current population of the state is 738,432 (2015 estimate), representing a 4.0 percent increase in population over 2010 numbers.[3] The state is the 48th most populous state in the United States.[4] In 2015, Alaska's per capita personal income (PCPI) was $55,940, ranking 6th in the U.S. The state's PCPI grew 3.6 percent from 2014 to 2015, while the nation's PCPI increased 3.5 percent in that same time period. As a result, Alaska's PCPI was 116 percent of the nation's PCPI of $47,669.[5] The state's total personal income (TPI) in 2015 was $41,312,407,000 and ranked 47th in the United States.[6]

The median household income for the state is $71,829; the Alaska's poverty rate is 11.2 percent.[7] Almost 92 percent of the population has attained a high school diploma or GED and 28 percent of the population holds a Bachelor's degree or higher.[8] The state's unemployment rate in November 2015 was pegged at 6.6 percent remaining steady until May 2016, when it increased to 6.7 percent.[9]

The state GDP (chained, 2009 dollars) in 2014 was approximately $48.7 billion. This represents a two percent decrease between 2011 and 2014.[10] In 2014, Alaska's real GDP contracted by 1.3 percent, while the national GDP increased 2.2 percent. Early figures for 2015 suggest that the state's GDP increased 5.2 percent in the first quarter, grew 0.4 percent in the second quarter, and decreased 1.2 percent in the third quarter, which resulted in the

state being ranked 48th among all the states for GDP growth between the second and third quarters of 2015.[11]

In 2014, the largest economic sector in Alaska as a contributor to overall state GDP was the Mining Sector, which accounts for 27.4 percent of the state's overall GDP and accounted for 13.3 percent of real growth. The second largest contributor to the state GDP was Government, accounting for 17.1 percent of the state's GDP, but registering a 1.8 percent decline between 2013 and 2014. These two economic sectors were followed by Transportation and Warehousing; Finance, Insurance, Real Estate, Rental, and Leasing (tie); and Professional and Business Services (note: 27 percent of the state's GDP is made up of "All Others").[12]

Economic Development Entities in Alaska

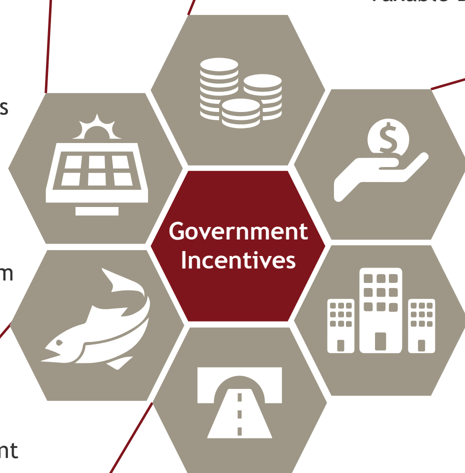
Relative to other states, Alaska has a streamlined economic development delivery system, with many of the state's programs concentrated in its Department of Commerce, Community and Economic Development (DCCED). From one standpoint, this is highly advantageous, as businesses do not have to deal with multiple and sometimes competing and redundant public agencies to access resources and assistance. From another perspective, this level of concentration in one department may also signify that the economic development department has to answer to many "masters" and may also find that it is compelled to deal with multiple, competing priorities, most likely in an environment where sufficient budgetary resources are lacking.

Department of Commerce, Community and Economic Development

The Alaska Department of Commerce, Community, and Economic Development's (DCCED) primary mission is "to promote a healthy economy, strong communities and protect consumers in Alaska". To that end, the department houses several key divisions including the Division of Economic Development. The division has 13 staff members who support the growth and diversification of the state's economy through the provision of technical assistance for new businesses, loan programs, promotional and marketing assistance, and public policy strategies focused on economic development.[13]

The Division of Economic Development also houses the Alaska Film Office; the Alaska Product Preference Program to encourage the use of Alaska companies for state contracts; the Alaska Regional Development Organizations (ARDOR) program consisting of 10 regional economic development organizations throughout the state; the Division of Community and Regional Affairs; the Fisheries and Seafood Office; the Made in Alaska Program that promotes Alaska products; the Minerals Office; the Forest Products Office; the Alaska Tourism Department, and an Unmanned Aerial Systems Initiative promoting Alaska as a primary location for this new and emerging industry.[14]

FIGURE 1: OVERVIEW OF ALASKA'S ECONOMIC DEVELOPMENT INCENTIVES



Energy

- Alaska Department of Commerce, Community and Economic Development
  - » Alternative Energy Conservation Loan Fund
- Alaska Industrial Development and Export Authority
  - » Energy Loan and Bond Guaranty Programs
  - » Loan Participations for Qualified Energy Development
  - » Direct Energy Development Loans
  - » Loan or Bond Guarantees
- Alaska Energy Authority
  - » Renewable Energy Grant Fund
  - » Emerging Energy Technology Fund – Grant Program
  - » Power Project Fund Loan Program
  - » Research/Technical Assistance

Bonds

- Alaska Industrial Development and Export Authority
  - » Conduit Revenue Bonds
  - » Tax Exempt Bonds
  - » 501(c)(3) Revenue Bonds
  - » Industrial Development Bonds
  - » Taxable Bonds

SMEs

- Alaska Department of Commerce, Community and Economic Development
  - » Microloan Loan Program
  - » Rural Development Initiative Fund (AIDEA)
  - » Small Business Economic Development Loans (AIDEA)
- Alaska Industrial Development and Export Authority
  - » Loan Participations

Seafood/Fisheries

- Alaska Department of Commerce, Community and Economic Development
  - » Commercial Charter Fisheries Loan Program
  - » Commercial Fishing Loan Program
  - » Community Quota Entity
  - » Fisheries Enhancement Loan Program
  - » Mariculture Loan Program
- Alaska Seafood Marketing Institute
  - » U.S. Retail Marketing
  - » International Marketing and Promotion

Infrastructure Development

- Alaska Industrial Development and Export Authority
  - » Surface transportation infrastructure for resource development
  - » Energy Infrastructure
  - » Ports
  - » Intermodal Facilities
  - » Airports/Cargo Facilities

Project Development
(Financing, Ownership, Management)

- Alaska Industrial Development and Export Authority
  - » DeLong Mountain Transportation System
  - » Skagway Ore Terminal
  - » Ketchikan Shipyard
  - » Federal Express Aircraft Maintenance Facility
  - » Snettisham Hydroelectric Project
- Interior Energy Project
- Alaska Energy Authority
  - » Bradley Lake Hydroelectric Project
  - » Alaska Intertie Transmission Line
- Alaska Gasline Development Corporation
  - » Alaska Stand Alone Pipeline Project
  - » Alaska Liquefied Natural Gas Project

Other Incentives

- Alaska Industrial Development and Export Authority
  - » Loan Participations and Loan Guarantees
  - » Export Financing – Loan Guarantees
  - » New Markets Tax Credit Loan Guaranty and Loan Program
- Alaska Department of Commerce, Community and Economic Development
  - » Alaska Capstone Avionics Loan Program

Sources: State of Alaska Economic Development Agency Websites, July 2016.

Additionally, a number of associated agencies operate under the umbrella of the DCCED, including the Alaska Industrial Development and Export Authority (AIDEA); the Alaska Energy Authority (AEA); the Alaska Gasline Development Corporation; the Alaska Railroad Corporation; the Alaska Seafood Marketing Institute; the Alcohol Beverage Control Board, and the Regulatory Commission of Alaska.[15] While the Division of Economic Development serves as the lead economic development office for the state, the associated agencies are important components of the state's economic development ecosystem.

The Division is the lead agency in regards to the promotion of Alaska products and businesses. It also sponsors a number of loan programs focused on small businesses and businesses predominately in the natural resource sector including those associated with energy, aviation and fisheries development.[16]

TABLE 1: ALASKA DEPARTMENT OF COMMERCE, COMMUNITY, AND ECONOMIC DEVELOPMENT – DIVISION OF ECONOMIC DEVELOPMENT PROGRAMS

Incentive Program	What it offers
Alternative Energy Conservation Loan Fund	Loan program focused on providing financing to purchase, construct, and install alternative energy or energy conservation improvements in commercial buildings. ◆ Maximum loan amount is $50,000. For loan requests over $30,000 the applicant must provide a letter of denial from a financial institution stating reason for denial OR stating that a loan from the institution is contingent on the applicant receiving a loan from the fund. ◆ Loan terms up to 20 years. ◆ Interest rate is fixed at the time of loan approval – current rate: 5 percent. ◆ Applicants must be Alaska residents for the 12 months preceding the date of application. ◆ All loans must be adequately secured and collateralized.
Alaska Capstone Avionics Loan Program	Loan program used to purchased and install eligible Capstone Avionics equipment in aircraft used predominately within Alaska. ◆ Aircraft being upgraded must be owned or leased by the applicant and principally operated in Alaska. The applicant must sign a declaration certifying that the aircraft has flown at least 51 percent of its flight hours in Alaska over the last 12 months preceding the loan request. ◆ Eligible equipment: automatic dependent surveillance –broadcast (ADS-B) data link; GPS/WAAS navigation equipment; a moving map functional display (MFD); and other equipment as determined by the DCCED in consultation with the Department of Transportation and Public Facilities. ◆ Maximum loan amount is 80 percent of the cost of the Capstone avionics equipment. ◆ Loan terms up to 10 years. ◆ Interest rate is fixed at the time of loan approval –current rate: 4 percent. ◆ Loans will be secured by a priority lien on the Capstone avionics being financed and lien on the aircraft being upgraded. ◆ The refinancing of existing debt is prohibited. ◆ Applicants must be Alaska residents for the 12 months preceding the date of application. ◆ All loans must be adequately secured and collateralized.
Commercial Charter Fisheries Loan Program	Loan program that provides financing to purchase charter halibut permits or to refinance vessels or gear purchased 12 months before the submittal of the loan application. ◆ Maximum loan amount is $200,000 for a permit loan and $100,000 per year for other loans. Borrowers are limited to an aggregate of $200,000 in outstanding loan balances. ◆ The applicant must provide a letter of denial from a financial institution stating reason for denial OR stating that a loan from the institution is contingent on the applicant receiving a loan from the fund. ◆ Loan term up to 5 years. ◆ Interest rate is fixed at the time of loan approval-current rate: 6 percent. ◆ All loans must be adequately secured, include a property lien, and the items financed. ◆ Applicants must be Alaska residents for the 24 consecutive months preceding the date of application.

TABLE 1: ALASKA DEPARTMENT OF COMMERCE, COMMUNITY, AND ECONOMIC DEVELOPMENT – DIVISION OF ECONOMIC DEVELOPMENT PROGRAMS	
Incentive Program	**What it offers**
Commercial Fishing Loan Program	Loan program designed to promote the development of resident fisheries and continued maintenance of commercial fishing vessels and gear for the purpose of improving the quality of Alaska seafood products. Eligible costs include limited entry permits, quota shares, vessels, or commercial fishing gear purchased within the prior 12 month period. ◆ Loan terms up to 15 years. ◆ Interest rate is fixed at the time of loan approval –current rate: 5.50 percent. ◆ Items being financed will serve as collateral for the loans. A priority lien is also generally required from applicants. ◆ Applicants must have been Alaska residents for at least the past two years; have the intention to live in Alaska indefinitely; and consider Alaska their permanent and primary home.
Community Quota Entity (CQE)	Loan program that provides loans to Community Quota Entities (CQE) for the purchase of halibut and sable fish quota shares through the National Marine Fisheries Service program, and then lease the quota back to local resident Alaskan fishermen. ◆ To be eligible, the CQE must be certified by the National Marine Fisheries Service Program and be eligible to hold Quota Shares; the CQE must be in good standing with state and federal authorities; and the CQE must not be eligible for financing from other recognized financial institutions. ◆ Maximum loan amount per eligible community is $1 million. ◆ Loan term up to 25 years. ◆ Interest rate is fixed at the time of loan approval –current rate: 5.50 percent. ◆ Interest payments may be deferred for up to two years. ◆ Items being financed will serve as collateral for the loans. A priority lien is also generally required from applicants.
Fisheries Enhancement Loan Program	Provides financing for the planning, construction, and operation of fish hatchery facilities. Eligible applicants include qualified regional associations or private, nonprofit corporations with private, nonprofit hatchery permits from the Alaska Department of Fish and Game. ◆ Maximum loan amounts up to $10 million; loan requests of more than $1 million must come from a regional association or private, nonprofit corporation approved by the regional association responsible for a specific geographic area. ◆ Loan term up to 30 years – terms are set by the loan committee based on purpose of loan, the needs of the borrower, the ability to repay the loan, and the collateral offered. ◆ No repayment of the principal is required for an initial period of six to ten years; no interest on the principal shall accrue during the period. ◆ Interest rate is fixed at the time of loan approval –current rate: 5 percent. ◆ Loans must be secured with sufficient collateral. ◆ Refinancing of long term notes are not allowed. Short term notes with terms of less than one year executed within six months prior to the submittal of the application may be eligible for refinancing.
Mariculture Loan Program	Provides financing for the planning, construction, of a mariculture business. Applicants must have a permitted mariculture farm location and have experience or training in the mariculture industry. ◆ Maximum loan amount up to $100,000 per year with an aggregate limit of outstanding loan balances of $300,000 per borrower. ◆ Loan term up to 20 years. ◆ Interest rate is fixed at the time of loan approval –current rate: 5 percent. ◆ Payments may be deferred for up to six years. ◆ Loans must be adequately secured and include a priority lien.

TABLE 1: ALASKA DEPARTMENT OF COMMERCE, COMMUNITY, AND ECONOMIC DEVELOPMENT – DIVISION OF ECONOMIC DEVELOPMENT PROGRAMS	
Incentive Program	**What it offers**
Microloan Loan Program	Provides financing for small businesses for working capital, equipment, construction, or other commercial purposes. ◆ Maximum loan amount up $35,000 to a person or up to $70,000 to two or more persons. ◆ For loan requests over $35,000 the applicant must provide a letter of denial from a financial institution stating reason for denial OR stating that a loan from the institution is contingent on the applicant receiving a loan from the fund. ◆ Loan terms up to six years. ◆ Interest rate is fixed at the time of loan approval –current rate: 6 percent. ◆ Loans must be adequately secured. ◆ Borrower must provide a reasonable amount of non-state funds for the project.
Rural Development Initiative Fund	Provides financing for business start-ups and expansion projects in communities with a population of 5,000 or less and not connected by road or rail to Anchorage or Fairbanks or to communities with less than 2,000 residents connected by road or rail to the two main cities. ◆ Eligible project costs include working capital, equipment, and construction or other commercial purposes. ◆ Eligible projects must include a job creation or retention focus. ◆ Loan amounts from $150,000 per person or up to $300,000 for two or more people. ◆ Maximum loan terms up to 25 years. ◆ Interest rate set at 1 percent below prime – current rate: 4 percent.
Small Business Economic Development	Provides financing for business start-ups and expansion projects for small business companies ("small business as defined by the U.S. Small Business Administration). ◆ Eligible project costs include working capital, equipment, and construction or other commercial purposes. ◆ Eligible projects must include a job creation or retention focus. ◆ Applicants are required to match loan amounts with equal amounts of cash or private financing. ◆ Loan amounts up to $300,000. ◆ Maximum loan term of 20 years on fixed asset loans and 5 years on working capital. ◆ Loan amount may not exceed 90 percent of collateral value. ◆ Fixed interest rate – current rate: 4 percent.

Source: Alaska Department of Commerce, Community, and Economic Development Website, July 2016.

Alaska Industrial Development and Export Authority

The Alaska Industrial Development and Export Authority (AIDEA) is the state's development finance institution. AIDEA operates under the aegis of the Alaska Department of Commerce, Community and Economic Development. AIDEA plays a lead role in supporting the state's growth engine due to its ability to offer financing programs and provide direct technical and financial assistance for major development projects in the state.

AIDEA was established by the Alaska State Legislature in 1967 with an expansion of powers in 1987 that allowed AIDEA to provide financing guarantees for the exportation of Alaska goods and services.[17] AIDEA is a public corporation of the State of Alaska, constituting a political subdivision within the Alaska Department of Commerce, Community, and Economic Development, but with a separate and independent legal existence. AIDEA is self-sufficient and the agency has not received any general fund allocations from the Alaska Legislature since 1988.[18] AIDEA's mission is to "promote, develop and advance economic growth and diversification in Alaska by providing various means of financing and investment."[19]

AIDEA is governed by a seven person Board of Members. The membership of the board includes the state's Commissioners of Revenue and Commerce, Community and Economic Development. The five public members are appointed by the Governor.[20]

In 2009, AIDEA completed a comprehensive strategic plan entitled AIDEA Strategic Plan: Investing in Alaskans that was commissioned to determine how the agency could improve on its mission to conduct economic development activities, increase prosperity in the state, and attract new jobs. The plan was a comprehensive review of current programs, and included an environmental scan of the perceptions of strategic audiences about AIDEA and its economic development role; a SWOT assessment of the agency and the Alaskan economy, and a review of best practices for economic development finance programs from national and international sources. The strategic plan proffered a set of strategies and recommendations along with a vision and plan for implementation.[21]

At the time that the report was authored, the Alaska economy was outperforming the national economy thanks in large measure to oil and mineral extraction revenues. However, it was noted that Alaska's traditional economic structure - which includes "1/3rd oil, 1/3rd federal investments, and 1/3rd other (mostly resource based industries)" - while stable at the time, could prove to be volatile depending on fluctuations in both commodity prices and federal investments. Generally, the strategic plan noted that AIDEA had the financial reserves and institutional capacity to play an expanded role in the state's economic development infrastructure but AIDEA had a limited statutory ability to participate in some economic development activities and was also more passive when it came to supporting projects that could have significant development impacts in the state.[22]

Based on research and interviews with stakeholders, the general recommendations in the strategic plan included the following:

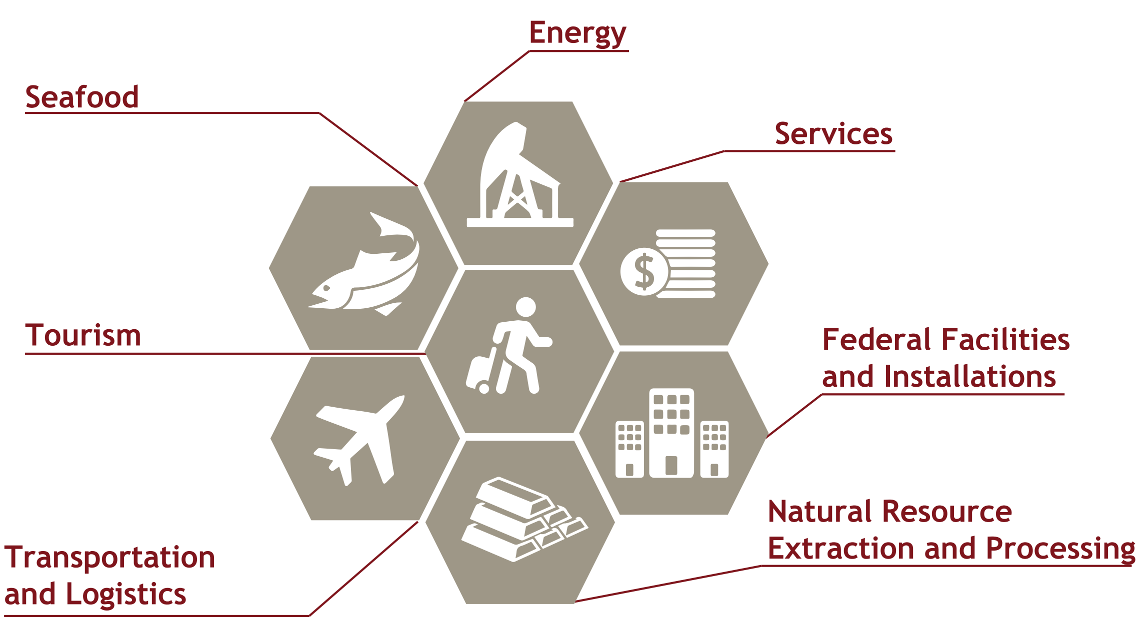
1. Diversify and grow;
2. Improve AIDEA' s existing program and add target economic development tools;
3. Expand the deployment and impact of AIDEA's economic development financing.

To diversify the types of projects and industries targeted by AIDEA programs, the strategic plan suggested the following mix that capitalized on the-then current strengths of the state's economic structure: Natural Resource Extraction; Logistics; Energy (including renewable and energy transportation), Communications, Fisheries, Tourism; Federal (military and civilian); Aerospace; Health Care, and Agriculture and Forestry. Many of these economic sectors have "spin-off" industries and the strategic plan suggested targeting AIDEA economic development finance programs at these opportunities rather than using a scattershot approach.[23]

The 2009 Strategic Plan report also established a set of performance metrics for AIDEA to use in measuring its progress against its mission and goals. These metrics were divided into three categories: Economic Development Metrics, Financial Metrics, and Performance (Efficiency & Effectiveness) Metrics:

Economic Development Metrics: Total private investment facilitated by AIDEA participation; number of jobs created/retained; average hourly wage of jobs created/retained; the percentage of jobs created/retained that pay a living wage; percentage of jobs created and filled by current Alaska residents; number of jobs created/retained in rural areas; AIDEA investment by target industry sector; AIDEA investment by geographic region;

FIGURE 2: AIDEA'S TARGETED ECONOMIC SECTORS



Source: AIDEA Annual Report 2015.

jobs created as a percentage of total jobs in borough or census tract; percentage and amount of construction spending in state and wages paid to Alaska residents; loan partners by region; and increase in state and local tax revenues over an established baseline.

Financial Metrics: Total funds from other lenders; total funds from other partners; total amount of AIDEA funds invested; leverage ratio for AIDEA funds; net rate of return for AIDEA; credit rating on existing debt; balance sheet capacity/weighted risk profile; rate of return of AIDEA funds; debt capacity at planning limits; coverage ratio; par debt outstanding; and total investment created by AIDEA participation.

Performance Metrics: Number of loans/guarantees by program; number of projects by size of investment; liquidity capacity and percentage of capacity used; number of declines as a percentage of applications; number of pre-flights; number or percentage of pre-flights that become loans; ranking of loans from most profitable to least profitable; overall AIDEA percentage of loans to maximum loan amount allowed; new development finance programs per year; average annual loans or average amount of loan amounts per AIDEA full time equivalent.[24]

In its 2015 Annual Report, AIDEA reported that it tracked its performance based on the following measures: temporary or permanent jobs created or retained; the net position of its Revolving Fund programs; investment impairments; dividends declared to the state; recent loan activity; investments in project development projects, and dollar amounts associated with conduit revenue bonds issued.[25] Additionally, in AIDEA's 2015 Annual Report, performance measures tracked included the following: location of project; industry sector of the project; project cost; use of fund; AIDEA program used; private sector dollars leveraged; jobs created/retained; state and local tax revenue generated; state royalty payments; total number of loans, and outstanding revolving fund loan balance.[26]

Overall, the 2009 strategic plan laid the groundwork for improvements to AIDEA's program of work and its position and function within the state's economic development ecosystem. It also provided a comparative analysis of economic development programs in other regions across the United States, a blueprint for expanding AIDEA's focus and recommendation for a more proactive approach to economic development projects and activities within the state.

In 2015, AIDEA programs resulted in 1,044 new permanent jobs, 1,108 construction jobs, $124 million in new AIDEA investments, and leveraged almost $182 million in further private sector investment. Additionally, AIDEA funded $33 million in new loans in partnership with Alaska financial institutions. Based on the agency's performance, the AIDEA was able to declare a dividend to the State of Alaska in the amount of $17.6 million.[27]

AIDEA Loan Programs

AIDEA offers several loan programs for business. Some have generally a specific focus on businesses located in rural areas and those that are in start-up mode. Two of AIDEA's loan programs, the Rural Development Initiative Fund and the Small Business Economic Development Fund, are administered through the Alaska Department of Commerce, Community and Economic Development.

AIDEA provides a loan participation program that requires borrowers to apply through eligible Alaska financial institutions. AIDEA is able to purchase up to 90 percent of a participating credit to a maximum of $25 million. Interest rates are either fixed or variable and are pegged to the Federal Home Loan Bank of Des Moines' Fixed Rate Advances Index.

TABLE 2: AIDEA LOAN AND LOAN PARTICIPATION PROGRAMS

Incentive Program	What it offers
Rural Development Initiative Fund (RDIF)	Provides financing for business start-ups and expansion projects in communities with a population of 5,000 or less and not connected by road or rail to Anchorage or Fairbanks or to communities with less than 2,000 residents connected by road or rail to the two main cities. ◆ Eligible project costs include working capital, equipment, and construction or other commercial purposes. ◆ Eligible projects must include a job creation or retention focus. ◆ Loan amounts from $150,000 per person or up to $300,000 for two or more people. ◆ Maximum loan terms up to 25 years. ◆ Interest rate set at 1 percent below prime.
Small Business Economic Development Fund (SBED)	Provides financing for business start-ups and expansion projects for small business companies ("small business as defined by the U.S. Small Business Administration). ◆ Eligible project costs include working capital, equipment, and construction or other commercial purposes. ◆ Eligible projects must include a job creation or retention focus. ◆ Applicants are required to match loan amounts with equal amounts of cash or private financing. ◆ Loan amounts up to $300,000. ◆ Maximum loan term of 20 years on fixed asset loans and 5 years on working capital. ◆ Loan amount may not exceed 90 percent of collateral value. ◆ Fixed interest rate.
Loan Participation Program	In an effort to assist with permanent financing, both taxable and tax-exempt, for the development, expansion, enhancement, or acquisition of Alaska businesses, AIDEA offers the loan participation program which allows the agency to purchase up to 90 percent of a participating credit to a maximum of $25 million. ◆ Borrowers must be sponsored through a qualified, participating financial institution. ◆ Loan amounts up to $25 million. ◆ Terms up to 15 years for personal property; terms up to 25 years for real property. ◆ Term of the AIDEA portion of loan can exceed the participating bank's term. ◆ Maximum loan-to-value is 75 percent. ◆ Interest rates: fixed or variable.

Source: AIDEA Website, June 2016.

AIDEA Energy Loan and Bond Guaranty Programs

Energy and the ancillary industries that support the energy sector are of strategic importance to the Alaskan economy. The ASSETS Act (Alaska Sustainable Strategy for Energy Transmission and Supply Act) created new programs and powers within AIDEA to address the state's sustainable energy needs. These programs include direct loan, loan participation, and loan or bond guaranty programs targeted at businesses with projects classified as "Qualified Energy Development" activities. Qualified Energy Development includes a variety of energy projects, such as the transmission, generation, conservation, storage, or storage of heat or electricity; liquefaction, regasification, distribution, storage, or use of natural gas; distribution or storage of refined petroleum products including energy efficiency measures undertaken to reduce energy consumption.[28]

TABLE 3: AIDEA ENERGY LOAN, LOAN PARTICIPATION, AND LOAN OR BOND GUARANTY PROGRAMS

Incentive Program	What it offers
Loan Participations for Qualified Energy Development	For sustainable energy development projects, AIDEA offers a loan participation program which allows the agency to purchase up to 90 percent of a participating credit to a maximum of $25 million. ◆ Borrowers must be sponsored through qualified financial institutions who have agreed to underwrite loans for the borrower's project. ◆ Can be utilized for energy efficiency measures undertaken to reduce energy consumption. ◆ Loan amounts up to $25 million. ◆ Terms up to 25 years. ◆ Maximum loan-to-value is 75 percent of collateral. ◆ Interest rates: fixed or variable.
Direct Energy Development Loans	Direct loan program for energy development projects in which AIDEA finances or guarantees up to 30 percent of the total costs for an eligible project. ◆ Loan amounts up to $20 million or 33.3 percent of total projects (minimum loan amount is $5 million). ◆ Two-thirds of total project costs must be financed through other sources. ◆ Terms up to 30 years; hydroelectric projects can have terms up to 50 years. ◆ Maximum loan-to-value is 75 percent of project cost. ◆ Interest rates: fixed or variable.
Loan or Bond Guarantees	AIDEA is authorized to issue guarantees on loans or bonds used to finance qualified energy developments in the State of Alaska. The primary benefit of this program is that borrowers may realize lower cost funding through traditional financial institutions with an AIDEA loan or bond guarantee in place. ◆ Guarantee amounts up to $20 million or 33.3 percent of total projects. ◆ Terms up to 30 years; hydroelectric projects can have terms up to 50 years. ◆ Maximum loan-to-value is 75 percent of project cost. ◆ Interest rates: based on transaction type.

Source: AIDEA Website, June 2016.

AIDEA Business and Export Assistance

Alaska's economy is heavily reliant on the export of its products. In 1987, AIDEA was given expanded export powers to support financing programs that assisted Alaskan companies in trade development. One of these AIDEA programs is a loan guaranty that provides trade financing for small and medium sized Alaskan businesses.[29]

TABLE 4: AIDEA BUSINESS & EXPORT ASSISTANCE PROGRAMS	
Incentive Program	**What it offers**
Loan Guarantee Program	AIDEA provides a loan guarantee program to support small and medium sized Alaska businesses efforts to conduct export oriented activities. ◆ Loans must originate an eligible financial institution. ◆ Guarantees offered for loans associated with real property, tangible personal property, working capital, and export transactions. ◆ Guarantee amounts up to $1 million ◆ Terms include up to 180 days for a post-shipment export transaction and 270 days for a pre-shipment export transaction. ◆ Terms of up to one year if loan is secured by inventory or accounts receivable and a non-export transaction. ◆ Terms of up to 5 years if loan is for working capital or is unsecured by a waiver. ◆ Terms up to 15 years if secured by tangible personal property. ◆ Terms up to 20 years if secured by real property. ◆ For small businesses in rural Alaska, AIDEA can guarantee unsecured loans up to $100,000 for a maximum of 5 years.

Source: AIDEA Website, June 2016.

AIDEA Conduit Revenue Bond Programs

AIDEA operates a Conduit Revenue Bond Program that provides businesses and non-profits access to long term, low interest capital through tax exempt bonds or taxable bonds. Since the inception of program, AIDEA has issued more than 317 bonds valued at more than the $1.36 billion.[30] Under this program, AIDEA serves only as a conduit for the issuance of these bonds and therefore its assets and credit rating are never at risk in these transactions.[31]

TABLE 5: AIDEA CONDUIT REVENUE BOND PROGRAMS	
Incentive Program	**What it offers**
Tax Exempt Bonds	◆ Debt securities issued by state or local governments on behalf of businesses or nonprofit corporations with eligible projects. When issued, tax exempt bonds are sold in the open market. Bond purchasers are exempt from state and local taxes. Tax exempt bonds allow for longer terms for financing and lower interest rates associated with conventional loan products. Because costs are higher with originating a tax exempt bond project, this type of financing is usually used with large scale projects. General eligibility requirements include the following: ◆ Project must demonstrate that it will create jobs or improve the local economy where the project is located. ◆ Typical projects include facilities owned or utilized by private or public sector entities including airports; docks, transportation related facilities; water, sewer, and other local utility facilities; solid and hazardous waste facilities; and other facilities.

TABLE 5: AIDEA CONDUIT REVENUE BOND PROGRAMS	
Incentive Program	**What it offers**
1) 501 (c) (3) Revenue Bonds	501 (c)(3) Revenue Bonds are tax exempt bonds that are utilized to finance capital improvement projects for 501 (c) (3) designated nonprofit corporations that include healthcare organizations, educational institutions, cultural organizations, recreational organizations, community centers, YMCAs, and Boys and Girls Clubs. ◆ Eligible project costs include the cost of land, buildings, equipment and/or infrastructure related to the acquisition or construction of a project. ◆ 501(c)(3) Revenue Bonds can be used to refinance prior debt. ◆ Offers low interest rates and longer terms.
2) Industrial Development Bonds	AIDEA can issue Industrial Development Bonds (IDB) for manufacturing projects undertaken by Alaskan businesses to provide financing for the acquisition, construction, rehabilitation of manufacturing facilities. Projects can also include equipment financing for manufacturing and processing facility projects. Key requirements include the following: ◆ No more than 25 percent of bond proceeds can be used for be used for office, warehouse, or other space outside of manufacturing facility space. ◆ At least 95 percent of bond proceeds must be spent on qualifying costs such as land, buildings, equipment, and other depreciable property. ◆ No more than 25 percent of proceeds can be utilized in the purchase of land for a project. ◆ Acquisition of an existing manufacturing facility requires that at least 15 percent of bond proceeds will be used to renovate or rehabilitate the facility within two years of purchase. ◆ If used equipment is purchased, 100 percent of the cost must be used to rehabilitate the equipment within two years. ◆ Project cannot exceed a $20 million capital expenditure limitation established for company based on expenditures from the previous three years. ◆ A borrower is limited to an aggregate of $40 million in tax exempt bonds for a three year period after the project is put in service. ◆ Must demonstrate that project will result in new jobs created or existing jobs retained ◆ Borrower must pay prevailing wage to workers engaged in construction, renovation, and rehabilitation work on the project. ◆ May not be used to refinance existing debt, for venture capital purposes, for working capital, or for inventory purchases. ◆ $10 million is the maximum amount that can be financed; can finance up to 100 percent of eligible projects. Key benefits of Industrial Development Bond financing include: ◆ Terms of up to 30 years. ◆ Interest rates that are typically 20 percent to 30 percent lower than rates on conventional financing. ◆ Comprehensive funding from land acquisition to equipment purchases. ◆ IDBs are assumable if subject facility is sold to a new owner.
Taxable Bonds	Because taxable bonds do not qualify for federal income tax exemptions, these instruments can be issued for projects regardless of size and volume cap allocation limitations. Additionally, taxable bond projects do not require the public approval processes, and IRS reporting that characterize the reporting requirements of tax-exempt projects.

Source: AIDEA Website, June 2016.

AIDEA New Markets Tax Credit Program

While the New Markets Tax Credit (NMTC) is a federal program available in all states, AIDEA is one of the few domestic development finance institutions reviewed that has established programs to incentivize their use to expand development and job opportunities to the state's disadvantaged populations and underserved areas of the state. The New Markets Tax Credit Program is focused on geographically bound areas that have unemployment rates 1.5 times the national average and median household incomes that are less than 80 percent of the state or local metropolitan area.[32]

AIDEA Project Development

AIDEA is authorized to facilitate significant economic development projects throughout Alaska by developing, owning, and operating basic installations and facilities. These projects are able to produce sufficient revenue through operations to repay the AIDEA's investment in the project.

Applications must be submitted to AIDEA for review. AIDEA staff and legal counsel make the determination that the project meets the development criteria for participation and that the project is eligible for tax exempt bond financing as specified under the

TABLE 6: AIDEA BUSINESS & EXPORT ASSISTANCE PROGRAMS

Incentive Program	What it offers
New Markets Tax Credit (NMTC) Assistance Loan Guarantee and Loan Program	AIDEA established a New Markets Tax Credit (NMTC) Assistance Loan Guarantee and Direct Loan Program to facilitate and incentivize the use of this federal tax credit program. ◆ New Market Tax Credits can finance commercial, retail, industrial, mixed use, and community facilities projects. ◆ Rental residential developments are also considered as long as no more than 80 percent of a project's gross income is generated through rental receipts. ◆ Ineligible projects include those golf courses, country clubs, gambling facilities, liquor stores, farming businesses with intangible assets above $500,000, massage parlors, tanning salons, and spas. ◆ Proceeds can be used for plant expansion, capital equipment purchases, and short term working capital. Loan Guarantee: After an eligible applicant has received a New Markets Tax Credit allocation award from a community development entity (CDE), the applicant can apply to AIDEA for a guarantee for the leveraged loan portion of the NMTC transaction. If accepted by AIDEA, a letter of commitment is issued that the applicant can use to secure a commercial loan through an eligible Alaska financial institution. Direct Loan: AIDEA may make a direct loan to an applicant if the letter of commitment issued by the agency did not help the applicant secure conventional financing with reasonable terms from an eligible financial institution. The applicant must demonstrate that at least two financial institutions rejected their application despite AIDEA's letter of commitment OR the application was approved but the terms and conditions of the loan were commercially unreasonable. AIDEA has the option of providing direct financing if the applicant is determined to have the following requirements: ◆ Creditworthiness. ◆ Have a feasible business plan. ◆ Have viable collateral for securing the loan. ◆ Demonstrate that projected revenues are sufficient to cover the project, business operations, and debt service for the loan.

Source: AIDEA Website, June 2016.

Internal Revenue Code. AIDEA Statutes 44.88.900 define eligible projects as:

1. A plant or facility used for or intended for the use of in connection with manufacturing, processing, preparing, transporting or producing goods, products, or substances of any kind or nature or in connection with developing or utilizing a natural resource, or extracting, smelting, transporting, converting, assembling, or producing in any manner minerals, products, raw materials, chemicals, compounds, alloys, fibers, commodities and materials, products, or substances of any kind.
2. A plant or facility demonstrating technological advances or new methods and procedures and prototypes, commercial applications for exploration, development, production, transportation, conversion, and use of energy resources.
3. Infrastructure for a new or expanded tourism destination facility.
4. A plant or facility designed for the generation, transmission, development, transportation, conversion, or use of energy resources.
5. A plant or facility that enhances economic development through transportation, communications, community public purposes, technical innovation, prototype commercial application of intellectual property, and research and development activities.
6. A plant or facility intended for use by the Federal government including branches of the military.
7. Infrastructure for an area designated as a Military Facility Zone.

The decision making process undertaken by AIDEA when considering the eligibility and practicality of potential projects includes a four phase analysis depicted in Figure 3:

Among the most important criteria that must be met to secure AIDEA's participation in a project are the following:

1. Applicants must demonstrate that the project in question must be economically beneficial to Alaska and contribute to the state's continued economic growth.
2. The applicant must demonstrate that it is financially sound and responsible.
3. The project must demonstrate fiscal feasibility by showing that it will be able to produce enough revenue to repay AIDEA's investment.
4. Any increased demand on existing public facilities resulting from undertaking the project will be mitigated.
5. Employment will be provided by the project in a manner related to the amount financed.
6. The scope of the project will be of a size to provide real benefits to the residents of Alaska and the state economy itself.

FIGURE 3: AIDEA PROJECT ANALYSIS AND DECISION-MAKING PROCESS FOR PROJECT DEVELOPMENT

	Phase 1	Phase 2	Phase 3	Phase 4
	Project Suitability Assessment	Feasibility Analysis	Deal Structuring & Due Diligence	Finalization and Close
Project Sponsor Submittals	• Project description • Sponsor information • Estimated costs • Timing • Anticipated AIDEA participation	• Business plan • Financing plan • Operations plan • Preliminary schedule • IP/Technology plan • Execution/development plan	• Final operations plan • Final financing plan • Final engineering and construction plans • Final technology/IP plans	• Joint work wiith AIDEA to prepare contracts,financial and security agreements, and others as needed
AIDEA Process	• Does project fit AIDEA mission? • Is it consistent with AIDEA strategic initiatives? • What is the total cost of the project? • What are the potential financing options? • How complete is the project proposal? • What is the proponent's experience and capability? • Does AIDEA have the capacity to implement the project? • Is AIDEA the right source of funds?	• Is there a complete business plan? • Is there a complete financing plan? • Is there local community support? • What is the timing and status for permitting, construction, and operations? • What are the needed financing terms and security? • What are the planned sources of capital? • What are the risks?	• Test business case, technical aspects, management, and financial approach • Finalize finance plan, security, equity and capital • Complete due diligence checklist • Prepare ownership and operating agreements	• Final review and refinement of all documents • Confirmation of assumptions regarding business plan, source and uses of funds, satisfaction of conditions precedent
Output	• Project information form • Suitability report	Feasibility Report - Preliminary term sheet - Preliminary risk analysis • Reimbursement Agreement	• Finance plan • Ownership and Operating Agreements • Due Diligence Checklist • Board Report Resolution	• Final Documents
AIDEA Decision Making	Project Suitability Committee • Authorization to go to Feasibility Analysis • Technical Assistance Agreement	Investment Committee • Review business case, finance and operations plans, and feasibility report AIDEA Board • Review and authorize to go to Deal Structuring and Due Diligence • Approve Reimbursemnt Agreement	Investment Committee • Review business case, finance plan, due diligence,operating agreements, and deal documents • Make recommendation to Board AIDEA Board • Approval of documents substantially in form • Adoption of resolution delegating authority to complete financing	Investment Committee •Final review & approval AIDEA Executive Director • Final review • Document execution •Closing
	No Go / Go	No Go / Go	No Go / Go	No Go / Go

Project proceeds to funding, final design, construction, and operation

Source: AIDEA Website, June 2016.

7. The project is in compliance with all relevant laws and regulations.
8. The issuance of bonds for the project will not hinder the state or any local political subdivision's ability to market other bonds. The Alaska State Legislature must approve all bond issuances over $25 million.

The Project Development Division is responsible for the development and management of numerous projects throughout the state. Currently, AIDEA has ownership of eight projects: DeLong Mountain Transportation System, Skagway Ore Terminal, Ketchikan Shipyard, Federal Express Aircraft Maintenance Facility, Mustang Road and Pad, MOC1 Oil Processing Facility, Camp Denali Readiness Center, and the Snettisham Hydroelectric Project.

Infrastructure Development

As part of AIDEA' s strategic plan, the opening of new mine sites, new areas for oil and gas exploration, and the exploitation of new mineral resource were identified as important economic development initiatives for the state. Additionally, the jobs potential for processing these resources and their associated uses in new and emerging industries was recognized as an important diversification objective. To that end, AIDEA supports and infrastructure development program focused on such projects as:

- The development of surface transportation infrastructure for resource development.
- The development of energy infrastructure to provide power resources for mining, oil, and gas exploration sites.
- The development and enhancement of port facilities.
- The development of intermodal facilities.
- The development and enhancement of airport and cargo facilities.

AIDEA considers projects on a case by case basis. AIDEA provides access to loan and bonding resources for the development of infrastructure. Because of AIDEA's unique ability to own and operate facilities and its project management capabilities, the infrastructure program provides a proactive means of enhancing economic development projects where infrastructure is sparse, and especially in the areas of the state where natural resource extraction industries are likely to operate.

Interior Energy Project

The Interior Energy Project (IEP) is a joint project of DCCED, AIDEA, the Alaska Energy Authority and the Alaska departments of Revenue and Natural Resources. This project is an effort to bring clean-burning natural gas to the interior of Alaska to address the high energy costs in this vast area and to replace environmentally harmful wood and oil burning systems. AIDEA was authorized in 2013 legislation to provide the financing package to partner with a private sector provider. AIDEA also is working with Interior Utilities (Golden Valley Electric Association, Fairbanks Natural Gas, and Interior Gas Utility) on plans for the construction of transportation, storage, regasification, and distribution networks in the Interior; will negotiate commercial liquefied natural gas sales and purchase agreements on behalf of the Interior Utilities; finance natural gas exploration and production; study and plan for the logistics of project; and finance the system planning, design, and construction of the infrastructure necessary to meet the objectives of the IEP. As of March 2015, AIDEA has authorized $37.8 million for development of distribution systems and $15 million for the expansion of the Fairbanks Natural Gas distribution system.[33]

Alaska Energy Authority

AIDEA works collaboratively with the Alaska Energy Authority (AEA) through a shared services arrangement. The AEA serves as the state's energy office. Its primary mission is to reduce the cost of energy in Alaska. While both AIDEA and AEA are independent and separate agencies, the shared services arrangement allowing for AIDEA to provide personnel resources to staff AEA in return for reimbursement (AEA has no direct employees), allowing AIDEA to provide up to $7.5 million in liquid working capital for AEA. AIDEA board members also serve as the AEA board of directors.[34] Together, AIDEA and AEA have 103 authorized employee positions. Employees of AIDEA/AEA are State of Alaska employees.[35]

AEA's programs focus on the promotion of energy resources, technical and research assistance, and energy conservation programs. Of particular significance are the following financial programs that offer grants and loans:

Renewable Energy Grant Fund

The Renewable Energy Grant Fund, administered through the AEA, provides financial assistance for programs that stabilize energy costs for Alaska residents, provide research on renewable energy technologies, and promote economic development through the creation of jobs in emerging energy sectors.[36]

The Renewable Energy Grant Fund was created by the Alaska Legislature in 2008 with annual funding of $50 million for five years. The fund was renewed in 2012 for an additional ten years with varying levels of funding. The AEA is authorized by the Legislature to manage the project application process, project evaluations, recommendations, completion of grant agreements, and the disbursement of grant funds for projects. Request for applications are issued in July each year and due in September.[37]

Eligible renewable energy projects include Biomass, Hydroelectric, Solar, Wind Energy, Heat Recovery technologies, and Heat Pump best practices. To date, 287 projects have been funded through appropriations of $259 million and matching dollars of $153.3 million.[38]

Emerging Energy Technology Fund – Grant Program

The Emerging Energy Technology Fund is a grant program established by the Alaska State Legislature in 2010 to promote the expansion of energy sources available for public use. Grant funds are used for demonstration projects that include: 1) testing emerging energy technologies or methods of conserving energy; 2) improving an existing energy technology, and 3) deploying an existing technology that has not been previously been demonstrated in the state. The technologies eligible for grant funding include those related to renewable energy, the conservation of energy, enabling technologies, and the efficient and effective use of hydrocarbons and integrated systems.[39]

Grants are awarded on a competitive basis and funding rounds are dependent on the availability of state funding. The selection process entails a two-stage application that includes the submittal of project abstracts, which are reviewed by a volunteer advisory committee appointed by the Governor and the Alaska Energy Authority. Selected applicants are then invited to provide full proposals and give in-person presentations to the committee from which funding selections are made.[40]

The Alaska Center for Energy and Power at the University of Alaska is contracted to review and independently verify performance data generated by projects. At the conclusion of the projects, summary reports and non-sensitive data is made available to the public.[41]

To date, 18 demonstration projects have been launched through two competitive rounds of funding in 2012 and 2013. A third round of funding is expected in 2013. Round 1 resulted in $8.9 million in grant funding and $3.1 million in matching dollars. Round 2 resulted in $2.4 million in grant funding and $1.7 million in matching dollars.[42]

Power Project Fund (PPF) Loan Program

The Power Project Fund Loan Program provides loans to local governments, local utilities, or independent power producers to develop, expand, or upgrade electric power facilities, including distribution networks, transmission infrastructure, conservation, bulk fuel storage, and waste energy.[43]

Loan terms cannot exceed 50 years but are related to the useful life of the project. The interest rates applied to PPF projects can be zero or the tax exempt rate which is equal to the average weekly yield of municipal bonds for the 12 months preceding the loan application. Loan requests of more than $5 million require legislative approval. As of May 2016, the outstanding balance of the PPF loans was approximately $6 million.[44]

Additional AEA Programs and Capabilities

The AEA also provides research and technical assistance for programs in biomass; geothermal; hydroelectric; ocean and river; solar; wind; and heat recovery energy programs designed specifically to expand the state's renewable energy portfolio. Other activities include economic assistance for rural communities seeking to stabilize energy costs for residents, assisting communities in the development of energy project proposals, and training for local residents regarding the maintenance of local utility infrastructures.[45]

AEA's Owned Assets

AEA owns, manages, and provides oversight for two state-owned energy assets: the Bradley Lake Hydroelectric Project and the Alaska Intertie Transmission Line:

- **Bradley Lake Hydroelectric Project:** Located on the Kenai Peninsula the project has 120 MV of installed capacity, providing five to ten percent of the annual power to the Railbelt (Railbelt is the region that includes the Kenai Peninsula) utilities. The project consists of a dam structure, three diversion structures, a 3.5 mile long power tunnel and vertical shaft, generating plant, interior substation, 20 miles of transmission lines, and substation. Other facilities include an airstrip, boat dock, residential quarters, and a utility system. The project went into operation on September 1, 1991. As of June 2015, total project costs are $328 million funded through a combination of state legislative appropriations and AEA revenue bonds.[46]

  The Battle Creek Diversion Project, an additional capital improvement project, was established to divert glacial water from Battle Creek glacier to Bradley Lake in order to increase the annual energy of the Bradley Lake Hydroelectric Project. The total estimated construction costs for this project is $50 million.[47]

- **Alaska Intertie Transmission Line:** The Alaska Intertie Transmission Line is a 170 mile long transmission line between the communities of Willow and Healy. It was constructed in the 1980s at cost of $124 million provided through state legislative appropriations. The Intertie interconnects GVEA, the regulated utility that serves the area north of the Alaska Range with south central Alaska utilities.[48]

Alaska Gasline Development Corporation

The Alaska Gasline Development Corporation (AGDC) was established in 2010 as a subsidiary of the Alaska Housing Finance Corporation. The organization was established to address declining Cook Inlet gas supplies and exorbitant energy costs confronting the interior communities of the state. This took the form of the Alaska Legislature initiating a state funded effort to explore the feasibility of developing the North Slope natural gas pipeline 2009, but the effort was transferred to the newly established Alaska Gasline Development Corporation (AGDC) the following year with the passage of HB 369 (Chapter 7, SLA 2010). In May 2013, with the enactment of HB 4 (Chapter 11, SLA 2013) and a state appropriation of $355 million, the AGDC received the authority and funding to manage the Alaska Stand Alone Pipeline (ASAP) project. The AGDC was also established as an independent public corporation of the State of Alaska that includes a legal existence distinct from the state but operating within the Alaska Department of Commerce, Community and Economic Development.[49]

AGDC is governed by a Board of Directors consisting of seven members. Five of the board members are appointed by the Governor and confirmed by the Alaska Legislature and two are department heads representing Alaska government agencies.[50] AGDC has an executive management team consisting of nine professionals.[51]

AGDC is responsible for two primary projects:

- **Alaska Stand Alone Pipeline (ASAP) Project:** The ASAP project was initiated in 2009 with the recognition that a solution to the high energy costs in the interior of the state needed to be addressed to promote the economic well-being of communities and residents located there. The in-state natural gas pipeline project is designed to run from Prudhoe Bay to Point MacKenzie, a 727 mile distance. It will also include a 30 mile lateral line between the main pipeline and Fairbanks.[52]

  At the time of the release of its Project Plan Year-End Update on January 11, 2013, AGDC projected that construction on the pipeline would begin in 2016 and be ready to deliver natural gas to interior communities by 2020. The $9.97 billion estimated cost would be financed through a combination of debt and equity from owners.[53]

  Project planners estimated that, at build-out, the pipeline would carry up to 500 million cubic feet per day of consumer grade lean gas. Planners also envisioned that the pipeline would spur the creation of local utility cooperatives to deliver the gas and provide up to 8,000 jobs to Alaskans during the construction phase.[54]

- **Alaska Liquefied Natural Gas (LNG) Project:** With the passage of SB 138 (Chapter 14, SLA 2014), the AGDC's scope was expanded to manage the Alaska Liquefied Natural Gas (LNG) project. This legislation scope expansion also included a state appropriation of $69.8 million to fund the state's equity participation in the project.[55]

  The project consists of a natural gas liquefaction plant, storage facilities, and an export terminal at Nikiski on the Kennai Peninsula. It also includes an 800 mile pipeline from south central Alaska to the North Slope, a gas treatment plant, and transmission lines connecting the project to the natural gas producing fields. It is expected that the project will produce approximately 3.3 billion cubic feet of natural gas per day for the Prudhoe Bay and Point Thomson natural gas fields.[56]

  AGDC is partnering with BP, ConnocoPhillips and ExxonMobil to complete the project, which is estimated to cost between

$45 billion to $65 billion. For 2016, funding of $230 million has been budgeted for preliminary engineering of the project. The project is expected to create approximately 15,000 construction jobs and 1,000 full time operations jobs when completed.[57]

Alaska Seafood Marketing Institute

The seafood industry is of strategic importance to the Alaska economy, with $130 million of revenue produced by the industry for state and local governments in 2014.[58] Representative of the industry's importance, the Alaska Seafood Marketing Institute is a public-private partnership between the State of Alaska and the Alaska seafood industry to promote Alaska seafood to national and international markets; provide technical assistance and expertise to the industry; increase the sustainability and viability of the state's seafood stock, and to promote jobs and the expansion of the industry as a targeted sector in Alaska.[59]

The Alaska Seafood Marketing Institute (ASMI) is governed by a board of directors consisting of seven members appointed by the Governor. Ex-Officio members include a representative from the Alaska House of Representatives, the Alaska Senate, and the Governor's Office. The commissioner for the Department of Commerce, Community, and Economic Development also serves in an ex-officio capacity.[60] Staffing includes thirteen professionals based at the Institute's Juneau office, seven based in an office located in Seattle, and eight contractors located at offices in Europe, Japan, China, and Brazil.[61]

The Institute has several programs that are designed to promote the state's seafood industry:

1. Communications – the Communications Program works to inform consumers about Alaska's seafood industry and products.
2. International Marketing Program – promotes the Alaska seafood industry and products to key markets in Japan, China, the European Union, and Brazil. Also conducts programs focused on retail and foodservice promotions, technical seminars, chef and retailer trainings.

3. Foreign Agricultural Service and International Marketing – targeted overseas marketing through the USDA (United States Department of Agriculture).
4. U.S. Retail Marketing – program that aligns Alaska seafood producers with domestic consumers and major supermarket chains in the U.S.
5. U.S. Foodservice Marketing – programs provides information to domestic commercial and non-commercial food service, handle and prepare Alaska seafood products.
6. Global Food Aid – humanitarian initiative designed to provide canned salmon to foodbanks and school lunch programs around the world.
7. Seafood Technical Support – an in-house technical assistance program available to seafood producers in Alaska. Topics include environmental sustainable harvesting measures, food safety, food labeling, and food handling. Educational programs and materials are utilized to educate consumers on the proper handling of seafood.
8. Alaska Responsible Fisheries Management – program that helps Alaska fisheries meet the certification requirements set forth by the Food and Agricultural Organization (FAO) of the United Nations as they pertain to fisheries management.[62]

The Alaska Seafood Marketing Institute provides a comprehensive marketing and education platform for the state's burgeoning seafood industry. Through key initiatives that provide technical support to producers and offer the state's backing to its extremely strong domestic and international marketing, the Institute provides the framework necessary to promote and expand this key industry for years to come.

Summary

Alaska has a unique set of programs that have been established to support the State of Alaska's industry base through its Department of Commerce, Community, and Economic Development (DCCED) – Economic Development Division, AIDEA, and auxiliary organizations. Through DCCED, the state is focused on small, entrepreneurial business development programs. AIDEA, unlike many other state organizations throughout the U.S., has the authority to develop and own significant projects that directly deliver capital investment and jobs for its residents. The programs in Project Development and Infrastructure Development are unique in providing technical expertise, development oversight, and financial assistance combined under a single agency. Within the context of this report, the only other state organization that offered such a comprehensive approach to development was MassDevelopment. The Port of Cleveland offered the similar ability to finance and own important facilities, but did not offer the technical assistance at the front end of projects that AIDEA can deliver to its clients.

Additionally, unlike other state organizations, AIDEA has developed loan and loan guarantee programs to incentivize the use of the federal New Markets Tax Credit program for the benefit of its communities and businesses. Many other states market the program as a potential incentive for investors, but AIDEA is on the cutting edge of operationalizing the program.

While Alaska has significant natural resource wealth, economic development in the state has been operationalized, by necessity, to deliver significant new infrastructure projects that allow for the development and exploitation of these resources for the economic well-being of all Alaska residents. The costs associated with some of these projects including ASAP, LNG, and the two projects being undertaken through AEA (Bradley Lake Hydroelectric and the Alaska Intertie Transmission Line) would likely not be undertaken by state governments in the continental U.S. As a result, Alaska has undertaken significant projects focused on mining, oil exploration, hydroelectric energy, natural gas pipelines, and cargo facilities.

The unique location of Alaska, its abundant natural resources and its relative separation from the continental U.S. indicates that certain economic development activities will take precedence. General business attraction programs may be challenging to implement in Alaska unless they are specifically targeted towards energy companies and other firms for which the state's assets are well-suited. Consequently, the State of Alaska will need to elevate its focus on entrepreneurship programs to cultivate and encourage startups in Alaska created and developed by Alaskan residents and newcomers as well.

Because a vast portion of the state remains undeveloped and the population is dispersed, investments in infrastructure for transportation, energy distribution and transmission lines, broadband/communications, and other such projects will continue to be of paramount importance to the state's economic development over the long term. As noted, Alaska's economic development entities have the legislative and organizational framework, as well as the experience, to manage such projects.

Like many oil producing states, Alaska currently is experiencing a highly volatile economic cycle. While the state has two key economic development organizations and several ancillary groups that are focused on specific infrastructure projects or marketing efforts, there does not seem to be the competing agendas and overlapping programs that are common in many other U.S. states. AIDEA, in particular, with its significant financing and development capabilities, has the opportunity to provide cost effective and targeted economic development services for the State of Alaska and its residents that are fully customized to capitalize on existing and emerging opportunities.

SECTION 1.2: NORTH DAKOTA

North Dakota is situated in the Great Plains region of the U.S. bordering Canada. A traditionally agricultural-oriented state, North Dakota's economy and population experienced a resurgence in recent years thanks to an oil boom that swept the Great Plains region of the U.S. and Canada and buoyed state and provincial economies even in the global recession that devastated surrounding state economies.

The current population of the state is 756,927 (2015 U.S. Census Estimate) which translates into a 12.5 percent population increase between 2010 and 2015.[63] In 2015, the state had a per capita personal income (PCPI) of $54,376. The PCPI in North Dakota ranked 9th in the nation and was 114 percent of the national average of $47,669. However, 2015 PCPI for North Dakota decreased 2.6 percent from 2014, while the U.S PCPI increased 3.5 percent in that same time period.[64] The state's total personal income (TPI) in 2015 was pegged at $41,165,870,000 which ranked North Dakota 47th in the nation.[65]

North Dakota's median household income is $55,579, and its poverty rate is 11.5 percent.[66] The state's population is well educated, with 91.3 percent having attained a high school diploma or GED and 27.3 percent having attained a Bachelor's degree or higher.[67] The unemployment rate, while still very low, has been inching up over the past few months. The April 2016 state unemployment rate was 3.2 percent. In November 2015, the unemployment rate was 2.7 percent and it has been increasing monthly ever since.[68]

The state GDP (chained, 2009 dollars) in 2014 was $48.2 billion. Thanks to the oil boom, the state GDP grew 28.1 percent between 2011 and 2014.[69] In 2014, North Dakota's real GDP grew seven percent over 2013 levels compared to a national increase of 2.2 percent. This resulted in a 2004-2014 compounded annual growth rate of 6.6 percent, compared to the annual national growth rate of 1.3 percent during the same time period.[70] However, low oil prices have significantly impacted North Dakota's growth trajectory over the past year. Early 2015 figures released by the Bureau of Economic Analysis indicate that North Dakota's GDP decreased by 10.4 percent in the first quarter of 2015, decreased 1.2 percent in the second quarter of that year, and decreased 3.4 percent in the third quarter. North Dakota ranked 50th among all the states for GDP growth in the third quarter of 2015.[71]

In 2014, North Dakota's largest industry was mining. Mining accounted for 15.6 percent of North Dakota's GDP in that year and accounted for 17.8 percent of real growth. The second largest industry was Finance, Insurance, Real Estate, Rental and Leasing at nearly 15 percent, followed by Government, Wholesale Trade, and Agriculture, Forestry and Fishing (note: 45 percent of the state's GDP is made up of "All Others").[72]

Economic Development Entities in North Dakota

North Dakota is served by several economic development organizations. These include the North Dakota Department of Commerce, the North Dakota Development Fund, the Bank of North Dakota, and the North Dakota Public Finance Authority. As to be expected, individual programs offered by each of these entities are marketed holistically in an effort to provide a cohesive economic development package to interested clients and users.

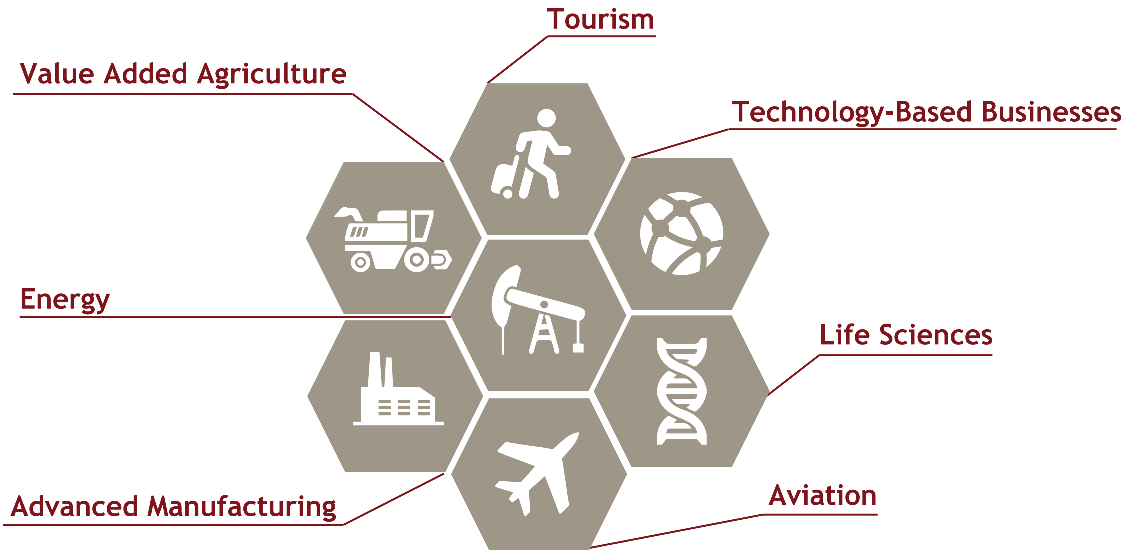
North Dakota Department of Commerce

The North Dakota Department of Commerce is the lead agency in North Dakota for economic and business development efforts within the state. The department is divided into four divisions: Community Services, Economic Development & Finance, Tourism, and Workforce Development. The Economic Development & Finance Division is specifically tasked with economic development attraction and retention efforts with a mission to lead North Dakota's efforts to attract, retain, and expand wealth through strategic targeting of select industries: Value Added Agriculture, Advanced Manufacturing, Aviation, Life Sciences, Technology-Based Business, Tourism, and Energy.[73]

The North Dakota Department of Commerce is governed by the Commerce Cabinet. The appointed Commissioner of the Department serves as chairman and makes the determination about which agencies serve on this advisory group. The Commerce Cabinet is comprised of the directors of the four divisions and the executive heads or representatives of the following organizations:

- State Board of Career and Technical Education
- State Board of Higher Education
- Bank of North Dakota
- Department of Agriculture
- Workforce Safety & Insurance
- Department of Transportation
- Job Service North Dakota
- Game & Fish Department
- Any other department appointed by the Commerce Commissioner.[74]

FIGURE 4: NORTH DAKOTA'S TARGETED ECONOMIC SECTORS



Source: North Dakota Department of Commerce Website, April 2016.

TABLE 7: NORTH DAKOTA'S PUBLIC SECTOR ECONOMIC DEVELOPMENT AGENCIES

Agency	Primary Role in Economic Development
North Dakota Department of Commerce	Lead state agency that is focused on generating wealth in North Dakota through strategic economic development programs and services.
North Dakota Economic Development Foundation	Advisory board established within the North Dakota Department of Commerce responsible for providing private sector guidance, expertise, and involvement in state economic development projects and for developing the state's economic development strategic plan.
North Dakota Development Fund	Statewide nonprofit development corporation with authority to provide gap financing for feasible projects through loans, subordinated debt, and equity investments not readily available through traditional sources of conventional financing.
North Dakota Industrial Commission	State established commission that conducts and manages utilities, industries, and business projects established through state law. These include the Bank of North Dakota and the North Dakota Public Finance Authority.
Bank of North Dakota	The Bank of North Dakota is a state-owned bank administered under the auspices of the North Dakota Industrial Commission. It offers traditional credit and finance services that conventional banking institutions offer while also serving a primary role in state economic development efforts, in cooperation with private sector banking institutions and local governments, through a number of finance programs targeting new entrepreneurs, expanding North Dakota businesses, and target industry programs.
North Dakota Public Finance Authority	An authority created by the state legislature and a self-supporting state agency administered through the North Dakota Industrial Commission to makes loans to political subdivisions within the state through the purchase of municipal securities. The programs are focused on infrastructure financing and include an Industrial Development Bond Program; a Capital Financing Program; Disaster Financing; the State Revolving Loan Fund, which focuses on the capitalization of Clean Water and Safe Drinking Water grant funds from the U.S. EPA, and a School Financing Program.

Source: North Dakota Government, April 2016.

The Economic Development & Finance Division serves as a "one-stop" shop for economic development services including site location assistance, incentive packaging, international trade assistance, workforce development, and business retention and expansion services. Additionally, the North Dakota Department of Commerce's Economic Development & Finance Division offers nearly 50 financial assistance programs that promote the various economic development initiatives in the state and its communities. Some of these programs are specifically administered through the department and others are administered through sister economic development organizations.[75]

The North Dakota Department of Commerce employs 78 professionals and para-professionals, including 15 in the Economic Development and Finance Division who are solely focused on the administration and management of economic development programs and services. This number also includes four employees in the North Dakota Development Fund program.[76]

North Dakota Economic Development Foundation

The North Dakota Department of Commerce was established in 2001 and, at the same time, the state's legislature established the North Dakota Economic Development Foundation. Currently, there are 21 board members appointed by the Governor to serve two year terms.[77]

The foundation was established to provide private sector guidance and involvement in state economic development efforts. As a result, it serves in an advisory role to the Governor of North Dakota and the Department of Commerce. The foundation's vision statement is *"With respect for North Dakota values and quality of life, the North Dakota Economic Development Foundation will be a catalyst in creating quality employment opportunities making North Dakota a competitive partner in the global economy"*.[78]

In addition to serving in an advisory capacity, the foundation's mission includes:

- Developing the state's economic development strategic plan;
- Establishing accountability measures and benchmarks to evaluate state efforts;
- Monitoring the state's economic development and tourism efforts;
- Recommending state and federal legislation that strengthen the state's economy and increase the state's population;
- Monitoring state and federal initiatives that might impact the state economy and population; and
- Serving as a source of expertise for the development of public and private initiatives to promote economic development and quality of life in the state.[79]

North Dakota Economic Development Strategic Plan 2010-2020

The goals of the foundation were set forth in the North Dakota Economic Development Strategic Plan, which was completed in February 2010. The plan identified five essential strategies to augment growth in North Dakota's economy:

1. Maintain a positive business climate that supports private sector investment, growth, and job creation.
2. Continue to invest in university-based research and development conducted with the private sector that engages North Dakota in emerging industries such as life sciences and advanced technology.
3. Embrace entrepreneurship where innovative, tech-savvy companies can thrive.
4. Continue investing in statewide strategies that address education, training, recruitment, and retention to provide a steady supply of skilled workers needed to fuel long-term business growth.
5. Promote export trade by linking North Dakota businesses with foreign buyers and markets.[80]

Additionally, it was during this strategic planning initiative where the state targeted specific sectors: Advanced Manufacturing, Technology-Based Businesses, Value Added Agriculture, Tourism, and Energy – was formulated.[81]

The overall goals of the foundation, as set forth in the plan, include creating quality jobs to retain the current workforce and attract new workers; strengthening the state's business climate; creating a strong North Dakota brand and image that supports economic development attraction efforts; promote linkages between the state's higher education institutions, economic development organizations, and private sector entities; and present a unified and collaborative "face" for economic development in North Dakota.[82]

One initiative established through the foundation is called ***Find the Good Life in North Dakota***, which is a workforce recruitment initiative. It is a publicly and privately funded program that seeks to attract skilled workers to North Dakota through traditional and digital media campaigns to targeted audiences. The initiative is focused on promoting existing jobs, training opportunities, housing, cultural and recreational activities, and quality of life information for potential migrants to the state.[83]

North Dakota Department of Commerce Programs

The department offers a number of programs to attract new businesses to North Dakota or to provide financial assistance to existing North Dakota businesses and individuals. Most of these programs originate with the department; however, there are some economic development programs housed in other agencies that the North Dakota Department of Commerce packages and markets.

With respect to loan programs, the North Dakota Opportunity Fund is the State Small Business Credit Initiative that leverages private sector investment with government funding sources for small businesses and manufacturers across the state. However, there are geographical limitations associated with this program. There are two loan programs focused on the provision of rail infrastructure and services. While both of these programs are infrastructure loans and originate with the North Dakota Department of Transportation, their benefits are economic development in nature.[84]

TABLE 8: NORTH DAKOTA DEPARTMENT OF COMMERCE LOAN PROGRAMS

Incentive Program	What it offers
North Dakota Opportunity Fund	The State Small Business Credit Initiative (SSBCI) leverages private financing to help small businesses and manufacturers obtain the financing needed to expand and create jobs. Eligible loan uses include construction, equipment, working capital, real estate, and Interim SBA 504 loans. Applicants must meet credit standards set by SSBCI and private sector lenders. Loan proceeds cannot exceed 50 percent of the total project costs and may not exceed $1,000,000. Projects must be located in specific cities, towns, and Native American reservations to qualify for this program.
Local Rail Freight Assistance Program (LFRA) - North Dakota Department of Transportation	The North Dakota LFRA Loan program makes reduced interest rate loans for infrastructure projects on short line railroads. It is a federal program focused on rail line acquisition, rail line rehabilitation, or construction of new facilities. Eligibility criteria for LRFA funds include 1) the railroad must certify that the rail line meets traffic density criteria; 2) the ratio of benefits to costs for the project must be greater than 1:1; and 3) the state where the project resides must have an adequate plan for rail transportation services and a suitable process for updating and maintaining this plan. The repayment period for LRFA projects is 10 years.
Freight Rail Improvement Program (FRIP) - North Dakota Department of Transportation	The FRIP program uses interest from repaid LFRA loans as its funding source. FRIP guidelines mirror LFRA guidelines and eligible applicants include counties, cities, railroads, and current or potential users of freight rail services. Eligible projects generally include lines carried less than 5 million gross ton-miles of freight per mile in the year previous to the application. The project must also accomplish any of the following objectives: rehabilitate a segment of rail line, result in economic development, improve transportation efficiency, promote safety, promote the viability of the state freight rail system, assist in intermodal freight movement, and provide industry access to the national railroad system.

Source: North Dakota Department of Commerce Website, 2016.

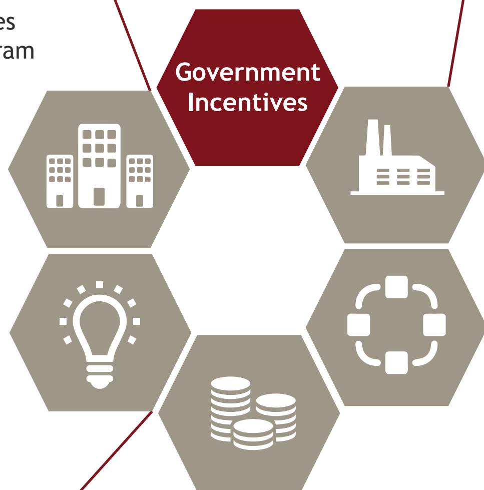
FIGURE 5: OVERVIEW OF NORTH DAKOTA'S ECONOMIC DEVELOPMENT INCENTIVES

Primary Sectors/Base Industries

- North Dakota Department of Commerce
  - » Tax Credits
- Angel Fund Tax Credit
- Seed Capital Investment Credit
  - » Sales and Use Tax Exemptions
  - » Property Tax Reductions
  - » Workforce and Training Incentives
- North Dakota New Jobs Training Program
- Workforce 20/20
- Internship Employment Credit
- Wage and Salary Income Tax Credit
- Workforce Enhancement Grants
- North Dakota Development Fund
  - » North Dakota Development Fund
  - » Revolving Loan Fund
  - » New Venture Capital Program
- North Dakota Industrial Commission
  - » Oil and Gas Research Program
  - » Renewable Energy Program
- Bank of North Dakota
  - » Bank Participation Loan Program
  - » Match Program
  - » Export Enhancement Program
- North Dakota Public Finance Authority
  - » Industrial Development Bonds

Energy

- North Dakota Department of Commerce
  - » Tax credits
  - » Sale and Use Tax Exemptions
  - » Property Tax Reductions
- North Dakota Industrial Commission
  - » Oil and Gas Research Program
  - » Renewable Energy Program
- Bank of North Dakota
  - » Biofuels PACE program



Research & Development

- North Dakota Department of Commerce
  - » Agriculture Products Utilization Commission -Grants
  - » Research Expense Credit
  - » Research ND
- Bank of North Dakota
  - » Match Program
- North Dakota Industrial Commission
  - » Oil and Gas Research Program - grants
  - » Renewable Energy Program - grants

SMEs

- North Dakota Department of Commerce
  - » North Dakota Opportunity Fund
- SSBCI
  - » Tax Credits
- Micro-business Income Tax Credit
  - » Sales and Use Tax Exemptions
  - » Property tax Reductions
- North Dakota Development Fund
  - » North Dakota Development Fund
  - » Rural Incentive Program
  - » Small Business Technology Program
  - » Child Care Loan Program
  - » New Venture Capital Program
- Bank of North Dakota
  - » Beginning Entrepreneur Loan Guarantee
  - » Business Development Loan Program
  - » PACE Programs – Flex, Biofuels, Ag
  - » Envest

Other Incentives/Infrastructure

- North Dakota Department of Commerce
  - » Local Rail Freight and Freight Rail Improvement Loans
  - » Tourism & Infrastructure Grant
  - » Manufacturing Equipment Sale Tax Exemption
  - » New Markets Tax Credit Program
  - » Automation Tax Credit
  - » Computer & Telecommunications Equipment Sales Tax Exemption
  - » Telecommunications Infrastructure Sales Tax and Use Exemption
  - » Renaissance Zones
- Bank of North Dakota
  - » Medical PACE program
  - » BND Infrastructure Loan Program
  - » Community Water Facility Revolving Loan Fund
  - » Medical Infrastructure Loan Fund
  - » Health Information Technology Fund
  - » School Construction Loan Program
- North Dakota Public Finance Authority
  - » State Revolving Loan Fund (Water and Water Treatment Facilities)
  - » Capital Financing Program
  - » Capital Financing Program – Disaster Financing
  - » School Financing Program

TABLE 9: NORTH DAKOTA DEPARTMENT OF COMMERCE GRANT PROGRAMS	
Incentive Program	**What it offers**
Agriculture Products Utilization Commission	Grant funding for proposals that develop new uses of North Dakota's agricultural products. Applications are taken on a quarterly basis for the following: basic and applied research grants, marketing and utilization grants, farm diversification grants, and agriculture prototype development grants.
Research ND	The Research ND program provides matching funds for the research, development, and commercialization of products and processes in partnerships between the private sector and North Dakota's research universities. There is also sub-program called Research ND BIO that supports university and private sector collaborations on cancer research, infectious diseases, and pathogens. Research ND requires a $1 investment by the private sector for every $1 investment of the state. Maximum state funding awards is limited to $300,000 for Research ND projects and $1,000,000 for Research ND BIO projects.
Tourism Infrastructure and Expansion Grant	Supports new or expanding tourism or recreation facilities or designated development areas through infrastructure projects. Projects must be for buildings and equipment and priority projects include those leveraging various public and private sources of funding, grant funding for completing projects rather than seed money, urgency of the projects are clearly demonstrated, businesses offering new recreational services, and new agri-tourism projects.

Source: North Dakota Department of Commerce Website, 2016.

The North Dakota Department of Commerce's grant programs are focused on agriculture, research, and tourism infrastructure. The grant programs focus on the key industries in the state as identified by North Dakota Economic Development strategic plan.

The North Dakota Department of Commerce also offers an impressive array of tax credit programs available for businesses and individuals. Most are administered through the North Dakota Tax Department but marketed through the North Dakota Department of Commerce. Many of these tax credit or incentive programs are weighted toward energy (fossil fuel and renewable) as well as agriculture. However, the department also has tax credit programs focused on angel funds, micro-businesses, seed capital, and New Markets Tax Credits that target a broader spectrum of businesses and investors.[85]

TABLE 10: NORTH DAKOTA DEPARTMENT OF COMMERCE TAX CREDIT/INCENTIVE PROGRAMS - ENERGY AND RENEWAL RESOURCES	
Incentive Program	**What it offers**
Biodiesel Tax Credits (corporation)	A corporation is allowed an income tax credit for adapting or adding equipment to retrofit a facility or to construct a new facility in North Dakota that either blends biodiesel fuel or crushes soybeans or canola. The credit is equal to 10 percent of the direct costs incurred and is allowed in each of five years tax years, starting with the tax year in which the production began. Unused credit can be carried forward up to 5 years. A corporation is allowed no more than $250,000 of credits for all tax years.
Biodiesel Tax Credits (licensed fuel supplier)	A licensed fuel supplier who blends at least 5 percent biodiesel fuel is allowed and income tax credit of five cents per gallon of blended fuel. An unused credit may be carried forward up to five years.
Biodiesel Tax Credits (licensed seller of biodiesel fuel)	A licensed seller of biodiesel fuel having at least 2 percent blend is allowed an income tax credit for adapting or adding equipment to the seller's facility to enable it to sell biodiesel blend. The credit is equal to 10 percent of the direct costs incurred, and is allowed in each of five years tax years, starting with the tax year in which the production began. Unused credit can be carried forward up to 5 years. A seller is allowed no more than $50,000 of credits for all years.
Biomass, Geothermal, Solar or Wind Energy Credit	Corporations are allowed an income tax credit for installing a biomass, geothermal, solar, or wind energy device on property that is either owned or leased in North Dakota. The credit is equal to 3 percent of the cost of acquisition and installation and is allowed in each of the first five years, starting with the year that the installation is completed.
Carbon Dioxide for Enhanced Oil and Gas Recovery Sales Tax Exemption	The sale of carbon dioxide to be used for enhanced recovery of oil or natural gas is exempt from sales and use tax.
Coal Conversion Facilities (Payment in Lieu of Property Taxes)	A coal conversion facilities privilege tax is imposed monthly on electrical generating plants that have at least one generating unit with 10,000 kilowatts capacity or more, other coal conversion facilities that consume 500,000 tons of coal per year, and coal beneficiation plants. It is in lieu of property taxes on the plant itself, but the land on which the plant is located remains subject to property taxes.
Coal Mine Machinery or Equipment	A sales and use tax exemption may be granted for machinery or equipment used to produce coal from a new mine located within North Dakota. The exemption is limited to the first $5 million of sales and use tax paid. The exemption extends to replacement machinery and equipment if the capitalized investment in the new mine exceeds $20 million.
Electrical Generating Facilities - Coal Powered Sales Tax Exemption	Coal Powered electrical generating plants are eligible for a sales and use tax exemption for the purchase of building materials, production equipment, and other tangible personal property used in their construction. In order to qualify for the exemption, the facility must convert coal from its natural form into electrical power and have at least one single electrical generation unit with a capacity of 50,000 kilowatts or more.
Electrical Generating Facilities - Other Sales Tax Exemptions	Electrical generating plants (other than coal powered for wind powered) are eligible for a sales and use tax exemption for the purchase of building materials, production equipment, and other tangible personal property used in their construction. In order to qualify for the exemption, the facility must produce electricity for resale or for consumption in a business activity and have at least one single electrical generation unit with a capacity of 100 kilowatts or more.

TABLE 10: NORTH DAKOTA DEPARTMENT OF COMMERCE TAX CREDIT/INCENTIVE PROGRAMS - ENERGY AND RENEWAL RESOURCES - CONTINUED	
Gas Processing Facilities Sales Tax Exemption	Gas processing facilities are eligible for a sales and use tax exemption for the purchase of building materials, production equipment, and other tangible personal property used in their expansion or construction. Environmental upgrades exceeding $100,000 for reducing emissions, increasing efficiency, or enhancing reliability of equipment may also qualify for this exemption.
Hydrogen Generation Facility Sales Tax Exemption	Sales of hydrogen to power an internal combustion engine or fuel cell and equipment used directly in the production and storage of this hydrogen by a hydrogen generation facility are exempt from sales tax.
Liquefied Gas Processing	A sales and use tax exemption may be granted for the purchase of tangible personal property used in the construction or expansion of a liquefied processing facility in North Dakota that produces liquefied natural gas.
Oil Refineries Sales Tax Exemption	Oil refineries are eligible for a sales and use tax exemption for the purchase of building materials, production equipment, and other tangible personal property used in their expansion or construction. Environmental upgrades exceeding $100,000 for reducing emissions, increasing efficiency, or enhancing reliability of equipment may also qualify for this exemption.
Wind Turbine Electric Generation	Centrally assessed wind turbine electric generation unit (i.e. a unit that produces electric power for public use) with a nameplate generation capacity of 100 kilowatts or more is eligible for a property tax reduction. Taxable value is calculated at 3 percent of assessed value instead of at 10 percent which applies to other centrally assessed property. Wind turbine electric generation units built before January 1, 2015 have lower taxable values.
North Dakota Ethanol Incentive Program	The North Dakota Ethanol Incentive is a counter-cyclical program that helps producers during adverse times when ethanol prices are unusually low and/or when corn prices are unusually high. The incentive is phased out when these prices are normal. Ethanol and corn prices are benchmarked to published state averages. The ethanol price is calculated by subtracting the North Dakota wholesale ethanol price from a baseline per/gallon price and then multiplying the results by the number of gallons produced during the quarter and an incentive factor of 0.2. The corn price is calculated by subtracting the $1.80 per bushel baseline cost from the average North Dakota corn price for the quarter and multiplying by the number of gallons produced in the quarter and an incentive factor of 0.1. These two components are added together to get the quarterly incentive.
Agricultural Commodity Processing Facility Investment Tax Credit	A credit that accrues to an individual, estate, trust, partnership, corporation or limited liability company for investing in an agricultural commodity processing facility (livestock handling, feeding, milking or holding operation that uses as part of its operation a by-product at a biofuels production facility. The credit is equal to 30 percent of the investment. No more than $50,000 of the credit may be used in any year and unused credit may be carried forward up to 10 years. A taxpayer is allowed no more than $250,000 credits for all years.
Agricultural Process Plant Construction Materials Sales Tax Exemption	Construction materials used to construct an agricultural processing facility are exempt from sales and use taxes.
Wind Turbine Electric Generation	Centrally assessed wind turbine electric generation unit (i.e. a unit that produces electric power for public use) with a nameplate generation capacity of 100 kilowatts or more is eligible for a property tax reduction. Taxable value is calculated at 3 percent of assessed value instead of at 10 percent which applies to other centrally assessed property. Wind turbine electric generation units built before January 1, 2015 have lower taxable values.

Source: North Dakota Department of Commerce Website, 2016.

TABLE 11: NORTH DAKOTA DEPARTMENT OF COMMERCE TAX CREDIT/INCENTIVE PROGRAMS – GENERAL BUSINESS	
Incentive Program	**What it offers**
Manufacturing Equipment Sales Tax Exemption – put in separate table – General Incentives	An exemption from the machinery and equipment sales and use tax may be granted to a new or expanding plant used primarily for manufacturing, agricultural processing, or recycling. The expansion must increase production volume, employment, or types of products that will be manufactured or processed.
New Markets Tax Credit Program	The New Markets Tax Credit Program is administered through the state's CDE (Community Development Entity), Dakotas America. The U.S. Department of Treasury gives corporate taxpayers the opportunity to receive a 39 percent federal tax credit by investing in qualified projects in low income communities. Projects must be located in census tracts with at least 20 percent poverty, have a median family income below 80 percent of the state or urban median family income or below 85 percent of median family income if it is high out migration rural county. The project also must be located in census tracts that have poverty rates greater than 30 percent, in tracts where the median family income does not exceed 60 percent of the statewide median family income, and be in tracts where unemployment rates are 1.5 times the national average. If these three criteria cannot be met then the project must meet two or more of the following location criteria: be located in a rural census tract, a Native American reservation, a brownfields redevelopment area, a federally designated medically underserved area, a high out migration rural county, CDFI Hot Zone, HUB Zone, Enterprise Zone, Tax Increment Financing District, or state/local programs targeting distressed communities.
Automation Tax Credit	A taxpayer that is a primary sector business is allowed a nonrefundable credit against the tax imposed for the purchases of manufacturing machinery and equipment for the purpose of automating manufacturing processes in North Dakota. The amount of the credit is 20 percent of the costs incurred in the taxable year. The aggregate amount of credits allowed may not exceed $2 million.
Certified Nonprofit Development Corporation Tax Credit	An income tax credit is allowed to a taxpayer buying membership in, paying dues to, or contributing to a certified nonprofit development corporation. The credit is equal to 25 percent of the qualifying payments up to a maximum credit of $2,000. The unused credit may be carried forward seven years.
Computer and Telecommunications Equipment Sales Tax Exemption	For primary sector businesses other than manufactures and recyclers, a sales and use tax exemption is allowed for purchases of computer and telecommunications equipment. The North Dakota Department of Commerce must certify the business and it must be demonstrated that the equipment is integral to a new business or the expansion of an existing business.
Income Tax Exemption	Primary sector or tourism businesses may qualify for an income tax exemption up to five years. Businesses are not eligible if they have received a property tax exemption under tax increment financing, there is a recorded lien in relation to the business, or the exemption fosters unfair competition or endangers existing business.
Personal Property Tax	All personal property is exempt from property taxation except that of certain oil and gas refineries and utilities.
Property Tax Exemptions	A new or expanding primary sector business may be granted a property tax exemption for up to five years. Agricultural processors or projects located on property leased from a government entity are eligible for five year extensions of the property tax exemption.
Renaissance Zones	A renaissance zone is a designated area within a city that is approved by the North Dakota Department of Commerce's Division of Community Services. Businesses and individuals may qualify for one or tax incentives for purchasing, leasing, or making improvements to real property located in a North Dakota renaissance zone.

TABLE 11: NORTH DAKOTA DEPARTMENT OF COMMERCE TAX CREDIT/INCENTIVE PROGRAMS – GENERAL BUSINESS - CONTINUED	
Research Expense Credit	Investors are eligible for an income tax credit for conducting research in North Dakota. The credit is equal to a percentage of the excess of qualified research expenses in North Dakota over the base amount in North Dakota. For tax years after 2016, the applicable percentage for excess expenses over $100,000 in a year is 8 percent.
Telecommunications Infrastructure	A sales tax and use exemption may be granted through December 31, 2017 for the purchase tangible personal property used to construct or expand telecommunications service infrastructure within the state.

Source: North Dakota Department of Commerce Website, 2016.

The North Dakota Department of Commerce has specifically targeted entrepreneurship as an economic development initiative. In order to navigate the resources available, the Department created Innovate ND for start-ups and potential entrepreneurs. Innovate ND provides online entrepreneur education, access to venture capital information, and loan and grant programs for which entrepreneurs may be eligible. The Innovate ND program requires an entry fee of $250, which yields approximately $2,500 worth of resources and advice provided through one of North Dakota's certified entrepreneurial centers. These funds can be applied to the creation of business plans, product prototypes, one-on-one coaching, and marketing assistance.[86]

Through this program, entrepreneurs and innovators also have access to more traditional grant and financing programs that are available through the Department of Commerce and other agencies within North Dakota. These include the Department of Commerce's Agriculture Products Utilization Commission (APUC) grants,[87] the Beginner Entrepreneur Loan Guarantee and Business Development Loan Programs offered through the Bank of North Dakota,[88] and the North Dakota Development Fund programs (NDDF) that provide gap financing through equity investments for qualified businesses.[89]

Additionally, the state encourages local private sector investment in entrepreneurs through several tax credits that are available to individuals and business investors, alike. These include the Angel Fund Investment Tax Credit, the Micro-business Income Tax

TABLE 12: NORTH DAKOTA DEPARTMENT OF COMMERCE TAX CREDIT/INCENTIVE PROGRAMS - ENTREPRENEURSHIP	
Incentive Program	**What it offers**
Angel Fund Investment Tax Credit	Investors may receive credit equal to 45 percent of investments in angel funds incorporated in North Dakota, up to a maximum credit of $45,000. An investment must be at risk in the angel fund for at least 3 years to be eligible for the credit. A taxpayer claiming this credit cannot claim an income tax credit if the angel fund invested in a qualified business for purposes of the seed capital or agricultural commodity processing facility investment tax credit.
Micro-business Income Tax Credit	An investor is allowed an income tax credit for new investment and new employment in a micro-business in North Dakota that creates new income or jobs. A micro-business is a business with up to five employees that is located in a community with 100 to 2,000 residents; have an economic development organization, a relationship with an urban or regional economic development organization, or a city sales tax which all or a portion of is dedicated to economic development. The business must not compete with other established businesses within 15 miles of the business and may not be located within 15 miles of a city with more than 2,000 residents. The North Dakota Department of Commerce must certify the business and no more than 200 businesses may be certified as a micro-business. The credit is equal to 20 percent of the amount of new investment and new employment during the tax year.
Seed Capital Investment Credit	Investors are eligible for an income tax credit for investing in a business certified by the North Dakota Department of Commerce. The investment may consist of a direct cash payment or a direct transfer of cash from a retirement plan for which the investor controls where assets are invested. The credit is equal to 45 percent of the investment with no more than $112,500 of the credit may be used in any year. Unused credit may be carried forward up to four tax years. Only the first $500,000 of eligible investments in the business is eligible for the tax credit. The total amount of tax credits allowed in all certified businesses in any calendar year is limited to $3.5 million.

Source: North Dakota Department of Commerce Website, 2016.

Credit, and the Seed Capital Investment Credit. The Angel Fund Investment Tax Credit is designed to encourage local investment into North Dakota Angel Funds that support local entrepreneurs starting out. The Micro-Business Tax Credit was established to encourage investment in entrepreneurs, directly, serving small, rural communities in the state. The Seed Capital Tax Credit, like the Micro-business Tax Credit, allows for investors to directly invest in start-up businesses and receive tax credits in return for the investment.[90]

North Dakota Department of Commerce State Workforce and Training Incentives

The North Dakota Department of Commerce's Workforce Development Division works with other state agencies and public organizations to provide training incentives. Job Service North Dakota offers training incentives designed for businesses in the state that are starting up, expanding, or introducing new technologies and work methods into their workforces.

North Dakota New Jobs Training Program

Funding is available for primary sector businesses to help offset the cost of training new employees for business expansion or start-up purposes. Business eligibility criteria that need to be met include the following:

- Primary Sector Business
- A new employer locating in North Dakota must create a minimum of one new job
- Expanding businesses must increase its base employment level by a minimum of one new job
- A business must not be closing or reducing its operation in one area of the state and relocating the same operation to another area of the state
- Employees in eligible new positions must be paid a minimum of $10 per hour plus benefits by the end of the first year of employment under the project and for the remaining life of the loan/grant agreement.[91]

Funding for this program is made available through the capture of the state income tax withholding generated from permanent, full time positions that are created. Businesses can obtain funds through three routes:

- Grants: Grant funds can be provided directly from the state, a city, or a local economic development corporation. Reimbursements for a grant are made directly to the granting community or local economic development corporation.
- Loans: Loans can be obtained through a commercial lender, a local economic development corporation, the Bank of North Dakota, or other qualified lender. Reimbursements to repay the loan are made directly to the lender.
- Self-financing: 60 percent of allowable state income tax withholding can be reimbursed directly to the business.

State income tax withholding can be captured for up to a ten year period or until the loan is paid off, or the self-financing or grant obligations have been met, whichever comes first.[92]

Workforce 20/20

The Workforce 20/20 grant program assists employers who provide retraining and upgrade training to support the introduction of new technologies and work methods into the workplace. Funding is available for both new and existing employees. Employees must be North Dakota residents working in a North Dakota business. Priority is given to those businesses that bring revenue to the state by selling the majority of their products or services outside of the state. Businesses with a more internal focus are eligible, but must make a compelling economic argument about the benefit of their services and products to their community and/or state.

Requirements:

- Only training for permanent jobs with significant career paths will be considered for funding.
- Individuals who complete the training at a start-up or expanding company must be given priority in the hiring process.
- If the occupation for which training is being conducted is a union job, union concurrence is required.
- If new job openings are created through upgrade training, the sponsoring company should give hiring priority to individuals eligible for other state and federal job training programs.

Only direct training costs can be reimbursed. These include the following:

- Instructor wages, pier diem, and travel
- Tuition and registration fees
- Curriculum development and training materials
- Lease of training equipment and space
- Miscellaneous training costs

The grant cannot be used to reimburse salaries, fund in-house trainers, purchase equipment, software, non-expendable supplies or use of in-house training space.[93]

Workforce Enhancement Grants

Workforce Enhancement Grants are offered through the North Dakota Department of Commerce's Workforce Development Division. These grants support development of curriculum, the purchase of equipment and technology, recruitment of participants, and training and certification for instructors. Eligible institutions are limited to Bismarck State College, Lake Region State College, North Dakota State College of Science, and Williston State College. Funding for this program is determined by appropriations from the North Dakota Legislature on a biennial basis.[94]

TABLE 13: NORTH DAKOTA DEPARTMENT OF COMMERCE TAX CREDIT/INCENTIVE PROGRAMS – WORKFORCE	
Incentive Program	**What it offers**
Internship Employment Credit	A taxpayer is eligible for an income tax credit for employing an individual under an internship program located within North Dakota. The credit is equal to 10 percent of the compensation paid to an intern. An employer is allowed to employ a maximum of five interns at the same time. A maximum of $3,000 of credits for all years is allowed under this program.
Wage and Salary	A corporation doing business in North Dakota for the first time is allowed an income tax credit equal to 1 percent of wages and salaries paid during the tax year for each of the first three tax years of operation and 1/2 percent of wages and salaries paid during the tax year for the fourth and fifth tax years.
Workforce Recruitment Credit	Investors are eligible for an income tax credit for employing extraordinary recruitment methods to hire employees for hard-to-fill positions in North Dakota. The credit equals 5 percent of the compensation paid during the first 12 consecutive months to an employee hired to fill a hard-to-fill employment position, and is allowed in the first tax year following the tax year in which the employee completes the 12 consecutive month employment period. Unused credits can be carried forward up to four tax years. To qualify, an employer must pay an annual salary of 125 percent of North Dakota's average wage and must have employed several recruitment methods for at least six months to fill a position for which the credit is claimed.

Source: North Dakota Department of Commerce Website, 2016.

North Dakota Development Fund

The North Dakota Development Fund, which is part of the North Dakota Department of Commerce, provides the coordinator function between all sources of financing, the individual business, and the community. Any project considered for financing through this fund must be feasible and have a reasonable chance of succeeding.

The fund was established in 1991 pursuant to Chapter 10-30.3 of the North Dakota Century Code, as amended by Senate Bill 2058. The corporation is a statewide nonprofit development corporation with authority to provide gap financing through direct loans, participation loans, subordinated debt, and equity investments not available through conventional commercial lenders.[95] Because it is a gap financing mechanism, the fund is a secondary source of financing and is subordinate to private sector sources of financing. If a business cannot handle added debt, the fund can take an equity financing position.[96]

The program is explicitly focused on "primary sector businesses" that are defined as "businesses which, through employment of knowledge or labor, add value to a product, process, or service that results in the creation of new wealth". In North Dakota, these business sectors include technology, value-added agriculture, tourism, manufacturing, and child care. Production agriculture is specifically ineligible for programs administered under the fund.[97]

The North Dakota Development Fund is administered by an eight member board of directors appointed by the Governor of North Dakota. There are four staff members who are employed by the North Dakota Department of Commerce. Since the fund's inception in 1991, it has invested in 555 North Dakota companies that have created 10,683 primary sector jobs.[98]

All loans offered through the North Dakota Development Fund must be secured by a first or second security interest on fixed assets, equipment, inventory or other reasonable source of collateral. Financing is limited to 50 percent of a project's total capitalization needs and refinancing of debt is ineligible under this program.[99]

TABLE 14: NORTH DAKOTA DEVELOPMENT FUND PROGRAMS	
Loan Program	**What it offers**
North Dakota Development Fund	Primary sector businesses are eligible to borrow up to $1 million (and based on job requirements) at below market interest rates. Terms for financing include 1-5 years for working capital; 5-7 years for construction; and 10-15 years for real estate. There is a minimum equity requirement of 15 percent and corporate/personal guarantees are required. Loan amount is based on job creation of $40,000 per FTE created; equity funding is available, and limited to businesses located in cities with a population of 8,000 or more.
Revolving Loan Fund	Primary sector businesses are eligible to borrow up to $1,000,000 (and based on job requirements) at lower than market interest rates. Terms for financing include 1-5 years for working capital; 5-7 years for construction; and 10-15 years for real estate. There is a minimum equity requirement of 15 percent and corporate/personal guarantees are required. Loan amount is based on job creation of $50,000 per FTE created; equity funding is available, and limited to businesses located in cities with a populations of less than 8,000 or more than 5 miles outside of city limits.
Rural Incentive Program	Under this program, loans are made directly to cities with populations of less than 2,500 which in turn loan the funds to a business. The business must be a North Dakota business providing an essential service with ND Department of Commerce Commissioner approval. Terms for financing include 1-5 years for working capital; 5-7 years for construction; and 10-15 years for real estate. There is a minimum equity requirement of 15 percent and corporate/personal guarantees are required. The maximum amount that can be loaned per project is $75,000 and there is no job requirement.
Small Business Technology Program	Start-up primary sector businesses in the technology field are eligible to borrow up to $50,000 at lower than market interest rates. Terms for financing include1-5 years for proof of concept; 1-5 years for working capital; 5-7 years for construction; and 10-15 years for real estate. There is a minimum equity requirement of 15 percent and corporate/personal guarantees are required. For every $1 of state funds, $2 of certified North Dakota angel funds is required, recipient may not receive more than one investment, equity funding available, and there is no job creation requirement.
Child Care Loan Program	Licensed child care centers are eligible to borrow up to $100,000 at an interest rate of 2.5 percent. Terms for financing include 1-5 years for working capital; 5-7 years for construction; and 10-15 years for real estate. There is a minimum equity requirement of 15 percent and corporate/personal guarantees are required. There is no job creation requirement.
New Venture Capital Program	Primary sector businesses are eligible to borrow up to $300,000 at lower than market interest rates. Terms for financing include 1-5 years for working capital; 5-7 years for construction; and 10-15 years for real estate. There is a minimum equity requirement of 15 percent and corporate/personal guarantees are required. There is no job requirement and equity funding is available.

Source: North Dakota Department of Commerce Website, 2016.

North Dakota Industrial Commission

The North Dakota Industrial Commission was created by the North Dakota Legislature in 1919 to conduct and manage certain state utilities, industries, enterprises, and business projects that had been established by state law. The commission consists of three members: the Governor of North Dakota, the Attorney General, and the Agriculture Commissioner. Entities or agencies that fall under the auspices of the commission include the Building Authority; the Bank of North Dakota; the North Dakota Geological Survey; the North Dakota Housing Finance Agency; the Lignite Research, Development and Marketing Program; the Mill and Elevator Association; the Oil and Gas Division; the Oil and Gas Research Program; the Pipeline Authority; the North Dakota Public Finance Authority; the Renewable Energy Program; the Student Loan Trust; and the North Dakota Transmission Authority.[100]

While the bulk of economic development programs administered through these agencies fall under the auspices of the Bank of North Dakota and the North Dakota Public Finance Authority, there are two notable grant programs from two of the aforementioned agencies. The Oil and Gas Research Council provides grant funds to encourage the expansion of the oil and gas industry in North

Dakota. Grant funds can be used for projects that will bring new oil and gas companies and investment to North Dakota; educate the public about the benefits provided by the North Dakota oil and gas industry; fund exploration activities; identify new oil and gas sources within the state; maximize the market potential for North Dakota oil and gas products; enhance the environmental sustainability of production, and develop baseline information that will leader to other projects and processes as well as innovative ideas. The program requires a match from the applicant and applications are taken twice a year for funding, depending on legislative appropriations.[101]

The North Dakota Industrial Commission also administers the Renewable Energy Program with technical assistance provided by the North Dakota Department of Commerce's Community Services Division. This program was established in 2007 and is designed to promote the growth of the renewable energy industry in North Dakota. Eligible projects include any projects proposing education, research, development, or marketing of North Dakota's renewable energy resources and products. All projects require a 50 percent match and are limited to $500,000. There are three grant rounds per year and the North Dakota Industrial Commission is authorized to establish more grant rounds during the year.[102]

In addition to these two grant programs, economic development programs are generally provided through the Bank of North Dakota and the North Dakota Public Finance Authority:

Bank of North Dakota

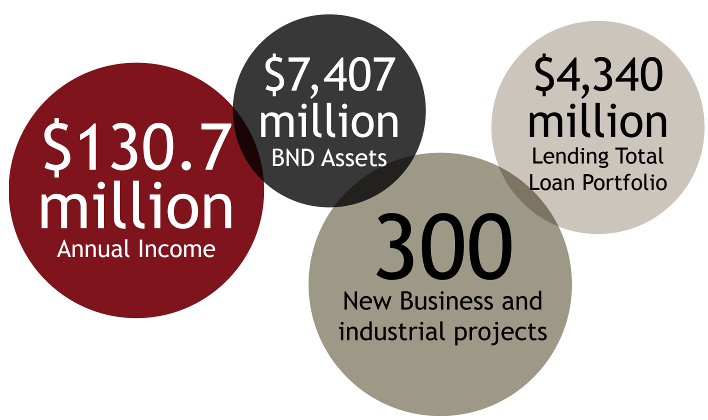
The Bank of North Dakota is owned and operated by the State of North Dakota under the supervision of the North Dakota Industrial Commission as provided by Chapter 6-09 of the North Dakota Century Code. The bank is unique in that it combines traditional banking, fiduciary, and investment services and state government with a primary role in financing economic development activities throughout the state.[103]

The Bank of North Dakota (BND) was established in 1919 by the North Dakota Legislature due to frustrations with exorbitant interest rates being charged to farmers by out of state banks and monopolistic price gouging by grain dealers and farm suppliers. In response, the Socialist Non-Partisan League gained control of the Governor's office, majority control of House of Representatives, and one-third of the state senate seats in 1918 on a platform that included state ownership of marketing and credit agencies. While the Bank of North Dakota's initial emphasis was on the agricultural industry, its focus changed in 1961 with Governor William Guy who recognized the bank's potential as an economic development engine for the state. Commercial loans to businesses commenced in partnership with private sector banks in the state and today it partners with more than 100 North Dakota financial institutions to promote agriculture, commerce and industry in North Dakota. It serves as a preeminent economic development tool that provides fiscal stability to the state and its business sector.[104]

The North Dakota Industrial Commission operates, manages, and controls the Bank of North Dakota. The Governor of North Dakota, as head of the North Dakota Industrial Commission, is authorized to appoint an advisory board of directors to the Bank of North Dakota consisting of seven members. Two of these members must be officers of banks whose majority of stock is owned by North Dakota residents and at least one director must be an officer of a state-chartered or federally chartered financial institution. The Governor has the responsibility to appoint the board's chair, vice-chair, and secretary from the advisory board. The bank's executive committee consists of six BND executives including the President and CEO, the Chief Credit Officer, the Chief Technology and Operations Officer, the Chief Administrative Officer, the Chief Financial Officer, and the Chief Business Development Officer.[105]

The BND offers a full array of services including consumer banking, student loans, agriculture loans, business loans, and infrastructure loans. With respect to agriculture, the BND offers 10 programs designed specifically to finance farmland purchases or fund traditional agricultural production functions. In regards to business or infrastructure loans, BND offers 16 primary programs to North Dakota businesses.

FIGURE 6: BANK OF NORTH DAKOTA BY THE NUMBERS



Source: Bank of North Dakota, April 20, 2016.

TABLE 15: BANK OF NORTH DAKOTA PROGRAMS	
Loan Program	**What it offers**
Beginning Entrepreneur Loan Guarantee	Bank of North Dakota provides financial institutions with a guaranty of a loan, not to exceed $200,000, to help finance start-ups. Proceeds may be used to purchase or make improvements to real property, equipment, or personal property; working capital needs; child care home, group, or center licensed by the ND Department of Human Services; business start-up expenses including accounting, legal, and business planning; and refinance or consolidate debt. A loan guarantee may be approved on a loan up to $25,000 without requiring collateral. The loan guaranty is based on this schedule: up to $100,000 = 85 percent guaranty percentage; $100,000 to $150,000 = 80 percent guaranty percentage; $150,001 to $200,000 = 75 percent guaranty percentage. The term of guaranty cannot exceed 5 years, the program can be used in conjunction with other Bank of North Dakota loan programs, and credit worthiness is established by the private lending institution.
Business Development Loan Program	New and existing businesses that have higher credit risks than would be normally acceptable to private lenders may access this program. A lead lender is required but the Bank of North Dakota will participate at between 50 to 70 percent of the loan and interest rates must be acceptable to the BND. BND's maximum loan participation is $1,000,000. Proceeds can be used to establish or purchase a new or existing business; finance the acquisition of real property; renovate an existing business; purchase/lease equipment; provide working capital; and refinance an existing loan. Personal guarantees are required and adequate collateral is necessary. Repayment terms are 12-20 years for real estate, 5-7 years for equipment, and 1-5 years for working capital.
Bank Participation Loan	The Bank of North Dakota can assist financial institutions with borrowers whose financing needs have outgrown the legal limits of the originating lender. Loan amounts and limits are negotiable and interest rates are market driven. Adequate collateral is essential. Repayment terms are 12-20 years for real estate, 5-7 years for equipment, and 1-5 years for working capital.
Match Program	The program is designed to use low interest rates to attract financially strong companies to North Dakota. Primary candidates include manufacturing, processing, and other value-added businesses. Companies applying for this program must show financial strength as demonstrated by investment grade ratings. Companies that do not have adequate ratings has three options: provide a credit enhancement letter from a financial institution, obtain a guarantee from a federal guaranty agency or another company with an investment grade rating; or pledge a certificate of deposit or marketable securities of a quality and level satisfactory to BND. Proceeds may be used to finance real estate, working capital, and the purchase/lease of equipment. The Bank of North Dakota will determine the maximum loan amount based upon funding availability and loan demand at the time of the application. BND charges and interest rate of 0.25 percent over the 1-5 year U.S. Treasury Yield Rate on its portion of the loan. This rate is adjustable based on the applicant's investment grade rating. BND requires first lien position on real estate, equipment, and other security as may be appropriate. Corporate guarantees may be required if the applicant is a subsidiary. Repayment terms are up to 20 years for real estate, 5-7 years for equipment, and 1-5 years for working capital.
Export Enhancement Program	The program is a financing tool for foreign buyers purchasing equipment from North Dakota manufacturers. Loans are made through the Bank of North Dakota and guaranteed through the Export-Import Bank of the United States. A minimum transaction size of $200,000 is required and community financial institutions may participate. BND will typically require the filing of first secured position on equipment being financed and may require the personal guarantee of the owner of the foreign company.
PACE programs	PACE (Partnership in Community Expansion) is fund established to help communities expand their economic base by creating new jobs. BND participates with a local lender to provide financing and works with local communities to reduce interest rates. Targeted industries include manufacturing, processing, value-added processing, data processing, telemarketing, tourist attractions, holding companies involved in leasing assets to PACE qualified businesses, intermodal service facilities, and all other companies that generate 75 percent or more of their sales outside of North Dakota. Proceeds can be used to purchase real property, equipment, and to fund certain working capital needs. Funds cannot be used to refinance existing debt or for the relocation of businesses with North Dakota. There are no maximum loan parameters and interest rates may be fixed or variable. Collateral requirements include a first on a real estate mortgage and assignment of rents and a first security on all business assets. Participation requirements will be determined on a case-by-case basis, but BND's participation must be 50 to 80 percent. Repayment terms are up to 20 years for real estate, 5-7 years for equipment, and 1-5 years for working capital. Borrower must demonstrate that within one year, there will be a minimum of one job created and retained for every $100,000 of total loan proceeds or the interest buy down will be prorated to reflect partial fulfillment of loan requirements.

TABLE 15: BANK OF NORTH DAKOTA PROGRAMS - CONTINUED	
Flex PACE	The borrower can be any person or entity whose business is in North Dakota. The community where the business is located will determine if the business meets the needs of the community and to what extent the community will provide the matching portion of the buy down funds required to access the fund. Proceeds can be used to purchase real property, equipment, and to fund certain working capital needs. The loan amount is determined by the scope of the project and interest rates may be fixed or variable. Participation requirements will be determined on a case-by-case basis, but BND's participation must be 50 to 80 percent. No job creation is required.
Biofuels PACE	The Biofuels PACE program provides interest buy down loans to biodiesel, ethanol, or green diesel production facilities and livestock operations. As with other PACE programs, BND's participation in the loan must be at least 50 percent but no more than 80 percent. The local lender is responsible for submitting the application and servicing the loan. Borrower receives an interest rate buy down of up to 5 percent below the yield rate with a minimum rate of 1 percent. The difference between the yield rate and the borrowing rate is provided to the lenders from the Biofuels PACE program. The interest rates can be fixed or variable. For Biofuels production facilities the total buy-down limit is $500,000. For livestock operations, the project maximum is $250,000. Proceeds can be used for equipment and real estate. Loan terms are 5-7 years for equipment and 12-15 years for real estate. Adequate collateral is required.
Ag PACE	The Ag PACE program provides interest buy down loans to farmers and ranchers investing in non-traditional agricultural activities in order to supplement farm income. These qualified activities include non-traditional agriculture, manufacturing, processing/value-added processing, and targeted service industries (listed under PACE program above). Traditional agriculture does not qualify. Eligible uses include financing subsurface field tilling projects, the purchase of irrigation equipment on new acreage, the purchase of shares in the start-up or expansion of processing plants, the purchase of capital improvements for retention of livestock, purchase of capital improvement for dairy operations, or for the purchase of equity shares in a condominium grain storage entity. As with other PACE programs, BND's participation in the loan must be at least 50 percent but no more than 80 percent. Borrower receives an interest rate buy down of up to 4 percent below the yield rate with a minimum rate of 1 percent. The lead lender sets the interest rate in conjunction with BND and the difference between the yield rate and the borrowing rate is provided to the lenders from the Ag PACE program. Total loan amount cannot exceed the total cost of the project and total buy down per borrower may not exceed $20,000 per project. Loan terms are 5-7 years for equipment and up to 25 years for real estate. Adequate collateral is required.
Medical PACE	The Medical PACE program provides interest buy down to assist the financing of the expansion and improvement of critical access hospitals or medical facilities. To be eligible, the facility must provide critical access and be located in a community of less than 20,000 in population. Proceeds can be used for the expansion, renovation, and rehabilitation of critical access facilities, the purchase of land; the purchase, lease, or construction of facilities; and the purchase of equipment. The facility also must have an expected utilization of at least 30 years and cost at least $1 million. The maximum loan amount may not exceed 75 percent of the project costs and cumulative amount of loans with BND is limited to $15 million per applicant. As with other PACE programs, BND's participation in the loan must be between 50 to 80 percent The interest rate on permanent financing is eligible for an interest rate buy down of no more than 4 percent. The maximum loan term cannot exceed 25 years. Adequate collateral is required.
Envest	The Envest Loan is to be used to purchase shares in an agricultural processing plant intended to process North Dakota product or for the purchase of equity shares in a North Dakota feedlot or dairy operation that feeds a byproduct of an ethanol or biodiesel facility. The borrower must be a North Dakota resident who will not own more than 25 percent of the project. The plant may be located outside of the state if economic benefits to the state can be proven. The maximum loan amount is negotiable. This is a participation loan and BND's funding limit is up to 70 percent of the total loan amount. The interest rate on BND's portion is to float at BND base rate less 1.00%. The interest rate charged by the lead financial institution on its share of the loan may not exceed BND's base rate plus 2.00%. Adequate collateral is required. Loan term is 5-7 years.
BND Infrastructure Loan	Currently, BND is offering an infrastructure loan to political subdivisions for new infrastructure projects than were not funded under Senate Bill 2103 of the 64th Legislative Assembly. To access these funds, communities must access other state or federal options first. Eligible projects include wastewater and water treatment plants; sewer, storm sewer, and water lines; transportation infrastructure; and other infrastructure projects. Cumulative loan amounts cannot exceed $15 million. The interest rate is fixed at 2 percent. The loan term cannot exceed 30 years. Communities that did receive funding under Senate Bill 2103 are ineligible to apply for this loan fund until July 1, 2017.

TABLE 15: BANK OF NORTH DAKOTA PROGRAMS - CONTINUED	
Community Water Facility Revolving Loan Fund	The Community Water Facility Revolving Loan Fund is supplementary financing in conjunction with USDA Rural Development. Applicants can be a city, an association, a cooperative, or a nonprofit corporation with the authority to construct, operate, and maintain water facilities. Proceeds must be used for the location, conservation, control, treatment, and distribution of water. The maximum loan limit is 50 percent of total project costs and the interest rate is fixed at 3 percent. The maximum loan term is 40 years.
Medical Infrastructure Loan Fund	Loan fund that provides funds to critical access medical facilities in North Dakota for construction purposes. Proceeds can be used to purchase land; purchase, lease, improve any structure or facility; and purchase equipment. Eligible medical facilities must have an expected utilization of at least 30 years and priority is given to facilities located in oil producing counties. The maximum loan amount cannot exceed 75 percent of the total project cost and any proposed construction project must be at least $1 million. The maximum loan amount is $15 million and the construction period cannot exceed 24 months after loan approval. The interest rate is fixed at 1 percent and the loan term cannot exceed 25 years.
Health Information Technology Fund	The Health Information Technology Fund provides low interest loans to health care facilities to assist in improving or upgrading their health information technology infrastructure. Proceeds may be used to purchase software or hardware critical to electronic health records systems; purchase/upgrade electronic medical history systems and electronic patient medical information systems; electronic personal health records; electronic prescription software/hardware; and other systems essential to the operations of a functioning health information systems infrastructure. Maximum loan amounts may not exceed total project costs. Limits on loan amounts included $400,000 for hospitals and multi-professional entities, $100,000 for stand-alone practitioners, and $800,000 for entities with three or more provider owned facilities. The interest rate is fixed at 1 percent and the loan term may not exceed 10 years.
School Construction Loan Program	The School Construction Loan Program will fund construction or renovation projects in North Dakota school districts through June 30, 2017 or until all funds in the program are expended. BND may provide up to $250 million to school districts through this program. In order to be eligible for these funds, construction or renovation projects must be approved by the North Dakota Superintendent of Public Instruction, the projects must have received authorization for a bond issue, and they must be for at least a $1 million project for a facility that will have a 30 year utilization. The minimum amount of debt obligation can be no less than $700,000 and no more than $20 million. The interest rate may not exceed a fixed rate of 2 percent after the interest buy down is applied until July 1 2025. After that, the rate can reset at variable rate not to exceed BND's base rate or remain a fixed rate for the rest of the term. The term of the obligation cannot exceed 20 years.

Source: Bank of North Dakota Website, 2016.

North Dakota Public Finance Authority

The North Dakota Public Finance Authority, like the Bank of North Dakota, is under the operation, control, and management of the North Dakota Industrial Commission. It is a self-supporting state agency that finances itself through earnings on program assets and from fees paid by participating political subdivisions. The Authority was established in 1975 under North Dakota Century Code 6-09.4 for the purpose of making loans to political subdivisions in the state through the issuance of bonds or purchase of municipal securities. Effective as of August 1, 2005, the North Dakota Public Finance Authority is also allowed to purchase small issue bonds and to issue industrial development bonds covered under North Dakota's Municipal Industrial Development Act.[106]

The North Dakota Public Finance Authority also manages programs focused on water infrastructure, general infrastructure, and immediate disaster financing, many of which capitalize on federal or state grant monies. As well, the authority operates a

School Financing program focused on both short term needs for North Dakota school districts as well as larger, capital intensive school facility construction projects.[107]

TABLE 16: NORTH DAKOTA PUBLIC FINANCE AUTHORITY PROGRAMS

Loan Program	What it offers
State Revolving Fund	Established in 1990 to enable North Dakota to receive federal capitalization grants authorized under the Clean Water Act. It was amended in 1998 to enable the state to receive federal capitalization grants authorized under the Safe Drinking Water Act. Serving as a pass through for the U.S. EPA grants, the Authority jointly administers the state revolving fund with the North Dakota Department of Health. The revolving loan fund is used to make below market rate loans to political subdivisions in North Dakota for wastewater treatment facilities, non-point pollution control projects and public water systems and infrastructure. Interest rates are set by the North Dakota Department of Health in consultation with the North Dakota Public Finance Authority. Interest rates are fixed for a loan term of 20 years. At this time, the interest rate is set at 2.5 percent which includes a .5 percent administrative fee.
Capital Financing Program	The North Dakota Public Finance Authority makes loans through its Capital Financing Program to political subdivisions in order to finance capital projects or make improvements. Political subdivisions must have the legal authority to borrow money through the issuance of municipal securities for these projects. Financing is available in any dollar amount for these projects subject to credit and program requirements. Interest rates are market rates which are set through a competitive bid process that takes places when the North Dakota Public Finance Authority issues and sells its bond to fund a loan.
Capital Financing Program -Disaster Financing	The Disaster Financing program provides direct assistance to political subdivisions in the state impacted by weather related events until federal or state money is available or to provide local requirements. Eligible communities include those located in a North Dakota county that has received a Presidential Public Disaster Declaration, a gubernatorial executive order, or proclamation of a state disaster or emergency. The impacted political subdivision must submit an application and show ability to repay the financing either through federal or state disaster payments or through tax receipts.
School Financing	The North Dakota Public Finance Authority offers Certificates of Indebtedness to schools for short term needs (typically less than 1 year). The maximum amount a school district may borrow is limited to 5 percent of the prior year's budget plus current cumulative monthly deficit. Schools are also eligible to borrow through the School Construction Financing program. Projects must be those for which the school district may issue general obligation funds. Financing is available in any dollar amount, subject to credit and program requirements. Interest rates are market rates which are set through a competitive bid process that takes places when the North Dakota Public Finance Authority issues and sells its bond to fund a loan.
Industrial Development Bond Program	Through the Industrial Development Bond program, the North Dakota Public Finance Authority is able to make loans to manufacturers that qualify as small issue manufacturers as defined by the Internal Revenue Service. A small issue manufacturer is defined as "any facility which is used in the manufacturing or production of tangible personal property including the process resulting in the change in the condition of such property". The program is used to finance fixed assets including buildings and equipment with tax-exempt and long term fixed interest rates. State policy limits the scope of the Authority's involvement to no more than $2 million per project with a $20 million cumulative limit for the program. Interest rates are market rates which are set through a competitive bid process that takes places when the North Dakota Public Finance Authority issues and sells its bond to fund a loan.

Source: North Dakota Public Finance Authority Website, 2016.

Summary

North Dakota, like many other states where oil and gas production contribute heavily to growth, is entering a more uncertain economic phase. However, North Dakota's economic development delivery infrastructure is focused on a diverse set of targeted industries that includes not only traditional energy production, but also renewable energy, value-added agriculture, technology, aviation, life sciences, and tourism. Like the State of Alaska and the Alaska Industrial Development Authority, North Dakota's economic development agencies and institutions offer industrial revenue bond programs, business loan programs, and infrastructure programs. However, North Dakota has six entities focused on economic development within the state.

North Dakota's Economic Development Strategic Plan, as formulated by the Economic Development Foundation, is focused on several essential components including maintaining a supportive business climate, entrepreneurship, and offering businesses a qualified and highly trained workforce in partnership with higher education institutions. These parameters establish the framework for North Dakota's economic development institutions. North Dakota has programs that not only focus on their targeted industries but also establish a full continuum of support for businesses from inception through their entrepreneurship programs, venture capital programs, and tax credit initiatives that encourage reinvestment in local businesses to larger infrastructure programs financed through industrial revenue bonds.

One striking difference that sets North Dakota apart from every other state is the fact that the state owns a bank that is integral to supporting economic development within the state. In 2015, the Bank of North Dakota recorded its 12th consecutive year of record profits, with $130.7 million in net earnings, despite the changes in the oil economy. In fact, the lending portfolio grew by $486 million in 2015, mostly due to business and student loans. The state's return on investment at the Bank was 18.1 percent. Between 2005 and 2015, the bank's total assets increased from $4 billion to $7.4 billion.[108] The Bank of North Dakota provides a stabilizing force in the state's economic development initiatives. With the Bank partnering with local banks throughout the state to offer business and infrastructure loans in sizes that conventional small banks could never offer on their own, the North Dakota Department of Commerce and other agencies have the ability to focus on other aspects of economic development, including service delivery or innovative funding mechanisms, to support the state's businesses.

SECTION 1.3: OHIO

Ohio is located in the Great Lake Region of the United States, an area commonly referred to as the "Rust Belt". A heavily industrialized state historically important to the nation's iron and steel industry, Ohio's manufacturing base leads the nation in the production of plastics and rubber; fabricated metals; electrical equipment and appliances; steel; and autos and trucks.[109] However, between 1990 to 2012, manufacturing employment in the state decreased 41 percent, while manufacturing output edged upwards during this time period due to productivity increases.[110]From an employment standpoint, the top industries in the state include trade, transportation and utilities; education and health services; government; professional and business services; and manufacturing.[111]

The current population of the state is 11,613,423 (2015 estimate) which translates into a 0.7 percent increase in population over 2010.[112] The state is the 7th most populous state in the United States. In 2015, the per capita personal income (PCPI) for Ohio was $43,478, 29th in the United States. Ohio's PCPI grew 2.6 percent from 2014 to 2015, while the nation's PCPI increased 3.5 percent between 2014 and 2015. Ohio's PCPI was 91.2 percent of nation's PCPI of $47,669.[113] The state's total personal income (TPI) in 2015 was $504,992,961,000 and ranked 8th in the United States.[114]

Ohio's median household income is $48,849, with a poverty rate of 15.8 percent.[115] Almost 89 percent of the population has attained a high school diploma or GED and 25.6 percent of the population holds a Bachelor's degree or higher.[116] The state's unemployment rate in November 2015 was pegged at 4.7 percent. However, it has been increasing since that time and as of April 2016, the state's unemployment rate was 5.2 percent.[117]

The state GDP (chained, 2009 dollars) in 2014 was approximately $532 billion. This represented a six percent increase between 2011 and 2014.[118] In 2014, Ohio's real GDP grew 1.4 percent which was below the national change of 2.2 percent. Early figures for 2015 suggest that Ohio's GDP decreased 3.6 percent in the first quarter, grew 4.5 percent in the second quarter, and increased 2.3 percent in the third quarter. Ohio ranked 21st among all the states for GDP growth between the second and third quarters in 2015.[119]

In 2014, the largest economic sector in Ohio as a contributor to overall state GDP was Finance, Insurance, Real estate, Rental, and Leasing. This sector accounted for 19.5 percent of the state's overall GDP and accounted for 0.5 percent of real growth. The second largest contributor to the state GDP was Professional and Business Services, accounting for 12.1 percent of the state's GDP and 4.2 percent of real growth. These two sectors were followed by Government; and Durable Goods Manufacturing and Educational Services, Health Care, and Social Assistance which were equal in importance (note: 38 percent of the state's GDP is made up of "All Others").[120]

Economic Development Entities in Ohio

Ohio's economic development infrastructure generally consists of the Ohio Development Services Agency and JobsOhio. For purposes of this report, the Port of Cleveland also is included because of its financing programs.

Ohio Development Services Agency

The Ohio Development Services Agency (ODSA) serves as Ohio's primary public economic development authority and delivers economic development programs and services comprehensively statewide. The director of the agency is appointed by the Governor and the agency is directly accountable to the Ohio Legislature. The primary mission of the agency is "to support job creation and strengthen communities in Ohio, while insuring accountability and transparency of taxpayer money and exceptional customer service".[121] For fiscal year 2015, the Ohio Legislature charged the agency with four goals:

1. Assist JobsOhio and JobsOhio Regional Network with recruiting employers by providing and monitoring taxpayer supported incentives;
2. Assist small businesses and entrepreneurs through access to both counseling and capital;
3. Assist Ohio communities with the implementation of their economic development plans;
4. Assist low income Ohioans with housing, heat, and other support services.[122]

The Ohio Development Services Agency administers 70 programs that include economic development services, but also include Community Development Block Grant programs, Tourism, Energy Efficiency programs, Small Business Development Centers, International Trade, and Minority business programming outreach. The agency also offers an array of research reports regarding industries, demographics, and programs.[123]

The Ohio Development Services Agency is measured on a number of performance metrics. These include the following:

- Number of jobs created and retained for fiscal year; state payroll generated from creation and retention of jobs
- Number of jobs created and retained through small business development programs including Small Business Development Centers, Procurement Technical Assistance Centers, and Minority Business Development Centers
- Value of exports attributed to ODSA assistance
- Capital access metrics: number of loans; total loan amounts; number of jobs created/retained; and dollar amount of private sector leverage attributable to loans
- Community development metrics: number of grants and loans awarded through Community Block Grant (CDBG) program; total dollar value of grants and loans awarded through CDGB program
- Tourism metrics: increase in visitor nights spent in Ohio; increase in direct visitor spending
- Ohio Third Frontier Program: Cost share dollar value; leveraged private sector investment; jobs created (for profit and non-profit); jobs retained; total jobs created/retained; average salary per job.[124]

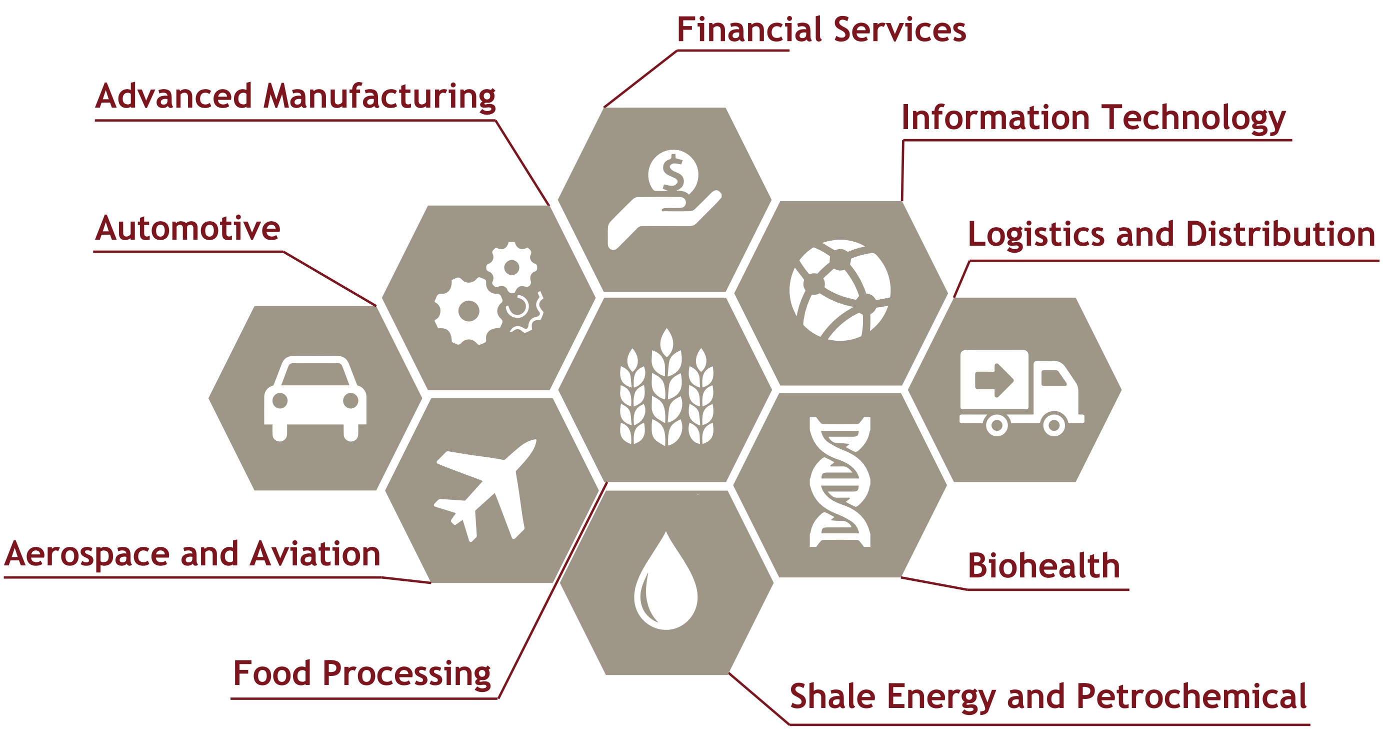
While manufacturing plays a significant role in Ohio's economy, the state increasingly is focused on a diverse portfolio of targeted economic sectors that are important to innovative economies. Ohio's targeted economic sectors include Advanced Manufacturing; Aerospace and Aviation; Automotive; Biohealth; Information Technology; Shale Energy and Petrochemical; Financial Services; Food Processing; and Logistics and Distribution. Polymer Manufacturing is also included under the Advanced Manufacturing category and Corporate Headquarters and Research and Development are key functions under all categories and are considered as important targets as well.[125]

The state's economic development programs are comprised primarily of loans, bonds, grants, tax credits, and workforce incentives.

Ohio Development Services Agency Programs

ODSA offers several loan programs, many specifically targeting disadvantaged groups or businesses that have difficulty accessing traditional capital sources due to the age of the company. ODSA reported that in 2015, utilization of their loan programs had resulted in the creation or retention of 7,056 jobs from 433 loans valued at approximately $31 million. These loans leveraged over $116 million in private investment in businesses in the state.[126]

FIGURE 7: OHIO'S TARGETED ECONOMIC SECTORS



Source: JobsOhio Website June 2016.

TABLE 17: OHIO DEVELOPMENT SERVICES AGENCY LOAN PROGRAMS	
Incentive Program	**What it offers**
166 Direct Loan Program (with Participating Banks and Financial Institutions)	Provides direct loans to companies that may have limited access to capital and funding through conventional sources. Eligible projects are those focused on commerce, manufacturing, distribution, or research activities in targeted industries. ◆ Eligible project costs include land/building purchases; machinery and equipment; building construction/ renovation costs; long term leasehold improvements, and fixed asset purchases. ◆ Loan amounts between $500,000 and $1.5 million and limited to 20 to 40 percent of total project costs. ◆ 40 percent of project costs must be financed through third party investors or lenders. ◆ Maximum loan terms of 15 years for real estate and 10 years for equipment and machinery. ◆ Fixed, below market interest rates. ◆ Retail and refinancing projects are ineligible. ◆ Priority given to projects based on job creation and payroll commitments, fixed asset commitment, project return on investment, project location, and other factors.
Ohio Capital Access Fund (OCAP) (with Participating Banks and Financial Institutions)	Loan portfolio insurance program that operates similar to loan guarantees. Program is focused on small businesses with fewer than 250 employees and less than $10 million in annual revenues. ◆ New and existing businesses are eligible. ◆ Eligible project costs include real estate, equipment, leasehold improvements, working capital, inventory, rolling stock, and refinancing another lender's debt. ◆ Loan amounts are limited to $350,000 for fixed assets and $250,000 for working capital projects. ◆ Maximum loan terms include 15 years for real estate, 7 years for equipment, and 1 year for short-term working capital projects. ◆ Interest rates are negotiated between lender and borrower. ◆ Program lessens a bank's risks by making deposits of 10 percent, 50 percent (lender's first, second, or third enrollment in program), or 80 percent (certified minority owned business) of total loan amount.

TABLE 17: OHIO DEVELOPMENT SERVICES AGENCY LOAN PROGRAMS	
Incentive Program	**What it offers**
Collateral Enhancement Program (CEP) (with Participating Banks and Financial Institutions)	Designed specifically to address the collateral shortfalls for small businesses, minority and women owned businesses, and businesses located in HubZones. The program supplies pledged cash collateral accounts to lending institutions to enhance collateral coverage of individual small business loans. ◆ Eligible project costs include commercial real estate purchases, expansions, and renovations; equipment; leasehold improvements; working capital; inventory; rolling stock; refinancing of another lender's debt; start-up costs; franchise fees; and other business purposes. ◆ Maximum cash collateral deposit for fixed asset loans and working capital loans is $500,000. ◆ Cash collateral deposits can be up to 30 percent of loan amount. For certified minority owned businesses, this percentage can increase to 50 percent. ◆ Maximum lender loan amount is $5 million and minimum loan amount for working capital is $100,000. ◆ Maximum length of CEP deposit/allocation is 5 years; maximum term for real estate loans is 15 years; maximum term for equipment loans is 7 years; maximum term for short term working capital loans is 1 year (renewable). ◆ Interest rate for loans is negotiated between lender and borrower.
Ohio Minority Business Direct Loan Program (with Participating Banks and Financial Institutions)	Certified minority owned businesses engaged in commerce, manufacturing, distribution, and research and development activities are eligible for this loan program with interest rates set at a fixed rate of 3 percent. ◆ Eligible project costs include acquisition of land and buildings, new construction, renovation of existing buildings, and acquisition of machinery and equipment; some soft costs may be considered, including architectural/engineering costs, installation costs for machinery, and financing costs for banks. ◆ Loans of $45,000 to $450,000 (larger amounts can be authorized by Director of Ohio Development Services Agency). ◆ Terms of up to 15 years for real estate and up to 10 years for machinery. ◆ Loan structure: 10 percent owner equity; 50 percent – private lender; 40 percent – Minority Direct Loan.
Innovation Ohio Loan Fund	Loan program that supports growth initiatives of Ohio companies having a minimum of two years of operating history and revenues; a commercially viable product or service; reasonable prospects for sales growth, and the involvement of third party investors. ◆ Targeted industries include Advanced Materials; Instrument, Controls, and Electronics; Power and Propulsion; Biosciences; and Information Technology. ◆ Job creation commitment required. ◆ Applicant is required to provide a 25 percent contribution to the project. ◆ Loan amounts range from $500,000 to $1.5 million. Loan proceeds my finance up to 75 percent of project costs. ◆ Loan terms limited to between 5 to 7 years. ◆ Interest rate is fixed at closing.
Research and Development Loan Fund	◆ Projects must be for research and development activities. ◆ Provides loan financing between $500,000 and $5 million. ◆ Interest rates are fixed at or below market rates. ◆ Companies receive a dollar for dollar, non-refundable Ohio commercial activity tax credit for principal and interest payments made during the year (up to $150,000).

Source: Ohio Development Services Agency Website, 2016.

Environmental/Energy Loan Programs

ODSA also offers a number of loan programs focused on infrastructure, energy, and the mitigation of business dependence on the Great Lakes. ODSA provides low interest loans for the development of alternative stormwater and for the remediation of brownfield sites that can be utilized in redevelopment efforts in disadvantaged communities across the state. ODSA also offers the Energy Loan Fund financing program to promote the installation of efficient energy systems by a multitude of organizations. The Loan Loss Reserve Program serves a similar function but is focused on businesses located in or near port districts across the state.[127]

TABLE 18: OHIO DEVELOPMENT SERVICES AGENCY ENVIRONMENTAL AND ENERGY LOAN PROGRAMS

Incentive	What it offers
Alternative Stormwater Infrastructure Loan	Direct, low-interest loans for communities for the design and construction of alternative stormwater infrastructure projects. Developers are encouraged to partner with communities on projects. Maximum loan amounts up to $5 million.
Energy Loan Fund	Provides low cost financing to small businesses, manufacturers, nonprofit organizations, and public entities to improve energy efficiency, reduce energy usage, reduce fossil fuel emissions, and create/retain jobs. ◆ Eligible project costs include energy retrofits, installation of energy distribution technologies, and the installation of renewable energy technologies. ◆ Projects must achieve a 15 percent reduction in energy, demonstrate economic and environmental impacts, and be included in a long-term energy strategy. ◆ Loan amounts range between a minimum of $250,000 to a maximum of $1.25 million.
Lakes in Economic Distress Revolving Loan Fund	Assists businesses or other entities that have been adversely impacted by their economic dependence upon a lake that has been declared an area "under economic distress" by the Ohio Department of Natural Resources. Eligible businesses must have limited access to conventional lending sources. ◆ Two types of loans available: a Micro-Loan focused on working capital needs and a Fixed-Asset Loan to finance costs of improvements to real property and equipment. ◆ Eligible businesses and entities must have been in operation of at least 24 months prior to the ODNR declaration; experience at least a 40 percent reduction in gross revenue for a defined period; provide direct linkage between economic conditions and the lake's designation. ◆ Micro-Loan amounts do not exceed $5,000 per borrower. Term of the loan is up to 7 years. ◆ Fixed-Asset Loan amounts are limited to $20,000 per borrower. Term of the loan is up to 7 years.
Loan Loss Reserve Program	Serves as a credit enhancement tool for Ohio Port Authorities as they make loans to businesses or nonprofit agencies for energy efficiency improvements. ◆ Eligible projects must demonstrate a 15 percent savings on energy costs and payback period of less than 15 years. ◆ Project eligibility is determined by individual port authorities.
Ohio Brownfield Fund	Provides technical assistance, loans, and small grants to cover costs for planning, assessment, and clean-up of contaminated sites. Grants are limited to local governments and nonprofit 501(C)3 organizations. Businesses are eligible for loans. Technical assistance is provided on an "as needed" basis. Funding limits for assessments up to $500,000 per site. Funding limits for site clean-up is $5 million per site.

Source: Ohio Development Services Agency Website, 2016.

FIGURE 8: OVERVIEW OF OHIO'S ECONOMIC DEVELOPMENT INCENTIVES

Bond Financing Programs –
Ohio Development Services Agency

- Ohio Enterprise Bond Fund
- Ohio Minority Business Bonding Program
- Ohio Volume Cap Program

Loan and Loan Guaranty Programs –
Ohio Development Services Agency

- 166 Direct Loan Program
- Ohio Capital Access Fund
- Collateral Enhancement Program
- Ohio Minority Business Direct Loan Program
- Innovation Ohio Loan Fund
- Research and Development Loan Fund
- Alternative Stormwater Infrastructure Loan Fund
- Energy Loan Fund
- Lakes in Economic Distress Revolving Loan Fund
- Loan Loss Reserve Program
- Ohio Brownfield Fund
- Entrepreneurial Services Program (Ohio Third Frontier Initiative)
- Pre-Seed/Seed Plus Fund Capitalization Program (Ohio Third Frontier Initiative)
- Commercial Acceleration Loan Fund (Ohio Third Frontier Initiative)
- Technology Validation and Start-Up Fund (Ohio Third Frontier Initiative)

Grant Programs –
Ohio Development Services Agency

- Alternative Fueling Station Grant Program
- Lakes in Distress Grant Program
- Ohio Coal Research and Development Program
- Energy Efficiency Program for Manufacturers
- Roadwork Development (629) Grant

Grant Programs –
JobsOhio

- JobsOhio Economic Development Grant
- JobsOhio Workforce Grant
- JobsOhio Revitalization Program Loan and Grant Program
- JobsOhio Revitalization Program Phase II Assessment Fund
- JobsOhio Growth Fund

Community Development Programs –
Ohio Development Services Agency

- Economic Development Loan & Public Infrastructure Grant Program
- Community Development Program
- Community Development Corporation Economic Development Program

Tax Incentives –
Ohio Development Services Agency

- Community Investment Areas (CRAs)
- Ohio Enterprise Zone Program
- Conversion Facilities Tax Exemption
- Data Center Sales Tax Exemption
- Job Creation Tax Credit
- InvestOhio Tax Credit
- Manufacturing Machinery and Equipment Sales Tax Exemption
- Ohio New Markets Tax Credit Program
- Ohio Motion Picture Tax Credit
- Ohio Research and Development Tax Credit
- Ohio Research and Development Sales Tax Exemption
- Ohio Small Business Tax Cut
- Qualified Energy Project Tax Exemption
- Tax Increment Financing

Cleveland-Cuyahoga County Port Authority Programs

- Foreign Trade Zone #40 and #181
- Fixed-Rate Financing Program
- Structured Leasing Program
- Infrastructure Financing Program
- Manufacturer's Assistance Program
- New Markets Tax Credit Program

Sources: Ohio Development Services Agency, JobsOhio and Cleveland-Cuyahoga County Port Authority Websites June 2016.

Bond Programs

ODSA administers the state's volume cap program that includes both tax-exempt and municipal bonds. For 2016, the state has allocated $100 million for Qualified Small Issue projects targeting manufacturing firms in the state. The state also operates the Ohio Enterprise Bond Fund that uses bond financing to fund its pool of dollars. The Ohio Minority Business Bonding program is designed to provide payment surety bonds to minority businesses that have difficulty in obtaining bond financing through traditional means.[128]

TABLE 19: OHIO DEVELOPMENT SERVICES AGENCY BOND PROGRAMS

Incentive Program	What it offers
Ohio Enterprise Bond Fund (OEBF Loan)	Promotes economic development, business expansion, and job growth throughout the state. The Ohio Treasurer issues bonds, the proceeds of which are loaned to businesses for allowable costs. ◆ Eligible projects include those related to industry, commerce, manufacturing, distribution, or research/development activities in targeted industries. Retail is ineligible. ◆ Allowable project costs include land/building purchase, machinery and equipment purchase, building construction/renovation, long term leasehold improvements, and capitalized costs associated with a fixed asset purchase. ◆ The creation of jobs within a 3 year period is required, with typically one new job created for every $35,000 to $75,000 of proceeds provided. ◆ Loan amounts range from $2.5 million to $10 million. Total state financing (including other state loan programs) will be limited to between 20 to 40 percent of the project's total investment. ◆ Terms of up to 15 years (real estate) or 10 years (machinery and equipment). ◆ Interest rate is fixed and set by market when bonds are sold.
Ohio Minority Business Bonding Program	Provides bid, performance, and payment surety bonds to state certified minority owned businesses that are unable to obtain bonding through traditional sources. ◆ Maximum bonding line pre-qualification is $1 million. ◆ The premium for each bond requested is 2 percent of the face value of the bond. ◆ Applicants evaluated for eligibility by the Minority Development Financing Advisory Board for fiscal soundness, ability to compete in private sector, ability to create jobs, and existing banking relationships.
Ohio Volume Cap Program	Offers both tax-exempt bonds and municipal bonds. Municipal bonds are tax-exempt but public entities can issue bonds on behalf of private sector businesses. These bonds are referred to as private activity bonds and are subject to federal income tax. ◆ Ohio's 2016 volume cap allocation is $1,161,342,300 or $100 per resident. ◆ $100 million has been set aside for small Qualified Small Issue projects for manufacturing firms. ◆ Applications are made directly to the Ohio Development Services Agency by project owners and their bond counsels.

Source: Ohio Development Services Agency Website, 2016.

Grant Programs

Grant programs administered through ODSA are focused on promoting energy efficiency, providing assistance to businesses adversely impacted with their reliance on the Great Lakes, and roadway infrastructure associated with business expansions. The Energy Efficiency Program for Manufacturers is utilized with the Energy Loan Fund program discussed above.[129]

TABLE 20: OHIO DEVELOPMENT SERVICES AGENCY GRANT PROGRAMS

Incentive Program	What it offers
Alternative Fueling Station Grant Program	The Alternative Fueling Station Grant financial assistance to businesses, nonprofit organizations, school districts, or local governments for the purchase and installation of alternative fuel refueling, distribution, and blending facilities. ◆ Eligible fuels include E85 blend fuel, blended biodiesel, natural gas, liquefied petroleum gas, hydrogen, compressed air, or any power source including electricity. ◆ Grants in the form of $10,000 forgivable loan principal are available to cover educational and promotional materials for selected loan projects.
Lakes in Distress Grant Program	Assists businesses or other entities that have been adversely impacted by their economic dependence upon a lake that has been declared as an area "under economic distress" by the Ohio Department of Natural Resources. ◆ Eligible project costs include working capital, marketing/advertising, and market research. ◆ Eligible businesses and entities must have been in operation of at least 24 months prior to the ODNR declaration; experience at least a 40 percent reduction in gross revenue for a defined period; provide direct linkage between economic conditions and the lake's designation. ◆ Grant awards are limited to a maximum of $10,000.
Ohio Coal Research and Development Program	Provides funding for research at educational institutions through the Ohio Coal Research Consortium and for pilot and demonstration projects through the Ohio Coal Demonstration and Pilot Program to demonstrate the use of coal in cost-effective and environmentally friendly manner. ◆ Eligible applicants include utility companies, nonprofit and for-profit businesses operating in Ohio, and educational or scientific institutions. ◆ RFP (Request for Proposal) process issued on an annual basis. The amount of principal allocated to this program by the state cannot exceed $100 million at any time.
Energy Efficiency Program for Manufacturers	A four stage program for Ohio manufacturing firms focused on promoting energy efficiency. The four stages include the identification of energy cost savings, the development of an energy plan, the installation of energy cost savings measures, and the measurement and verification of the energy cost savings. Companies are eligible to receive up to $15,000 or 50 percent of the cost of developing an energy plan. Companies can utilize the Energy Loan Fund for the implementation of energy measures identified in stage 3 (80 percent of total project costs up to a maximum loan amount of $1 million.
Roadwork Development (629) Grant	Funds are available for public roadway improvement, including engineering and design costs. This program is focused on projects primarily engaged in manufacturing, research and development, high technology, corporate headquarters, and warehouse/distribution functions. Grants must create or retain jobs and are reimbursable. Funding is provided to local political subdivisions and requires their active participation.

Source: Ohio Development Services Agency Website, 2016.

Tax Incentives

ODSA offers several tax credit programs and incentives to support specific economic development needs and sectors. The Community Reinvestment Area program, the Ohio Enterprise Zone Program, and the Tax Increment Financing District program are geographically bound and the tax incentives that are available through these programs are limited to businesses or organizations within those geographic boundaries. The Ohio New Markets Tax Credit also is geographically-bound; to access tax credits through this program, investors must work with state designated Community Development Entities to secure tax credits for investments in designated New Markets Tax Credit Zones.[130]

In Fiscal Year 2015, the Job Creation Tax Credit, by itself, is reported to have resulted in the creation of 11,687 new jobs, the retention of 17,113 jobs, and the generation of $529.1 million new payroll in the state.[131] Similarly, in Fiscal Year 2015, the InvestOhio Tax Credit was issued to 653 businesses in the state with a value of $7.3 million.[132]

TABLE 21: OHIO DEVELOPMENT SERVICES AGENCY TAX INCENTIVE PROGRAMS

Incentive Program	What it offers
Community Reinvestment Areas (CRA)	Administered at the municipal and county levels, and provides real property tax exemption for property owners who construct new buildings or renovate and rehabilitate existing ones. Typically CRAs are located in areas where investment has lagged or regressed. ◆ Local governments determine the type of projects that are eligible for by their local CRA: industrial, commercial, and residential. ◆ Property owners located within a CRA are eligible for exemptions of 100 percent of the incremental property taxes for a period up to 15 years with local school board approval.
Ohio Enterprise Zone Program	Administered at the county and municipal levels. Enterprise Zones are established through application by municipal and county governments. Business may apply for enterprise zone benefits if “substantial investments” in a zone-designated property can be demonstrated. ◆ Real and personal property investments are eligible for the property tax exemptions in conjunction with projects that create jobs Existing taxable value of land and buildings are not eligible for these exemptions. ◆ Property owners located within an Enterprise Zone are eligible for exemptions of 100 percent of the incremental property taxes for a period up to 15 years with local school board approval OR they may be eligible for exemptions of 75 percent of the incremental property taxes during the 15 year time period without school board approval. ◆ Retail and residential projects are ineligible. ◆ Projects that include the relocation of assets or employees from another Ohio location are ineligible unless the enterprise zone is defined as “distressed-based”.
Conversion Facilities Tax Exemption	Business owners are eligible for an exemption for certain property state sales and use taxes for property used in energy conservation, thermal-efficiency improvements, and the conversion of solid waste to energy. The Ohio Department of Taxation makes final approval.
Data Center Sales Tax Exemption	Sales tax exemption that allows for partial or full sales tax exemption on the purchase of eligible data center equipment. Projects must meet minimum investment and payroll thresholds in order to be eligible. The Ohio Tax Credit Authority provides final approval.
Job Creation Tax Credit	A refundable and performance based tax credit calculated as a percentage of a business’ created payroll and applied to toward the company’s commercial activity tax liability each year. To be eligible, companies generally need to create at least 10 new jobs within a 3 year period with a minimum annual payroll of $660,000 that pay at least 150 percent of the federal minimum wage. The Ohio Tax Credit Authority provides final approval.
InvestOhio Tax Credit	Provides a tax credit up to 10 percent (or $1 million) to investors for cash investments in small businesses in Ohio. Equity investments must be held for a period of two years.

TABLE 21: OHIO DEVELOPMENT SERVICES AGENCY TAX INCENTIVE PROGRAMS	
Incentive Program	**What it offers**
Manufacturing Machinery and Equipment Sales Tax Exemption	Exempts businesses from entire state and county sales tax for purchases of machinery and equipment used primarily for manufacturing. Includes machinery, equipment, supplies, and fuel used in manufacturing processes to produce tangible property for sales.
Ohio New Markets Tax Credit Program	Provides tax incentives for investors in return for investment in designated underserved areas. Tax credit allocation authority is granted to five Community Development Entities (CDE) located through the state. The investor provides cash to a CDE in exchange for a tax credit that equals 39 percent of their investment claimed over 7 years. Annually, $10 million in tax credit allocation authority is available to Ohio CDEs.
Ohio Motion Picture Tax Credit	Provides a refundable tax credit that equals 25 percent off in-state spend and non-resident wages and 35 percent in Ohio resident wages on eligible productions. Eligible productions must spend a minimum of $300,000 in Ohio and include feature-length films, documentaries, interactive Web sites, sound recordings, videos, music videos, interactive television, interactive games, videogames, commercials, and any form of digital media.
Ohio Research and Development Tax Credit	A nonrefundable tax credit that equals 7 percent of the amount of Qualifying Research Expenses as defined in Section 41 of Internal Revenue Code in excess of the taxpayer's average investment in qualifying research expenses over the three preceding years. The tax credit is applied against the corporate franchise tax and is designed to encourage Ohio companies to invest in research and development. There is no special application or approval process; the credit can be claimed on corporate tax returns.
Ohio Research and Development Sales Tax Exemption	Exempts businesses from entire state and county sales tax for purchases of machinery and equipment used primarily for research and development, both direct and pure research activities.
Ohio Small Business Tax Cut	The Ohio Small Business Tax Cut is part of tax reform package initiated by Governor John Kasich. In 2016, business owners are eligible to deduct 100 percent of business income from the Ohio adjusted gross income (OAGI) that they report on their personal income tax returns. The deduction is available on up to $250,000 of business income for individuals with a filing status of married filing jointly or single and $125,000 for individuals with a filing status of married filing separately.
Qualified Energy Project Tax Exemption	Owners or lessees of renewable, clean coal, advanced nuclear, and cogeneration energy projects are eligible for exemptions from the public utility tangible personal property tax.
Tax Increment Financing	Tax Increment Financing (TIF) is an economic development tool available at the local level that helps in the financing of public infrastructure and improvements to commercial, industrial, and residential structures. The TIF is geographically bound and payments derived from the increase in property values due to improvements within the district can be directed into a fund to finance public improvements.

Source: Ohio Development Services Agency Website, 2016.

Community Development Programs

Through the state's Community Development Block Grant allocation, ODSA provides a number of programs that provide for infrastructure improvements in communities across the state, including the Economic Development Loan & Public Infrastructure Program, the Community Development Program, and the Community Development Corporation Economic Development Program.[133] In Fiscal Year 2015, the program invested more than $28.9 million in infrastructure projects throughout the state, an amount that was matched with an additional $76.9 million in local government and private sector funds. This funding was used to install 48 miles of water and sewer lines; add 63 miles of streets and gutters; replace six bridges, and improve 143 Main Street buildings.[134]

In addition to these investments, ODSA provided 56 grants and loans totaling $4.5 million to local governments to assist them in improving their processes and service delivery to their constituents.[135]

TABLE 22: OHIO DEVELOPMENT SERVICES AGENCY COMMUNITY DEVELOPMENT PROGRAMS

Incentive Program	What it offers
Economic Development Loan & Public Infrastructure Grant Program	Funds are granted to local government jurisdictions for both economic development loans through established revolving loan programs and public infrastructure projects. ◆ Eligible project costs include fixed asset financing and off-site infrastructure improvements for particular businesses that result in job creation or retention in low to moderate income populations. ◆ State may also provide up to an additional $50,000 for job training activities associated with project.
Community Development Program	Provides communities with housing and community development resources targeted at low to moderate income groups. The program includes competitive set asides for Community Allocation, Neighborhood Revitalization, Downtown Revitalization, and Critical Infrastructure.
Community Development Corporation (CDC) Economic Development Program	Provides entrepreneurship, community development, and economic development resources in underserved neighborhoods. Eligible community development corporations may apply for funding. ◆ Microenterprise Business Development program: community development corporations may apply for funding to provide technical assistance, training, and business loans to low to moderate income Ohioans. ◆ Community Development Finance Fund: funds are provided to community and economic development programs that benefit low to moderate income individuals and neighborhoods.

Source: Ohio Development Services Agency Website, 2016.

Ohio Third Frontier Initiative

Ohio Third Frontier is a technology-based economic development initiative that is part of the Ohio Development Services Agency. The $2.1 billion initiative was started in 2002 with a focus on fostering an innovation ecosystem in Ohio that would spawn technology based products, companies, and jobs. The program includes a statewide network of resources that provides access to business expertise, capital, and talent focused on start-up and early stage technology companies positioned to enhance Ohio's innovation economy.[136] Until 2014, established businesses were allowed to utilize the Ohio Third Frontier programs, but in 2014, the commission decided to focus exclusively on start-up businesses and encourage established Ohio businesses to utilize the services and programs offered through JobsOhio.[137]

The initiative is administered by an eleven member Ohio Third Frontier Commission. Commission members include the ODSA director, the Ohio Board of Regent's Chancellor, the Governor's science and technology advisor, the JobsOhio chief investment officer, six regional business representatives and one public-at-large representative appointed by the Governor. The commission is responsible for the allocation of funds appropriated through the Ohio Legislature to support the initiative's programs. Additionally, the Ohio Third Frontier Advisory Board provides guidance to the commission. This 16 member board represents various industries, academia, and government and advises on strategic planning functions for the initiative.[138]

According to the ODSA 2015 Annual Report, cumulatively since the inception of the initiative, $1.2 billion in state funds have been expended, with a reported cost share of $2.1 billion, and leveraged dollars of over $9.5 billion. The cost share figure represents the match or financial contribution that is required as part of a program's application or as part of a Request For Proposals (RFP) released by the state. Since 2002, the Ohio Third Frontier Initiative's programs have been responsible for the creation of 9,074 jobs in the private sector, 2,293 jobs in the not-for-profit sector, and the retention of 5,127 jobs for a total of 16,495 jobs with an average annual salary of $67,749.[139]

TABLE 23: OHIO DEVELOPMENT SERVICES AGENCY – OHIO THIRD FRONTIER INITIATIVE PROGRAMS	
Incentive Program	**What it offers**
Entrepreneurial Services Program	Geographic-focused entrepreneur services network that offers technical assistance, counseling services, capital/loan packaging, and access to capital for early stage technology-based entrepreneurs throughout the state. The state's program is dispersed in six regional centers.
Pre-Seed/ Seed Plus Fund Capitalization Program	Provides loans to capitalize funds that have attracted the support of non-state investors with a particular focus on funds that target investments to pre-seed technology based businesses. Established to provide professionally managed capital and associated services to accelerate the growth of early stage Ohio technology based businesses. ◆ Pre-Seed Funds: » Funds must be matched 1:1 with private capital; » Pre-Seed proposals must request state funding in the range of $500,000 to $5 million resulting in total funding of $1 million to $10 million (minimal one-to-one match); » Projects are limited to no more than 3 years; » Guidelines suggest that the typical investment size should be limited to no more $300,000; larger investment sizes considered on a case-by-case basis. ◆ Seed Plus Funds: » Funds must be matched 3:1 with private capital; » Seed Plus proposals must request state funding in the range of $2.5 million to $5 million resulting in a total Fund of $10 million to $20 million; » Projects are limited to no more than 5 years; » Guidelines suggest that the typical investment size should be limited to no more $750,000; larger investment sizes considered on a case-by-case basis.
Commercial Acceleration Loan Fund	The Commercial Acceleration Loan Fund (CALF) provides gap financing for early stage entrepreneurs who demonstrate commercially viable projects. ◆ Eligible applicants limited to early-stage Ohio companies that have already received pre-seed investment, angel investment, or venture capital and have a two year operating history. ◆ Loans are secured transactions disbursed in tranches as borrower achieves pre-established milestones. ◆ Loan amounts range from $500,000 to $2.5 million; loans may finance up to 75 percent of project costs. ◆ Loan terms are limited to 7 years. Repayment structures are negotiable but tend to follow a graduated monthly payment schedule based on 5 percent of annual sales.
Technology Validation and Start-Up Fund	Designed to support protected technologies developed at Ohio research universities and institutions that need known validation of their impact on commercial and start-up viability and to support Ohio start-up companies that license these processes from the research institutions. Interested parties must submit written proposals to be considered.
Ohio Tech Internship	Connects interested students with internship opportunities at early stage technology companies in Ohio. Eligible businesses receive up to $10,000 to support each internship position and assistance in identifying and recruiting students for the program.

Source: Ohio Development Services Agency Website, 2016.

Workforce Incentives

ODSA offers the Ohio Incumbent Workforce Training Voucher Program that helps employers in targeted industries fund training for their existing workers:

Ohio Incumbent Workforce Training Voucher Program

The program provides training dollars to Ohio's incumbent workforce through OhioMeansJobs.com. The program offsets a portion of an employer's costs to upgrade the skills of existing workers and provides reimbursement to eligible employers for specific training costs. To participate, employers must demonstrate that they will not only enhance the skills of their current workforce but also improve their competitiveness.

- Employers must operate businesses in state designated target industries: Advanced Manufacturing, Aerospace and Aviation, Automotive, BioHealth, Corporate Headquarters, Energy, Financial Services, Food Processing, Information Technology and Services, Polymers and Chemicals, Back Office Operations, Logistics, and Research and Development
- Employers may be reimbursed up to 50 percent of the cost of training (up to $4,000 per employee and/or up to $100,000 per company) once the employer pays the full cost of the training
- The employer's match must come from private funds; public funds cannot be used for this process[140]

JobsOhio

JobsOhio is a private, nonprofit corporation established by Governor John Kasich in 2011 to lead Ohio's job creation efforts following the global recession that severely impacted the state's economy. The framework for JobsOhio was incorporated into House Bill1 which was signed into law on February 18, 2011 and incorporated within the state on July 5, 2011.[141]

The organization is charged to attract and retain jobs by focusing on strategic industries and, because of its private nature, work at the speed of business enabling quicker and more agile decision-making. Targeted industries include Advanced Manufacturing, Aerospace and Aviation, Automotive, Biohealth, Information Technology, Shale Energy and Petrochemical, Financial Services, Food Processing and Logistics and Distribution.[142]

As part of JobsOhio, the JobsOhio Network is a regional economic development partnership funded through Ohio Third Frontier. These regional centers include the Appalachian Business Council, Cincinnati USA Partnership, Columbus 2020!, Dayton Development Coalition, Regional Growth Partnership, and Team NEO (Northeast Ohio). By working regionally, program delivery can be better pinpointed to where key businesses and industries are located.[143]

JobsOhio is governed by a board of directors consisting of nine members, all appointed by the Governor.[144] The organization has an executive staff of 10 and 61 total employees. The organization is funded largely by its $1.5 billion lease of state liquor operations, which delivered a profit of $214 million in Fiscal Year 2014.[145]

The JobsOhio Annual Report for 2015 indicated some impressive performance metrics for the organization. According to the report, 2015 was a record year for the organization with 23,602 new jobs created. The job creation numbers for 2014 and 2013 were 21,377 and 17,857, respectively. On top of that, a total of 54,233 jobs were retained through the efforts of JobsOhio resulting in $4.1 billion in created or retained payroll. These jobs were the result of 330 new projects and capital investments valued at approximately $6.7 billion.[146]

FIGURE 9: JOBSOHIO ACHIEVEMENTS 2015

TOTAL NUMBER OF PROJECTS	330
NEW JOBS	23,602
NEW JOBS PAYROLL	$1.1 Billion
RETAINED JOBS	54,233
RETAINED JOBS PAYROLL	$3.1 Billion
TOTAL JOBS	77,835
TOTAL JOBS PAYROLL	$4.1 Billion
CAPITAL INVESTMENTS BY COMPANIES	$6.7 Billion
PERCENT OF PROJECTS: INVESTMENT BREAK-EVEN IN YEAR ONE	84%

Sources: JobsOhio 2015 Annual Report and 2016 Strategic Plan, 2015.

JobsOhio collaboratively markets a number of programs that originate in the Ohio Development Services Agency and the Ohio Third Frontier initiative. However, it does have its own portfolio of offerings. Several of these programs are grant programs, including an Economic Development Grant, a Workforce Grant, and the JobsOhio Revitalization Programs (one of these site revitalization programs can be structured as a grant or a loan). Only one, the JobsOhio Growth Fund, is strictly a loan product.

TABLE 24: JOBSOHIO PROGRAMS	
Incentive Program	**What it offers**
JobsOhio Economic Development Grant	Focused on businesses engaged in JobsOhio's targeted industries. Grant decisions are based on job creation, additional payroll, capital investment, project return on investment, and projection location. Job retention can be included as a criterion if project improves operational efficiencies or production expansion. Retail and population driven businesses are ineligible. ◆ Eligible project costs include land/building purchases, machinery and equipment, leasehold improvements, moving and relocation of equipment, infrastructure (utility, telecommunications, information technology etc.), site development, planning and feasibility studies, engineering services, and software development.
JobsOhio Workforce Grant	Focused on businesses engaged in JobsOhio's targeted industries and in need of training assistance to improve worker skills. Grant decisions are based on job creation, additional payroll, capital investment, project return on investment, and projection location. Job retention can be included as a criterion if project improves operational efficiencies or production expansion. Retail and population driven businesses are ineligible. ◆ Eligible project costs include information technology, maintenance and skilled trades, leadership skills, product knowledge, quality management and processes, safety training, supervisory training, training in technical processes, technical training, on –the-job training, equipment and materials training, and travel costs. ◆ Ineligible costs include college degrees, GED, training infrastructure, soft skills, training that is reimbursed/required by other public agencies, OSHA, and profit oriented courses. ◆ Term: based upon project's completion date.
JobsOhio Revitalization Program Loan and Grant Fund	Supports the revitalization of sites throughout the state. Eligible sites include those that are abandoned or under-utilized and where redevelopment opportunities are significantly constrained. ◆ Applicants must agree to create/retain at least 20 jobs at wage commensurate with the local market. Priority is given to businesses that are within JobsOhio's target industries, are making significant capital investments beyond site remediation and redevelopment, and will be creating/retaining jobs at wage levels higher than the average local market wage. ◆ Eligible applicants include businesses, nonprofits, or local governments where the job creating/retaining entity has signed an agreement for the project site and has a specific plan (business, financial, remediation, job creation) and schedule in place for the project. ◆ Eligible project costs include demolition, environmental remediation, building renovation, asbestos/lead paint abatement, removal/disposal of construction waste, site preparation, infrastructure, and environmental and laboratory testing fees. ◆ Cash collateral deposits can be up to 30 percent of loan amount. For certified minority owned businesses, this percentage can increase to 50 percent. ◆ "No Further Action" letter required for projects where long term engineering controls are required on site ◆ Funding – Grants: grants are typically coupled with loans to provide gap financing. Funding up to $1 million available with job creation being required within a period not to exceed 5 years. ◆ Funding – Loans: loan amounts from $500,000 to $5 million covering 20 percent to 75 percent of eligible costs. Terms are typically between 10 and 15 years and interest rates are fixed and determined at closing.
JobsOhio Revitalization Program Phase II Assessment Fund	The Phase II Assessment Fund provides funding in order to review potential environmental risks on sites where redevelopment projects that include significant job creation or retention efforts might occur. ◆ Phase 1 environmental site assessment must have been completed on site. ◆ Eligible project costs include environmental testing, laboratory fees, and work completed by certified professionals for completion of a Voluntary Action Program Phase II environmental property assessment. ◆ Eligible applicants include businesses, nonprofits, and local governments where an end user has expressed clear interest in reuse of the site. ◆ Grant funding up to $200,000 per site is available.

TABLE 24: JOBSOHIO PROGRAMS	
Incentive Program	**What it offers**
JobsOhio Growth Fund	Provides capital to companies that have limited access to capital from private sources but have demonstrated revenue generation capabilities through a proven business plan. ◆ Eligible applicants include those businesses within JobsOhio's targeted industries. Retail and population driven businesses are ineligible. ◆ Eligible project costs include land, buildings (purchase, construction, renovation), machinery and equipment, capitalized costs related to a fixed-asset purchase, and software development. ◆ Loan amounts range from $500,000 to $5 million. Proceeds are based on job creation. ◆ Maximum loan term of 15 years (real estate) and 10 years (machinery). ◆ Interest rate is fixed at closing. Interest rates are determined based on project risk.

Source: JobsOhio Website, 2016.

Port of Cleveland – Cleveland-Cuyahoga County Port Authority

The Port of Cleveland is an independent government agency created under the auspices of Chapter4582 in the Ohio Revised Code. The Port of Cleveland was established in 1825 but the City of Cleveland and Cuyahoga County established the port authority in its current capacity in 1968. The Port Authority is governed by a board of nine directors appointed by both the City of Cleveland and Cuyahoga County. Additionally, it is staffed by 17 professionals. It is funded through revenues from its maritime and financing activities as well as a countywide property tax levy.[147]

In 2010, the Port Authority released its 2011 Strategic Plan with an eye to the future. Seven strategic policies were identified as presented below.

FIGURE 10: PORT OF CLEVELAND - STRATEGIC PLAN 2011

Source: Port of Cleveland Website, 2016.

The strategic planning update was spurred by many dynamics: increased financial pressure due to shrinking cargo tonnages and heavy competition; a call to relocate the port facility to another location in Cleveland; a recognition that the port had an outdated operating model; the recognition of the need to expand its financing offerings, and the need to develop a refined, economic development presence in the region.[148]

A recently released economic development impact analysis of the Port Authority conducted by Martin Associates, a maritime and logistics consulting firm based in Pennsylvania, suggests that the Port produces $3.5 billion in total economic value and supports 20,000 jobs, including 4,000 direct jobs within the City of Cleveland, Cuyahoga County, and Northeast Ohio.[149]

From an operational standpoint, the Port Authority is focused on three primary functional areas: Maritime and Logistics, Infrastructure and Environment, and Development Finance. The Port Authority operates a 45 acre bulk terminal with an automated ship loader system. The terminal is served by a Class 1 railroad and has the capacity to service 1,000 foot vessels. Also, the Port Authority controls an 80 acre general cargo operation with a seaway depth of 27 feet. The facility has one stationary crane with a 150 ton capacity and three mobile cranes each with 60 ton capacities. The site is served by two Class 1 railroads and has 300,000 square feet of covered storage capacity.[150]

The Port Authority's Infrastructure and Environment program supports the agency's role as a primary steward in the protection of the Cuyahoga River and the Lake Erie Shoreline near the port. In addition to projects such as adopting sustainable best practices in maritime operations, removing debris from the harbor, sediment management, and stabilizing failing riverbanks, the Port Authority also is responsible for managing the Cleveland Lakefront Nature Preserve, an 88 acre wildlife refuge on the city's lakefront.[151]

Ohio state law grants port authorities wide leverage in participating in the funding of economic development activities, especially through bonds. The Port Authority operates two programs that form the basis of their Development Finance Program:

- Conduit Financing - the Port Authority brings borrowers and investors together but does not infuse any of its own funds into projects (the vast majority of projects are financed in this manner).
- Common Bond Fund – pooled loan dollars managed by the Port Authority.[152]

Since 1993, the Port Authority's Development Finance group has assisted with the financing of $1.8 billion worth of projects throughout the City of Cleveland, Cuyahoga County, and Northeast Ohio. This has resulted in 16,000 jobs and 9 million square feet of both private and public sector buildings and facilities. Illustrative examples of projects financed through the Port Authority include:

- $35 million in Port Authority financing for the construction of the Rock & Roll Hall of Fame and Museum. Port Authority owns the facility and leases it back to the museum.
- $139.3 million in Port Authority financing for the Cleveland Stadium. A ground lease was granted to the Port and the Port leases the facility back to the city.
- $18.8 million in Port Authority financing for the construction of the corporate headquarters for Applied Industrial Technologies.
- $32 million in Port Authority financing for the 130,000 sq. ft. Cleveland Clinic and the 420,000 square foot parking garage that was part of the project.
- $160.4 million in Port Authority financing for upgrades and new construction at the Cleveland Museum of Art.[153]

These are just a few of the many projects that the Port has helped to finance. Other projects include government facilities, schools, and businesses of all sizes.

In addition to the agency's specific finance programs, the Port also is designated as a Foreign Trade Zone, which provides valuable benefits for companies engaged in international trade. The Port Authority's development finance programs and incentive programs include the following:

TABLE 25: PORT OF CLEVELAND PROGRAMS	
Incentive Program	**What it offers**
Foreign Trade Zone #40 and #181	Foreign Trade Zones (FTZ) are federally-designated areas in which domestic and international commercial merchandise can be held without being subject to customs duties and other taxes. The program is structured to lower costs for U.S. based companies engaged in international trade with the intended goal to increase employment and capital investment opportunities by those companies. Applications for FTZ status must be submitted to the Port Authority for approval by the U.S. Department of Commerce. Benefits for locating in a FTZ include: ◆ Companies can delay payments on duties until inventory leaves zone. ◆ Companies can pay a lower duty rate on products assembled and manufactured in the zone. ◆ Companies do not pay duties on products that are rejected, scrapped, destroyed or exported after arriving in this country as imports. ◆ Companies can seek authority to receive product and clear customs in the zone and bypass congested ports. ◆ Companies can reduce merchandise processing fees by combining shipments on one weekly entry. ◆ Inventory that is store in Zone facilities is not subject to import quotas.
Fixed-Rate Financing Program	Allows for smaller businesses and organizations to borrow money in the capital market at investment-grade rates. Larger businesses also are eligible for this program, and benefit by obtaining an investment-grade rating that otherwise would be too costly and difficult to maintain. ◆ Eligible project costs: land, buildings, and certain equipment and machinery. ◆ Loan amounts between $1.5 million to $9 million. ◆ Fixed interest rates based on taxable and tax-exempt bond rates set at the time of issuance and sale. ◆ Terms up to 30 years.
Structured Leasing Program	Designed for businesses and organizations that want a new facility but do not want to own the facility. The Port Authority owns the facility and leases it to the borrower. ◆ Potential for 100 percent financing. ◆ Flexible lease options available including capital lease, financing lease, and operating lease. ◆ Lower cost for building materials through sales tax exemptions on construction materials.
Infrastructure Financing Program	Provides infrastructure financing assistance to municipalities and developers for public improvement projects. Revenues for financing are typically generated using a tax increment or special assessment. ◆ Eligible projects: roads, streetlights, underground utilities, sidewalks, landscaping, and public garages. ◆ Financing up to 100 percent of costs available. ◆ Fixed interest rates based on taxable and tax-exempt bond rates set at the time of issuance and sale. ◆ Terms up to 30 years.
Cleveland-Cuyahoga County Port Authority Manufacturer's Assistance Program	Ohio Manufacturers' Association and FirstEnergy Corporation invested $2.5 million in bond fund programs with the Port Authority that offer flexible financing options tailored to manufacturing operations planning new construction, facility expansions, or new equipment purchases.
New Markets Tax Credit Program	The Port Authority partners with the Northeast Ohio Development Fund, a community designated entity (CDE) responsible for the dispersal of new market tax credit allocations. To be eligible investments must be directed to low income communities. Other criteria include the following: ◆ The project must provide the opportunity to retain or create jobs; ◆ The project should act as a catalyst for further redevelopment in the surrounding area; ◆ The minimum total project cost should be $5 million; ◆ Demonstrate that if it was not for new market tax credits, the project would not be able to proceed; ◆ The project should be for new or expanding facilities in manufacturing, logistics, commercial real estate development, or health care.

Source: Port of Cleveland Website, 2016.

Summary

Ohio is emerging from the adverse effects of the global recession with a greater appetite for business development as demonstrated by the number of programs available to businesses and the creation of JobsOhio, a private economic development entity that serves as the business-like marketing arm for the state. Increasingly, Ohio is focusing its programs on industry sectors, including Advanced Manufacturing and Emerging Technologies.

However, it is apparent that with Ohio Development Services Agency, the Ohio Third Frontier Initiative, and JobsOhio, there are areas of repetitive services and programs and a seemingly disjointed relationship between the entities. What Ohio does excel in is the harnessing of programs, venture capital, and technical assistance to assist entrepreneurial start-up companies in the state. The Ohio Third Frontier Initiative eliminated all programs for existing businesses and focuses exclusively on start-ups. This can be considered quite risky in the world of economic development where retention of existing companies is a primary goal but with the redundancy built into Ohio's economic development infrastructure, it was a feasible decision.

The Port of Cleveland is an example of a governmental agency that uses its bonding capabilities to the fullest extent possible. Beyond port operations and the Foreign Trade Zone, the development finance programs offered through the Port Authority provide very tangible economic benefits for the City of Cleveland, Cuyahoga County, and Northeast Ohio. The programs developed at the Port of Cleveland have financed a broad range of projects that include manufacturing, health care, cultural facilities, schools, and housing. The programs are financed through bond revenues but the Port Authority is reliant on a countywide property tax levy.

SECTION 1.4: MASSACHUSETTS

Massachusetts is globally renowned and admired for its pre-eminence as a leading center of intellectual capital, innovation and discovery, and educational excellence. The state has long been a center of scientific and medical research, development and invention, largely due to its historic concentration of some of the world's best colleges and universities.

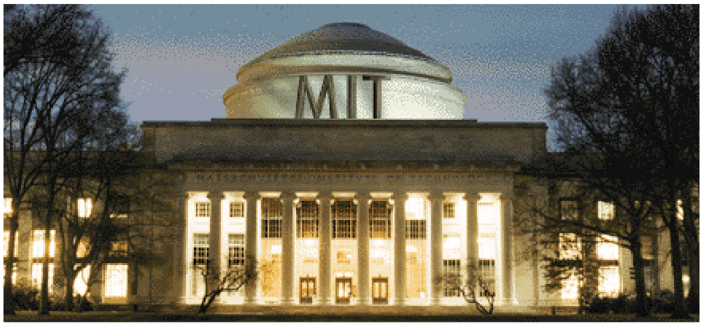
Massachusetts' key economic sectors include biotechnology, medical products, pharmaceuticals, health care, and software development.[154] As a result, the state is less reliant on manufacturing as a base industry and is more focused on research and development. From an employment standpoint, the top industries in the state include education and health services; trade, transportation and utilities; professional and business services; government; and leisure and hospitality.[155]

The current population of the state is 6,794,422 (2015 estimate),representing a 3.8 percent increase in population since 2010.[156] The state is the 15th most populous state in the United States.[157] In 2015, Massachusetts' per capita personal income (PCPI) was $61,032, ranking the state second in the nation. The state's PCPI grew 3.9 percent from 2014 to 2015, while the nation's PCPI increased 3.5 percent between 2014 and 2015. As a result, Massachusetts's PCPI was 128 percent of nation's PCPI of $47,669.[158] The state's total personal income (TPI) in 2015 was $414,723,656,000 and ranked 11th in the United States.[159]

The median household income for the state is $67,846, with a poverty rate of 11.6 percent.[160] Almost 90 percent of the population has attained a high school diploma or GED and 40 percent of the population holds a Bachelor's degree or higher.[161] The state's unemployment rate in November 2015 was 4.9 percent, and has been steadily decreasing since that time. As of April 2016, the state's unemployment rate had decreased to 4.2 percent.[162]

The state GDP (chained, 2009 dollars) in 2014 was approximately $425 billion. This represented a five percent increase between 2011 and 2014.[163] In 2014, Massachusetts' real GDP grew 2.1 percent, which was slightly below the national change of 2.2 percent. Early figures for 2015 suggest that the state's GDP decreased 1.7 percent in the first quarter, grew 4.0 percent in the second quarter, and increased 2.2 percent in the third quarter which resulted in the state being ranked 24th among all the states for GDP growth between second and third quarters in 2015.[164]

In 2014, the largest economic sector in Massachusetts as a contributor to overall state GDP was Finance, Insurance, Real estate, Rental, and Leasing. This sector accounted for 23.7 percent of the state's overall GDP and 1.4 percent of real growth. The second largest contributor to the state GDP was Professional and Business Services, accounting for 16.4 percent of the state's GDP and 3.6 percent of real growth. These two industries were



followed by Educational Services, Health Care, and Social Assistance; Government, and Durable Goods Manufacturing (note: 30 percent of the state's GDP is made up of "All Others").[165]

Economic Development Entities in Massachusetts

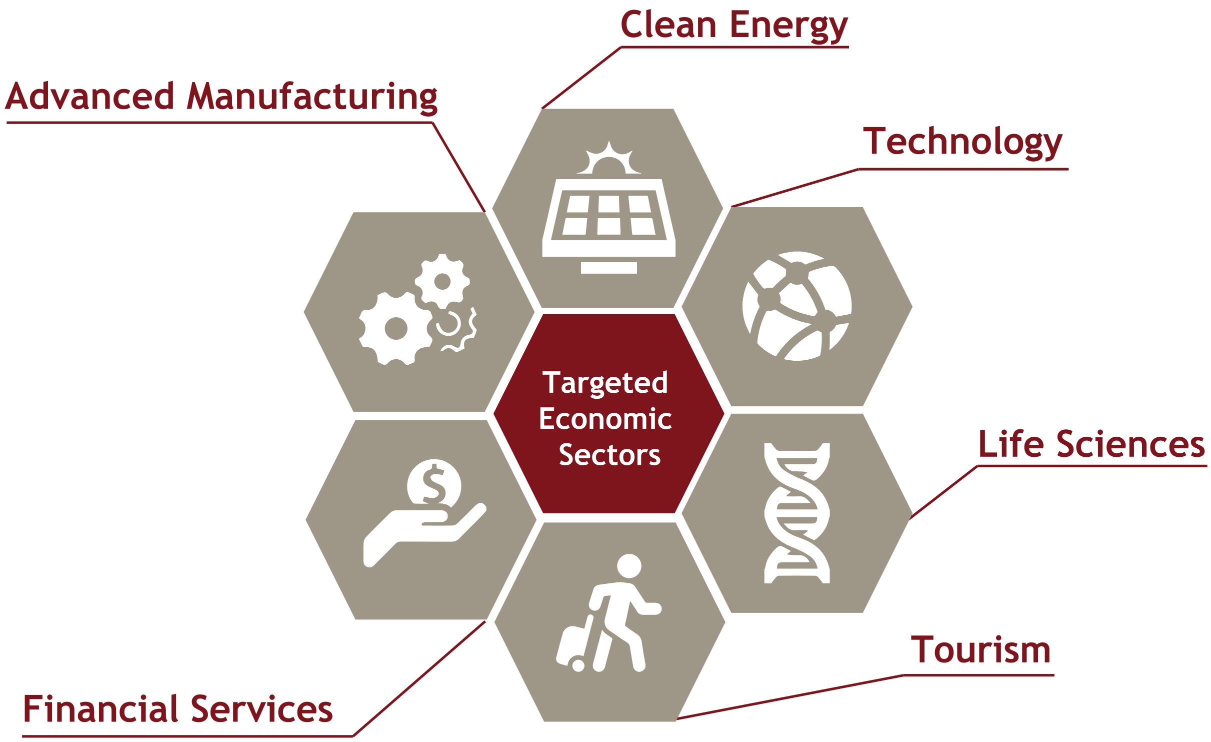
Massachusetts is served by two primary organizations focused on economic development efforts within the state: the Executive Office for Housing and Economic Development and MassDevelopment, the state's development finance institution. The Executive Office for Housing and Economic Development serves as Massachusetts' primary state agency that provides the supportive ecosystem necessary for successful business development. To that end, the Executive Office for Housing and Economic Development offers an array of programs focused on infrastructure grants and tax incentives. MassDevelopment delivers business loans and bond financing, and is considered one of the strongest development finance institutions in the U.S. The Commonwealth also has the Massachusetts Life Sciences Center, which is focused on the attraction, expansion, and development of life sciences companies within Massachusetts.

Massachusetts Executive Office of Housing and Economic Development

The Massachusetts Executive Office of Housing and Economic Development (EOHED) is the state's initial point of contact for business and economic development. The office includes the following agencies: the Department of Housing and Community Development, the Office of Business Development, the Office of Consumer Affairs and Business Regulation, the Office of International Trade and Investment, the Office of Performance Management and Oversight, the Office of Travel and Tourism, and the Permit Regulatory Office.[166]

Through the EOHED, residents and businesses can find information regarding starting a business, rules and regulations pertaining to business operations; counseling and assistance resources; tax information; hiring and managing employees, and funding and financing resources for businesses. The EOHED also offers assistance to companies seeking developable sites within the state and information about regional economic development organizations that provide ongoing assistance to businesses

FIGURE 11: MASSACHUSETTS' TARGETED ECONOMIC SECTORS



Source: Commonwealth of Massachusetts, December 23, 2015.

within their geographic localities. The office also is responsible for programs in housing, energy and weatherization programs, tourism attraction efforts, and international trade.[167]

The EOHED markets MassDevelopment's loan programs and also the loan programs offered through the Massachusetts Growth Capital Corporation. The Massachusetts Growth Capital Corporation was formed in 2010 through legislation designed to help small businesses create jobs by providing access to capital. The corporation, created through the consolidation of the Massachusetts Community Development Finance Corporations and the Economic Stabilization Trust, has a 14 person board that includes the Secretary of the EOHED as a member.[168] Many of these underserved businesses would otherwise experience difficulty in accessing traditional funding sources and, as a result, have difficulty in establishing credit or working relationships with banking institutions. The corporation works with established financial institutions across the state to provide access to a number of financial products that include subordinated loans, lines of credit, term loans, contract and purchase order financing, loan guarantees, and working capital loans. The corporation also offers technical assistance to applicants of which 50 percent is covered by the corporation and 50 percent is covered by the applicant.[169]

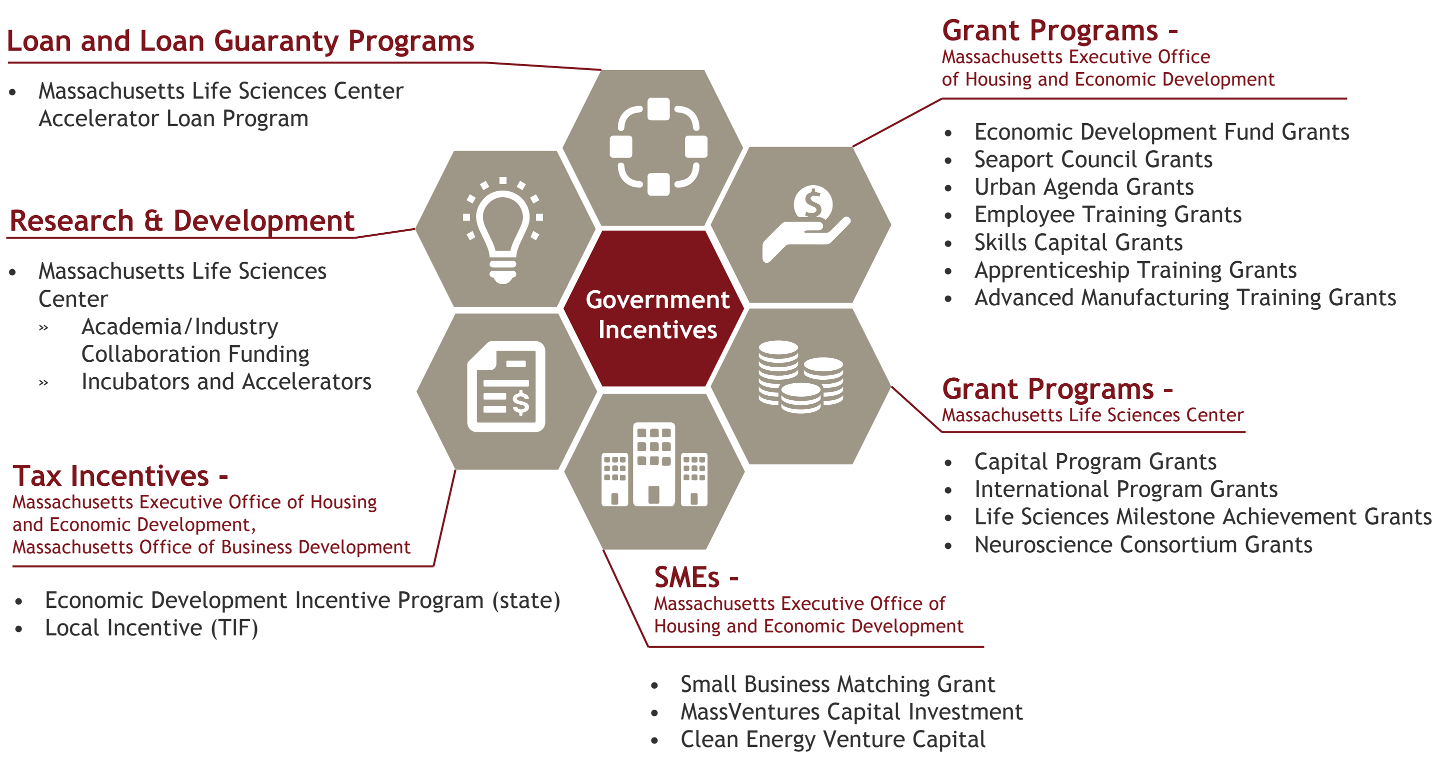
The state's primary targeted economic sectors reflect Massachusetts' sophisticated, diverse and well developed economy across the economic spectrum. In the Commonwealth's 2015 economic development strategic plan, major emphasis is placed on growing, retaining and locating firms in these sectors.[170]

The EOHED is responsible for the development, monitoring and reporting of performance metrics for all agencies under its aegis. The following metrics and targeted outcomes were developed for the EOHED's business programming:

Executive Office of Housing and Economic Development - Executive Office Metrics

Metric: Institute a formal business calling program encompassing all state entities that call upon the business communities, including quasi-public agencies, to engage Massachusetts' top businesses in a coordinated fashion.
Target: Over a 12 month period, the Executive Office of Housing and Economic Development will reach out to the top 50 businesses in the Commonwealth to be responsive to their business needs.

FIGURE 12: OVERVIEW OF MASSACHUSETTS EXECUTIVE OFFICE OF HOUSING AND ECONOMIC DEVELOPMENT INCENTIVE PROGRAMS



Sources: Massachusetts Executive Office of Housing and Economic Development and Massachusetts Life Sciences Center Websites, July 2016.

Massachusetts Office of Business Development Metrics

Metric: Increase outreach to businesses to better understand the needs of businesses aiming to stay competitive.
Target: Massachusetts Office of Business Development staff will hold 300 company meetings, 250 meetings with municipalities, partner organizations, and regional economic development organizations.[171]

Massachusetts Executive Office of Housing and Economic Development Programs

Along with key auxiliary organizations, the EOHED offers a few key incentive programs that are generally grant programs focused on infrastructure development, redevelopment, and workforce training.

TABLE 26: MASSACHUSETTS EXECUTIVE OFFICE OF HOUSING AND ECONOMIC DEVELOPMENT PROGRAMS

Incentive Program	What it offers
Seaport Economic Council Grant Program	Grant program developed to promote economic development efforts in the Commonwealth's 78 coastal communities. ◆ Maximum award amounts of $1 million; most grants are much smaller. ◆ Matching funds of 20 percent of overall project funding is required. ◆ Program offers five types of grant programs: Innovation Grants that support projects that promote job creation within the maritime sector; Grants to Public Education Institutions to foster awareness of coastal assets; Local Maritime Economic. Development Planning Grants to encourage local communities to develop unique economic development plans; Maritime Economic Strategy Grants for investments in maritime infrastructure; and Supportive Coastal Infrastructure Project Grants for coastal infrastructure improvements that enhance maritime economic development efforts and job creation.
Urban Agenda Grant Program	Recognizing that urban areas face unique challenges regarding economic development and job creation and retention efforts, the Urban Agenda Grant program offers three types of grant programs: ◆ Economic Development Implementation Grant: grant funding can be used to create local partnerships that can leverage the community's assets for job creation and retention ◆ Planning and Technical Assistance Grant: grant funds targeted at facilitating community planning ◆ Housing Program Grant: grant program focused on increasing the supply of multifamily housing affordable to a wide range of incomes
Economic Development Fund	Finances projects and programs that create or retain jobs, improve the local or regional tax base, and enhance the quality of life for Massachusetts' communities. Eligible communities are those that have populations of less than 50,000 and do not receive Community Development Block Grant allocations from the U.S. Department of Housing and Urban Development. The Economic Development Fund has both grant and loan programs: ◆ Grants of $100,000 to $750,000 are available for downtown and commercial center revitalization. ◆ Grants of $100,000 to $500,000 are available to assist eligible nonprofit development organizations set up revolving loan or technical assistance programs. ◆ Grants of up to $50,000 for planning community economic development projects.
Employee Training Grants	The Workforce Training Fund Program offers two grants for employers that help increase workforce productivity and competitiveness. ◆ Training Grant: grants up to $25,000 for employers, employer organizations, labor organizations, training providers, and consortia of organizations to train current and newly hired employees. ◆ Technical Assistance Grant: grants between $5,000 to $10,000 to assist consortia of employers determine training needs and provide training solution.
Massachusetts Skills Capital Grant Program	Program designed to incentivize workforce training for in-demand industries at high schools, community colleges, and vocational training providers. ◆ Grant amounts range from $50,000 to $500,000. ◆ Eligible grant uses: the direct purchase and installation of vocational equipment and the related costs of installation. ◆ Grant matches are not required but generally encouraged.

TABLE 26: MASSACHUSETTS EXECUTIVE OFFICE OF HOUSING AND ECONOMIC DEVELOPMENT PROGRAMS	
Apprenticeship Training Program (Office of Labor and Workforce Development)	The Apprentice Training Program offers Massachusetts residents the opportunity to acquire the skills and knowledge to participate in one of 101 registered occupations. Businesses work with local career centers to develop apprenticeship program. Training programs typically include 2,000 hours of on-the-job training and 150 hours of classroom instruction. Training programs vary by occupation but apprenticeship programs can last for one year to five years.
Advanced Manufacturing Training Program	Program for workforce, education, and/or employer organizations that are primarily engaged in efforts to train or retrain unemployed or underemployed residents for careers in Advanced Manufacturing fields. The program is designed align the workforce needs of the business community with the workforce and educational institutions.
Small Business Matching Grant (SBMG) Program	Grant program targeting emerging life sciences and technology companies that have received at least the equivalent of a Phase II Small Business Innovation Research (SBIR) or a Small Business Technology Transfer (STTR) grant from federal agencies. Grants are capped at $500,000 per company.

Source: Massachusetts Executive Office of Housing and Economic Development Website, 2016.

MassWorks Infrastructure Grant Program

The MassWorks Infrastructure Program is administered by the Executive Office of Housing and Economic Development. It serves as one-stop shop for Massachusetts communities in need of public infrastructure funding to promote economic development and job creation activities. MassWorks is the result of a consolidation of six former grant programs that were all focused on similar infrastructure funding pursuits. Successful applicants must submit projects that meet the following criteria:

- Advance economic development or housing opportunities in Gateway Cities;
- Complement existing development centers and downtown revitalization strategies;
- Include a mix of commercial and residential development;
- Are consistent with regional land use plans;
- Provide for transportation improvements which promote safety in rural communities.

The MassWorks Infrastructure Program provides grants to Massachusetts communities for sewers, utility extensions, streets, roads, curb cuts, parking facilities, site preparation and improvements on publicly owned land, demolition, pedestrian walkways, and water treatment systems for four types of projects: multi-family housing, both market and affordable units, at four units per acre; economic development in distressed areas; community revitalization to promote mixed use development, and transportation improvements in rural communities. In 2015, 101 project applications were submitted requesting $245 million in infrastructure grant assistance. Of that number, grants were awarded to 49 projects in the amount of $85.6 million.[172]

Massachusetts offers a highly evolved and efficient venture capital ecosystem that rivals that of any state or region. The Executive Office of Housing and Economic Development markets three primary venture capital organizations that provide Massachusetts based companies with access to lucrative financing opportunities.

TABLE 27: MASSACHUSETTS EXECUTIVE OFFICE OF HOUSING AND ECONOMIC DEVELOPMENT-VENTURE CAPITAL	
Incentive Program	**What it offers**
MassVentures Capital Investments	MassVentures provides venture capital financing for early stage and high growth companies in Massachusetts who have demonstrated the potential to create employment opportunities. ◆ MassVentures Early Stage Fund provides initial investments of $250,000 to $500,000 in equity capital with the potential for follow up funding. ◆ SBIR Targeted Technologies (START) Research Funding Grants targets Massachusetts companies that have previously secured Small Business Innovation Research (SBIR) grant funding to turn their technologies into commercially viable products and solutions. Companies must have received at least the equivalent of a Phase II Small Business Innovation Research (SBIR) or a Small Business Technology Transfer (STTR) grant from federal agencies. A company may receive a Stage 1 grant up to $100,000 for each successful application and based on progress demonstrated over the first year, the company may receive an additional Stage 2 grant of up to $200,000.[173]
New England Venture Capital Association	The New England Venture Capital Association provides companies with access to a database of potential investors, makes connections between companies and investors, connects promising students with Massachusetts-based startups, and advocates for venture capital friendly legislation.[174]
Clean Energy Venture Capital (Massachusetts Clean Energy Center)	◆ AccelerateMass: provides up to $150,000 in grant funding to clean technology graduates of local accelerators to advance clean technologies to commercialization. At this time, the program will be limited to no more than five recipients. ◆ InnovateMass: provides up to $150,000 in grant funding and technical support to applicant teams using new clean technologies with strong potential for commercialization. Applicants must demonstrate that projects will address clean energy issues, contribute to the state's clean technology industry, and contribute to the state's leadership in the industry. ◆ IncubateMass: provides funding to incubators throughout the state in an effort to expand the role of incubators in commercialization of promising clean technologies and water technologies developed in the state. ◆ Catalyst Grant: Applicants from Massachusetts-based research institutions or early stage clean energy companies with no more than $1 million in combined financing, grant funds, and revenues within the past five years and have four or fewer full time employees are eligible for $40,000 in grant funds to demonstrate the potential of initial prototypes of clean energy or water technologies. ◆ AmplifyMass: AmplifyMass is a cost sharing program that provides financial awards to Massachusetts based clean technology companies that have received grant funding through the Advanced Research Projects Agency-Energy (ARPA-E) in the U.S. Department of Energy. Grants are available for university research teams at 5 percent of total project cost or $100,000, whichever is lesser and for small businesses at 10 percent of total project costs or $300,000, whichever is less. The grant is made as a convertible grant that can convert into an equity investment when and if the subject company raises the funds for Qualified Financing or reaches some other funding milestone. ◆ Leveraging Fund Opportunities: in an effort to promote technologies focused on clean energy and water infrastructure developed at Massachusetts based companies, the Massachusetts Clean Energy Center provides qualified businesses with cost share funding in their federal and non-federal grant applications. ◆ Direct Equity Investments: Early stage clean technology companies based in Massachusetts are eligible for equity investments. Typical investments average $500,000 (investments can range from $100,000 to $1,500,000) in a Seed, Series A, or Series B financing round. ◆ Venture Debt Investments: The Venture Debt Investment Program provides investments of $100,000 to $1 million in debt financing for clean energy and water technology businesses in Massachusetts to provide for growth, reach key funding milestones, and promote employment expansion. Loans can be issued during any stage in a company's growth trajectory but there must be a real and clear path to repayment.[175]

Source: Massachusetts Executive Office of Housing and Economic Development Website, 2016.

Massachusetts Office of Business Development (MOBD)

The Massachusetts Office of Business Development is an agency within the Massachusetts Executive Office of Housing and Economic Development. It serves as a 'one-stop-shop' for businesses seeking to relocate to Massachusetts and existing businesses wishing to expand.[176]

The MOBD operates two primary programs: one is a grant program focused on capacity building for regional economic development organizations throughout the Commonwealth. In 2015, MOBD provided 12 awards to regional economic development organizations at a value of $650,000.[177]

The other program is the Economic Development Incentive Program (EDIP). EDIP is a tax incentive program designed to stimulate job creation and business growth in the Commonwealth. The Economic Assistance Coordinating Council (EACC) is the governing body responsible for establishing rules and regulations regarding EDIP, approval of applications, execution of tax incentive contracts, decertification for non-compliant projects, and annual reporting for the program. The council consists of 14 voting members, with seven regional representatives appointed by the Governor and public officials from the Massachusetts Office of Business Development, Department of Housing and Community Development, Labor and Workforce Development, and the Commonwealth Corporation making up the remainder of the council.[178]

Recipients of the EDIP are eligible for two primary tax credits offered at the state level: the State Investment Tax Credit which can range between 1 to 10 percent on state income taxes towards all tangible depreciable investments associated with a given project. The second tax credit is the Abandoned Building Tax Deduction that allows for a 10 percent state income tax deduction for all costs associated with renovating an abandoned building for commercial use. Additionally, local incentives including Tax Increment Financing agreements or Special Tax Assessments are usually included. EDIP may be used for the following project types: expansion projects; enhanced expansion projects; job creation projects; manufacturing retention and job growth projects, and local incentive only projects that utilize tax increment financing or special tax assessments. The EDIP is a three-way partnership between an expanding company, a local municipality, and the state government. Eligibility requirements for participation in the program are determined by project types:

Expansion Projects
- Applicant must be creating jobs but there is no minimum requirement regarding number of new jobs created;
- Applicant must be making a significant capital investment;
- Project can be located anywhere in the Commonwealth;
- Applicants must generate substantial out-of-state sales;
- Projects must have an approved and executed municipal real estate property tax exemption (TIF agreement or special tax assessment).

Enhanced Expansion Projects
- Applicant must create 100 new Massachusetts-based jobs within a two year time period
- Applicant must make a significant capital investment;
- Project can be located anywhere in the Commonwealth but this incentive for these types of projects is statutorily limited;
- Applicants must generate substantial out-of-state sales;
- Projects must be supported by the local municipal government but local incentives are not required.

Manufacturing Retention and Job Growth Projects:
- Applicant must be create 25 new Massachusetts-based jobs within a two year time period;
- Applicant must be making a significant capital investment;
- Applicant must be a manufacturer and the project site must be a manufacturing facility;
- Project must be located in a municipality participating in the Gateway Cities program;
- Applicants must generate substantial out-of-state sales;
- Projects must be supported by the local municipal government but local incentives are not required.

Job Creation Projects:
- Applicant must be create 100 new Massachusetts-based jobs within a two year time period;
- Significant capital investment is not required. Applicants will be considered for this credit if they ineligible for other project types due to capital investment requirements;
- Project can be located anywhere in the Commonwealth;
- Applicants must generate substantial out-of-state sales;
- Projects do not require a local incentive;
- Projects that are certified as a Job Creation Project are eligible for up to $1,000 per new job created and up to $5,000 per new job created in Gateway Cities, capped at $1 million.

Local Incentive (Tax Increment Financing or Special Tax Assessment) Only Projects:
- Job creation requirements are at the discretion of the municipality;
- Applicant must be making a significant capital investment;
- Municipalities are able to choose industries that are eligible to participate;
- Project can be located anywhere in the Commonwealth;
- Local incentives must be approved by local municipalities prior to review by the Economic Assistance Coordinating Council, an internal committee in the Executive Office of Housing and Economic Development that has been established to review all projects under the Economic Development Incentive Program (EDIP).[179]

Prior to July 1, 2014, EDIP Tax Credits were limited to businesses and communities designated as Economic Target or Opportunity Areas. Effective on the aforementioned date, the eligibility for EDIP was extended to all communities throughout the Commonwealth.

Economic Target Areas (ETA): Are geographically bounded areas that must meet certain requirements including the primary requirement that the area consist of three or more contiguous census tracts or one or more contiguous communities. To be eligible for inclusion in an Economic Target Area one of the following requirements must also be met: high unemployment rates that exceed the state average by 25 percent; 51 percent of area household incomes that are below 80 percent of the household income of the proximate metropolitan area, or if outside of a metropolitan area, below 80 percent of the household income for the state; a poverty rate that is 20 percent higher than the state average; located within a community that has experienced a mass lay off or base closure; commercial vacancy rate of 20 percent or more; is owned by a state authority or agency with 50 or more acres and has previously been used for manufacturing; has sited within it a generation facility which has a market value of at least 50 percent less than current net book value; has sited within it a facility of at least 1 million sq. ft. that is abandoned; or has in it a development project of at least 200 acres to be used for the establishment of a regional technology center with the capacity to support a build-out of 3 million square feet.[180]

Economic Opportunity Area (EOA): By municipal designation, an Economic Opportunity Area falls within an Economic Target Area; the Economic Opportunity Area has been identified as having a need for economic development assistance on specific parcels. The designation must be made for a minimum of five years and a maximum of 20 years; must meet the definition of “blighted open area”, “decadent area”, or “substandard area” as defined in 402 CMR 2.03 or be in an area where a plant closed with a cumulative job loss of 2,000 full time workers in the previous four years or has sited within it a generation facility which has a market value of at least 50 percent less than current net book value. Additionally, there must be a binding agreement from the municipality to offer tax incentives on the property.[181]

For Fiscal Year 2015, 55 projects were approved for EDIP resulting in 3,733 new jobs, 7,432 retained jobs, and $780 million in private sector investment into the communities of the Commonwealth. The breakdown of projects by type is as follows:

- Expansion Projects – 19 projects; $6,413,162 in Economic Development Incentive Program Tax Credits (EDIPC) awarded; 1,430 jobs created; 1,944 jobs retained; $287 million in private sector investment.
- Enhanced Expansion Projects – 1 project; $2,250,000 in EDIPC awarded; 500 jobs created; 0 jobs retained; $54 million in private sector investment.
- Manufacturing Retention Projects – 12 projects; $7,307,279 in EDIPC awarded; 469 jobs created; 1,606 jobs retained; $108 million in private sector investment.
- Job Creation Projects – 6 projects; $1,780,000 awarded; 980 jobs created; 2,258 jobs retained; $1.9 million in private sector investment.
- Local Only Incentives – 17 projects; 554 jobs created; 1,564 jobs retained; $329 million in private sector investment.[182]

Since the program’s inception in January 2010, the EDIP has resulted in 251 projects, the creation of 19,834 new jobs, the retention of 51,135 jobs within the Commonwealth, and private sector investment of $6.9 billion into the economy of Massachusetts.[183]

The success of the program is measured through the following datapoints: number of projects; the number of jobs created; the number of jobs retained; the amount of private sector investment leveraged by the tax credit; the value of the tax credit per job created; number of projects by industry, the dollar amount of tax credits awarded by industry; job impact by region; the dollar amount of tax credits awarded by region; the number of projects located in Gateway Cities, and the number of projects that consisted of small businesses (less than 250 employees).[184]

The Fiscal Year 2015 Annual Plan for Massachusetts Office of Business Development established three overall goals for the agency along with measurements and results for 2015:

Goal 1: Job creation, retention, and business engagement
Strategy: Direct interface with businesses across the Commonwealth and leverage regional economic development organization and other regional contacts across the public, private, and academic sectors.
Measurements: Create 6,000 new jobs; target 26,000 retained jobs; leverage $1.1 billion in private sector investment.
Results: MOBD won and closed 129 opportunities which created 5,071 new jobs, helped retain 13,454 jobs, and created private sector investment of $991.4 million.

Goal 2: Pipeline management
Strategy: Effective management of regional opportunities and market activity.
Measurements: Rolling pipeline with 180 opportunities (115 successful projects); 750 business development visits; 400 strategic market activities.
Results: 321 closed opportunities (129 won and 167 lost), 54 projects open/create 741 market activities for FY 2015: Business Partner Visits – 184; Company Visits – 229; Municipality Visits – 272; Regional Economic Development Organization Visits – 56.

Goal 3 – Ease of doing business
Strategy: 1) Continue the consolidation of state economic development agencies for which MOBD will serve as information coordinator for all business development activity; 2) Effectively manage and strengthen partnerships with regional economic development organizations to enhance economic development across all regions of Massachusetts; and 3) MOBD will continue to play a collaborative role in the maintenance of the Massachusetts Business Portal.
Measurements: 1) MOBD will work with key business partners to develop a core team to better facilitate economic development efforts; 2) The agency will look to the Executive Office for strategic direction regarding the type of collaboration required of MOBD.
Results: 1) MOBD continues to work with other state agencies in streamlining the certification application process to make it easier for businesses to compete, especially small/diverse businesses; 2) MOBD collaborates successfully with municipalities and partners in closing any prior year projects and also seeking new ones. MOBD attended/hosted 14 business roundtables to listen to company concerns; 3) The regional economic development organization grant was distributed to 12 organizations; 4) Will continue to work with the Executive Office of Housing and Economic Development on the Massachusetts Business Portal.[185]

Massachusetts Life Sciences Center (MLSC)

The Massachusetts Life Sciences Center (MLSC) is a state supported investment agency that supports and promotes the life sciences industry in the Commonwealth. It is charged with implementing the ten year, $1 billion Massachusetts Life Sciences Initiative, an investment program focused on this specific economic sector, which is a critical economic pillar of the state's economy. The initiative was proposed by Governor Deval Patrick in 2007, enacted by the State Legislature and signed into law in June 2008. The mission of the organization is to strengthen Massachusetts' leadership in the life sciences sector, promote innovation driven economic development and job growth in the field, and provide the support system necessary to take initial research ideas to commercialization.[186]

The organization's investment strategy is based on public-private collaboration to leverage public tax dollars. More than $400 million in public funds have been directly invested by the MLSC resulting in more than $1 billion in private sector investment. The organization has a board of directors consisting of seven members, including the Secretary for the Executive Office of Housing and Economic Development. The organization also is served by a 23 member Scientific Advisory Board and 14 staff members.[187]

MLSC also is responsible for 20 business incubators and 11 accelerator facilities throughout the state that provide space, services, equipment, and expertise to early stage life sciences entrepreneurs. Many of these facilities are located within Massachusetts plethora of higher educational institutions or research facilities that provide key support for the industry.[188]

TABLE 28: MASSACHUSETTS LIFE SCIENCES CENTER PROGRAMS	
Incentive Program	**What it offers**
Accelerator Loan Program	◆ Provides working capital to early stage life sciences companies with high potential for technology commercialization, high growth, and private equity financing. ◆ Loan amounts capped at $750,000 per company. ◆ The $750,000 loan is expected to be matched by an equivalent at-risk capital or a combination of at-risk capital and grants. ◆ For therapeutics companies, applicants should not have raised more than $15 million in equity financing; for non-therapeutics companies applicants should not have raised more than $7.5 million in equity financing. ◆ Companies owned by investment groups or holding companies are ineligible.
Capital Program	Provides grant funding for capital projects that support life sciences companies in Massachusetts. To date the center has committed more than $405 million in capital projects in the state. ◆ Eligible project costs include workforce development and training, research and development, commercialization, and manufacturing. ◆ Eligible applicants include academic organizations, research institutions, research hospitals, business incubators, and other nonprofit organizations. ◆ For profit companies, municipalities, and government entities are not eligible for the program. ◆ Project requests must not exceed $5 million. Private academic institutions that are not research institutions are limited to awards of $500,000 for equipment purchases only.
Job Creation Tax Credit Incentive Program	The Massachusetts Life Sciences Center offers tax incentives to Massachusetts based companies engaged in life sciences research, development, commercialization, and manufacturing. The Life Sciences Initiative authorizes the center to award up to $25 million in tax incentives per year. To date, $140 million has been awarded to over 90 life science companies.
Cooperative Research Matching Grant Program	Nonprofit academic/research institutions are eligible for grant funding of up to $250,000 per year over two years to promote industry-academic collaborations. Applicants must have an industry sponsor for the research with matching funds on at least a 1:1 basis. To date, 12 grants totaling $6.7 million have been awarded.
International Program (Universal Partnerships)	Provides grants to Massachusetts companies to support a research and development collaboration with a non-U.S. organization (such as: a company, research institution, or university). Projects will typically last up to one year and are expected to contribute to the overall development of a new or significantly improved product or process intended for commercialization. Up to $1 million is available in funding with typical grant fund amounts between $50,000 and $200,000.
Life Sciences Milestone Achievement Program (MAP)	Provides funding to perform and complete essential value-creating milestones. The program's goals must closely align with needs expressed by the marketplace, including filling a gap in the funding environment and empowering companies to attract additional funding. ◆ Typical grant awards range from $50,000 to $200,000. ◆ Companies must fall within the following life sciences sectors: bioinformatics, biopharmaceuticals, biotechnology, diagnostics, and medical devices.
Massachusetts Transition and Growth Program (MassTAG)	The MassTAG program is slated to launch in the Fall of 2016. This program will provide grant funding to encourage life sciences companies to establish operations in Massachusetts. ◆ Companies must fall into the following categories: agricultural biotechnology, bioinformatics/software, CRO/CMO, diagnostics, drug discovery, medical device, regenerative medicine, professional services, RNAi, and technology for life sciences. ◆ Eligible companies must have a current workforce of at least five workers and have the intention to hire or relocate at least 10 but not more than 49 employees in the state. ◆ Grants will be provided on per job basis and will be evenly dispersed retroactively over a three year period.

TABLE 28: MASSACHUSETTS LIFE SCIENCES CENTER PROGRAMS	
Neuroscience Consortium	Grant funding for pre-clinical neuroscience research at Massachusetts academic and research institutions in conjunction with life science companies. The consortium will not consider proposals to propose basic science, build technology platforms, or develop animal models of unknown relevance to human diseases. Additionally, research related to medical devices, diagnostics, personalized medicine, behavioral interventions or therapeutic approaches will not be considered as eligible for funding.
STEM Equipment and Supplies Grant Program	The STEM Equipment and Supplies Grant programs provides grant funding to high schools and middle schools to purchase equipment and supplies in order to train students in life sciences technologies and to increase student achievement and interest in STEM (science, technology, engineering, and math) fields. The program also provides funding for teacher professional development to ensure that schools have teachers who are trained to use the equipment provided through grant funding.

Source: Massachusetts Life Sciences Website, 2016.

MassDevelopment

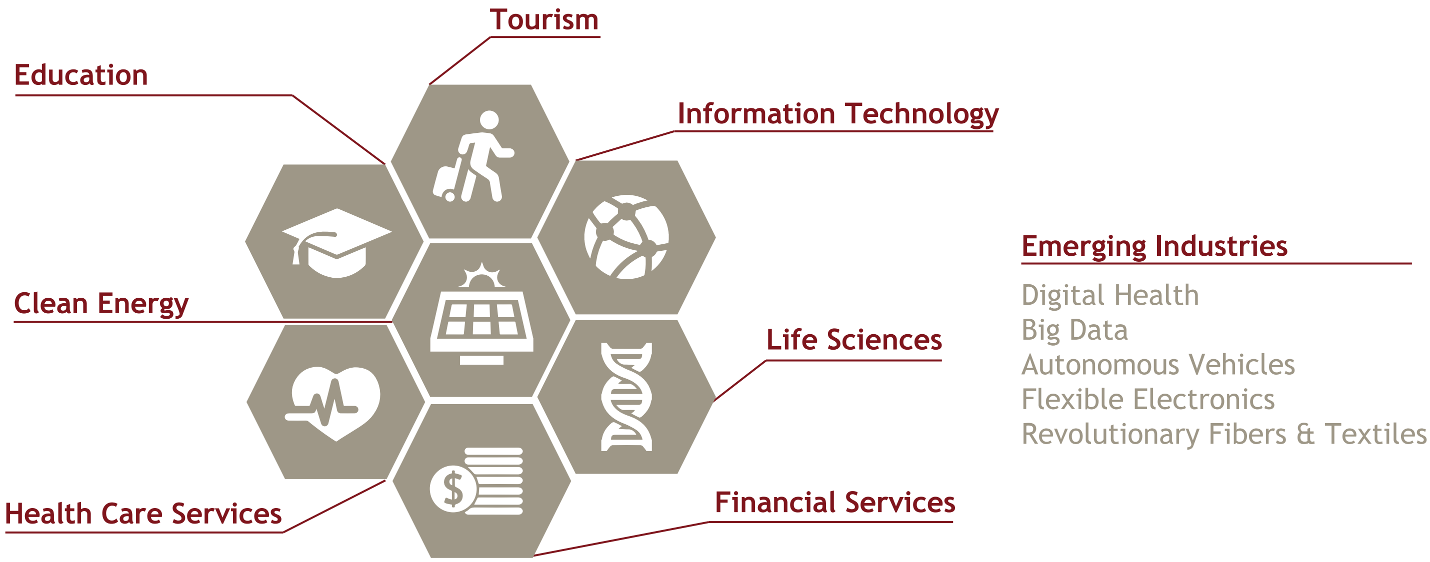
Massachusetts Development Finance Agency, more commonly referred to as MassDevelopment, is a critical component of the Commonwealth of Massachusetts' economic development ecosystem. Serving as Massachusetts' development finance institution, MassDevelopment was created on September 30, 1998 under the auspices of Chapter 23G of Massachusetts General Law (Chapter 289 of the Acts of 1998). The organization is the result of a statutorily-mandated merger of pre-existing governmental units: the Massachusetts Government Land Bank and the Massachusetts Industrial Finance Agency.[189]

The Commonwealth's economic development plan entitled *Opportunities for All: Making Massachusetts Great Everywhere*, lays out four key priorities for Massachusetts:

1. Support workforce development strategies that close the skills gap and connect citizens to economic opportunity;
2. Promote vibrant communities and regions;
3. Advance the development of key industry clusters, harnessing cluster development to drive job growth in the Commonwealth's regions;
4. Sharpen the Commonwealth's competitive position through regulatory reform, and efforts to lower key business costs, such as energy costs.[190]

MassDevelopment plays a central role in the achievement of the Commonwealth's goals, especially as they relate to promoting vibrant communities and regions through strategic investments. MassDevelopment uses its expansive portfolio of financing capacity and technical assistance programs to address this and other economic development goals for the state. Additionally, MassDevelopment is uniquely structured to service the Commonwealth's targeted economic sectors: education, health care services, financial services, information technology, clean energy, tourism, and life sciences as well as emerging industries that include digital health, big data, autonomous vehicles, flexible electronics, and revolutionary fibers and textiles.[191]

FIGURE 13: MASSACHUSETTS TARGETED ECONOMIC SECTORS



Source: Opportunities for All, December 23, 2015.

As an organization, MassDevelopment has three primary goals that are aligned with the state's economic development plan: stimulate business, drive economic growth, and help communities thrive across Massachusetts.[192] To achieve these goals, the Commonwealth of Massachusetts has entrusted the agency with the power to issue tax-exempt bonds for the benefit of industrial, commercial, institutional, health care, and housing clients, as well as for political subdivisions and public bodies throughout the state. Additionally, the agency has a portfolio of loan and credit products available and is heavily engaged in redevelopment efforts of vacant or underutilized property throughout the state.[193]

MassDevelopment is governed by an eleven member board of directors, nine of whom are appointed directly by the Governor of Massachusetts and two of whom are public officials who serve ex-officio. MassDevelopment is staffed by 78 employees, with eight comprising the Executive team; 39 working in Finance programs; 23 devoted to real estate services, and eight in administrative/human resources/marketing functions. The staff is distributed in five regional offices throughout the state with the main headquarters office located in Boston.[194]

During Fiscal Year 2015, MassDevelopment financed or managed 286 projects, resulting in $2.4 billion of investments, 12,943 jobs, and the construction or rehabilitation of 2,306 housing units for residents in the state.[195] MassDevelopment tracks its annual progress against three primary goals with associated metrics:

TABLE 29: MASSDEVELOPMENT'S GOALS AND METRICS

Goals	Metrics
Support Economic Growth – Foster and cultivate opportunities that equip businesses, nonprofits, and communities with the tools they need to sustain and/or expand, creating quality jobs to meet the needs of the Commonwealth's economy.	**Key metrics:** ◆ Dollars provided by program type. ◆ New jobs created. ◆ Manufacturing jobs created. ◆ Collaborative/maker spaces assisted. ◆ New business starts. ◆ Operational cost reductions. ◆ Companies connected to contracting opportunities.
Build Regional Competitiveness – Increase housing stock and make investments in targeted communities, add to their housing availability and commercial property stock, remediate troubled sites and apply effective redevelopment practices.	**Key metrics:** ◆ Transformative Development Initiative (TDI) districts established and assisted. ◆ TDI Fellows placed. ◆ Equity investments deployed. ◆ Housing units financed. ◆ Real estate service projects moved to implementation. ◆ New and improved program rollouts. ◆ Acres made development ready. ◆ Increase in tax valuation. ◆ Increased operational efficiencies.
Strive for Organizational Excellence – Create a high-performing organization with efficient, effective, and integrated delivery of services to external and internal customers and a diverse, highly-qualified workforce with the right skills in the right jobs.	**Key metrics:** ◆ Implementation of training programs and employee satisfaction. ◆ Deployment of online customer interfaces and internal dashboards. ◆ Implementation of inter-agency and partner agency collaborations. ◆ Deployment of improved public affairs strategy and transparency efforts. ◆ Increased alignment of agency performance management to statewide efforts. ◆ Successful pilot of DevenStat.[196]

Source: MassDevelopment Annual Performance Report 2015, January 29, 2016.

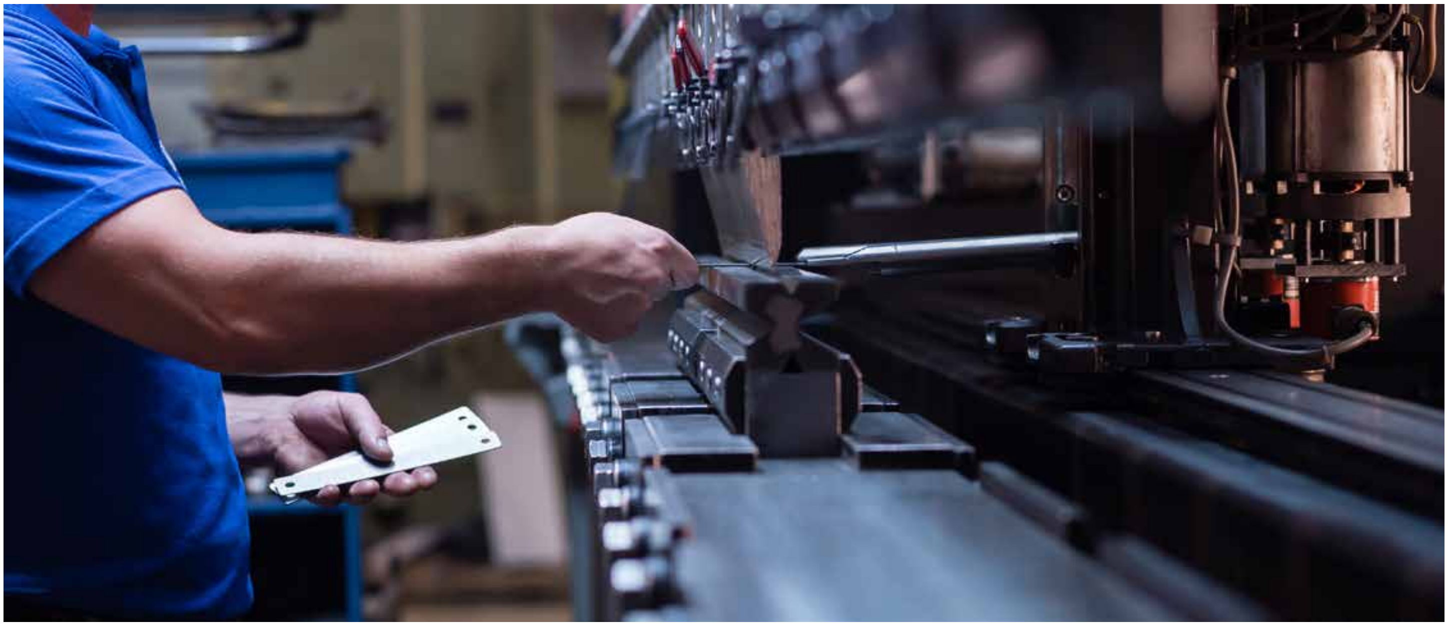


FIGURE 14: MASSDEVELOPMENT'S PROGRAM PORTFOLIO

Loan and Loan Guaranty Programs

- Brownfields Site Assessment Program
- Brownfields Remediation Loan Program
- Charter School Loan Guarantees
- Commercial Real Estate Improvement Loans
- Emerging Technology Fund Loan and Loan Guarantees
- Emerging Technology Fund Bridge Loans
- Equipment Loans
- Export Loans
- Export Loan Guarantees for Banks and Lenders
- Export Credit Insurance
- Gateway City Loans
- Green Loans
- Manufacturing Planning Loans
- Manufacturing Term Working Capital Loans
- Mortgage Insurance Guaranty
- Pre-development Loans
- Real Estate Loans (Commercial and Housing)
- TechDollars
- USDA Loan Guarantees
- Working Capital Loan Guaranty for Manufacturers

Grant Programs

- Brownfields Redevelopment Fund and Site Assessment Program
- Community Health Center Grant Program
- Cultural Facilities Fund

Tax Incentives

- 4% Housing Program
- Brownfield Tax Credit Program
- New Markets Tax Credits

Key Targeted Sector Initiatives

- Manufacturing:
  - » Pre-Development Financing
  - » Planning Loans
  - » Working Capital Financing
  - » Equipment Loans
  - » Tax-Exempt Bond Financing
- Defense:
  - » Massachusetts Unmanned Aircraft Systems Test Center
  - » All Other Loans and Programs Available to Defense Firms
- Transformative Development Initiative
  - » Gateway Cities Program
  - » Investments in Education, Infrastructure and Innovation
  - » Private-Public Partnerships
  - » Custom Real Estate and Technical Assistance
  - » First Priority for TDI Equity Investments
  - » TDI Fellows Program

Bond Financing Programs

- Infrastructure Investment Incentive Program
- District Improvement Financing (TIF)
- Local Infrastructure Development Program
- Pooled Financing
- STAR Fund
- Tax-Exempt Bonds
- Taxable Bonds
- Value Lease

Real Estate Services and Technical Assistance

- Market and Feasibility Studies
- Master Planning
- Building Re-use Analysis and Site Planning Assistance
- Permitting and Entitlements Processing
- Project Management Services
- Strategic Planning and Consensus Building
- Assistance with RFPs and RFQs
- Consultant Screening and Selection

Sources: MassDevelopment Reports and Website, June 2016.

MassDevelopment Loan and Loan Guaranty Programs

MassDevelopment offers a number of loan and loan guarantee programs that encompass predevelopment financing; site remediation for brownfields; real estate; working capital; equipment and machinery, and export financing. Five of the loan programs are specifically targeted at the advanced manufacturing and emerging technology sectors.

TABLE 30: MASSDEVELOPMENT LOAN AND LOAN GUARANTY PROGRAMS

Incentive Program	What it offers
Brownfields Site Assessment Program	Focused on providing financing for the site assessment phase of a Brownfields Remediation Plan for a distressed vacant, abandoned or underutilized industrial or commercial property. ◆ Project must be located in an Economically Distressed Area, provide substantial public benefits, and require assistance from the fund to be a viable redevelopment project. ◆ Provides unsecured, interest-free financing up to $100,000 for environmental assessment of brownfields.
Brownfields Remediation Loan Program	Offers flexible loans of up to $500,000 for environmental remediation of brownfields sites. Can be used in conjunction with other MassDevelopment real estate loans for acquisition and construction activities.
Charter School Loan Guarantees	Provides guarantees for bank loans or tax-exempt bonds financing the acquisition, construction, or renovation of charter school facilities. ◆ For facilities owned by a school, loan guarantees cover a percentage of the first mortgage up to 50 percent or $3 million, whichever is less. The loan advance rate may be up to 100 percent of the property value. ◆ For facilities leased by the school, loan guarantees cover up to 90 percent of the cost of facility improvements or $1 million, whichever is less.
Commercial Real Estate Improvement Loans	Loan amounts up to $500,000 to finance improvements to buildings in downtown areas that will allow for the lease-up of vacant or underutilized space.
Emerging Technology Fund Loan and Loan Guarantees	Financing for start-up or emerging technology companies for working capital, manufacturing facilities, and equipment and machinery. ◆ Limited to technology companies with growing manufacturing operations in the state that have demonstrated strong management teams are in place, technically viable products, demand for products, and a proven track record in securing funding. ◆ Loans or loan participations up to $2.5 million. ◆ Loan guarantees up to $1 million. ◆ At least two other parties besides the ETF Fund must have risk in the project financing.
Emerging Technology Fund Bridge Loans	The Emerging Technology Fund Loan Program also offers bridge loans up to $500,000 for emerging technology and advance manufacturing companies to bridge the time gap between project and the receipt of federal grants. The loans are payable in full upon the company's receipt of its federal grant proceeds.
Equipment Loans	◆ Direct loans or bank participation loans up to $2 million for the purchase of equipment or machinery. ◆ Fixed rate interest rates. ◆ Loan terms up to 7 years. ◆ Loan advance rates up to 85 percent of the cost of new equipment. ◆ Exporters may receive 100 percent financing for new equipment or machinery.

TABLE 30: MASSDEVELOPMENT LOAN AND LOAN GUARANTY PROGRAMS	
Export Loans	Export loans that provide assistance to companies with a presence in foreign markets. These loans provide the capital needed to expand and grow locally while expanding overseas. These loans have the following attributes: ◆ 100 percent financing for new equipment, leasehold improvements, and term working capital. ◆ Loan amounts up to $2 million. ◆ Competitive interest rate. ◆ Interest-only payments for the first 12 months. ◆ Up to 7 year amortization schedule.
Export Loan Guarantees for Banks and Lenders	Guaranty that allows lenders to accept foreign accounts receivable and inventory for foreign sale as collateral. ◆ Guarantees against losses up to 90 percent of the loan amount on export working capital lines of credit up to $1 million. ◆ Guarantees on term loans for equipment and other purposes up to 70 percent of the loan amount or $500,000.
Export Credit Insurance	Provides assistance to exporters in securing export credit insurance through the Ex-Im Bank.
Gateway City Loans	Loan program focused in cities designated by the state under the Growth Districts Initiative: ◆ Eligible project costs: real estate and equipment. ◆ Below market interest rates.
Green Loans	Loans to finance projects that have received approval for rebate or subsidy under a public utility-sponsored energy efficiency program authorized by the Massachusetts Department of Public Utilities or other state or federal programs. Loan amounts range from $50,000 to $500,000.
Manufacturing Planning Loans	Manufacturing loans are available to finance consultant services. ◆ Eligible project costs: services to evaluate and improve demand; fulfillment; and finance and administration. ◆ Loan amounts up to $50,000. ◆ Low interest rates. ◆ Terms up to 5 years.
Manufacturing Term Working Capital Loans	Provides direct working capital loans to eligible projects entailing reconfiguration of operations; upgrades to plant and equipment; product development; new staff, and other costs associated with growth. ◆ Competitive, low interest rates. ◆ Loan amounts up to $500,000. ◆ Terms up to 7 years.
Mortgage Insurance Guaranty	Provides guarantees on a portion of a bank real estate loan or a tax-exempt bond purchased by a bank. The guarantee covers the difference between the bank's maximum allowable loan advance rate and up to 90 percent of the property value of the real estate used as collateral for the loan. The maximum amount of the guaranty is $2 million and the maximum term is 10 years.
Pre-development Loans	Finances early stage project costs including architectural and engineering work or traffic and feasibility studies needed to advance projects to the construction phase: ◆ Loan amounts up to $100,000. ◆ Deferred interest payments. ◆ Requires 50 percent match.

TABLE 30: MASSDEVELOPMENT LOAN AND LOAN GUARANTY PROGRAMS	
Real Estate Loans	Real estate loans to finance facility acquisition, renovation, construction, and permanent financing for manufacturers, small businesses, and nonprofits; multi-tenant, mixed used, commercial, and industrial, and rental housing and apartment buildings: ◆ Loan or bank loan participation amounts up to $7.5 million. ◆ Loan advance rate of up to 90 percent on the property value.
TechDollars	Loans of $25,000 to $250,000 to help nonprofit organizations purchase and install technology equipment: ◆ 100 percent of cost of purchase for new or used telecommunication and information technology equipment, software, and related installation costs.
USDA Loan Guarantees	As an approved lender for the USDA Rural Development Business & Industry Program, which focuses on business development efforts in communities with fewer than 50,000 residents, loan guarantees are available for USDA loans issued in these areas of the state. ◆ Eligible project costs: real estate (acquisition, construction, and leasehold improvements), equipment, value-added agricultural projects, term working capital, and debt refinancing. ◆ Loan guarantee limits: 80 percent on $5 million or less; 70 percent on $5 million to $10 million; and 60 percent on $10 million to $25 million. ◆ For loans over $5 million, participant lenders are required.
Working Capital Loan Guaranty for Manufacturers	Provides up to a 25 percent guaranty of the outstanding amount on a revolving loan of credit held by a bank for a manufacturing company. The guaranty terminates with the maturity of the line of credit but can be renewed. Term working capital loans can also be guaranteed in a fixed amount equal to no more than 25 percent of the bank's loan amount. The guaranty amortizes dollar for dollar with the underlying term loan for up to 5 years.

Source: MassDevelopment Website, 2016.

MassDevelopment Bond Financing Programs

As the state's premier development finance agency, MassDevelopment packages bond financing to maximize the usefulness of bonds financing tools for manufacturers, nonprofits, and institutional investors. MassDevelopment is particularly adept at utilizing the bond financing for redevelopment projects that consist of multiple uses, complicated ownership structures, and need for significant infrastructure investment. Bond financing provides for larger investment amounts along with low interest rates with longer terms.

TABLE 31: MASSDEVELOPMENT BOND PROGRAMS

Incentive Program	What it offers
Infrastructure Investment Incentive Program (I-Cubed)	◆ Public-Private partnership to support development projects with infrastructure needs between $5 million and $50 million. ◆ Once development is complete, debt service is paid by the Commonwealth from new state tax revenue generated from job creation and other economic activity from the project.
District Improvement Financing (DIF) (known as Tax Increment Financing in other states)	◆ Uses property tax revenues collected in a pre-defined geographic area to pay for infrastructure costs through bond or pay-as-you-go arrangements. ◆ Incremental property taxes from new growth in the designated district are used to create infrastructure funds needed for investment. ◆ Bonds can be issued by the municipality or by MassDevelopment on behalf of the municipality.

TABLE 31: MASSDEVELOPMENT BOND PROGRAMS	
Local Infrastructure Development Program (23-L)	◆ Special assessment financing for infrastructure improvements in a pre-defined geographic area or district. ◆ Landowners in district pay bond debt service through special assessments that are transferred with property in the event that the property is sold. ◆ Burden for infrastructure financing is on private sector and landowner consent is required. ◆ Bonds can be issued by MassDevelopment on behalf of the district. ◆ Eligible infrastructure included roadways and intersections; water and wastewater facilities; transportation facilities; seawalls, docks, wharves, bridges, culverts, and tunnels; streetscape, sidewalks, electric lines, and street lights; parks, playgrounds, and recreational facilities; parking garages; brownfield mitigation; site acquisition, demolition, and site pad development; soft financing costs including engineering and architectural services. ◆ Finance infrastructure improvements can be located in or supporting development within the district but it must be publicly owned upon completion.
Pooled Financing	Pool loans are available to eligible nonprofit organizations. Pooled financing offers the benefits of low, tax-exempt interest rates without the costly and time-consuming process of the bond issuance process. This is a partnership between MassDevelopment and participating banks. Loans are on a first-come, first-served basis.
STAR Fund	The STAR (Short Term Asset Reserve) Fund was established by the Massachusetts Health and Educational Facilities Authority in 1991 to provide comprehensive management of bond proceeds, bond notes, and other obligations issued by the authority for its borrowers. In 2010, the authority was merged into the Massachusetts Development Finance Agency. The STAR Fund allows for participants to pool cash and proceeds of bonds, notes or other obligations for temporary investment pending their expenditures. Dividends are calculated daily and paid monthly. Monthly dividends are reinvested in units of the STAR Fund.
Tax-Exempt Bonds	Issues tax-exempt bonds directly and sells them in the capital markets. ◆ Eligible projects include 501(c)3 real estate and equipment, affordable rental housing, assisted living/long term care facilities, public infrastructure, manufacturing facilities and equipment, municipal and state government projects, and solid waste/recycling facilities. ◆ Landowners in district pay bond debt service through special assessments that are transferred with property in the event that the property is sold. ◆ Burden for infrastructure financing is on private sector and landowner consent is required. ◆ Bonds can be issued by MassDevelopment on behalf of the district.
Taxable Bonds	MassDevelopment can issue taxable bonds for industrial and commercial real estate projects. Frequently, taxable bonds are used when the borrower's financial needs exceed its ability to issue tax-exempt bonds.
Value Lease	A value lease is tax-exempt and is available for all types of equipment purchases of $500,000 or higher or to fund renovation and installation costs of up to 20 percent of the overall financed amount. Interest rates are typically 2 to 4 percent below taxable rates.

Source: MassDevelopment Website, 2016.

MassDevelopment Grant Programs

MassDevelopment's grant programs are community-focused. Moneys are allocated to the remediation and redevelopment of brownfields; provision of community health facilities, and also can be used for the development of cultural facilities throughout the state. As part of its Manufacturing Initiative, MassDevelopment offers grants that promote manufacturing careers and also provide technical assistance to manufacturing companies.

TABLE 32: MASSDEVELOPMENT GRANT PROGRAMS	
Incentive Program	**What it offers**
Brownfields Redevelopment Fund and Site Assessment Program	◆ Grant monies can be used to encourage the reuse of brownfields sites. ◆ Site assessment program provides unsecured, interest-free financing up to $100,000 per site for environmental testing.
Community Health Center Grant Program	◆ Provides up to $50,000 in grant funding to community health centers. ◆ Funding can be used for infrastructure projects including construction, renovation, equipment, furniture, training, or technology related projects.
Cultural Facilities Fund	Administered jointly with the Massachusetts Cultural Council and designed to increase private and public investment in cultural facilities including museums, historic sites, zoos, aquariums, theaters, concert halls, exhibition spaces, classrooms, and auditoriums. ◆ Funding can be used for capital grants (infrastructure improvement to facilities), feasibility and technical assistance grants (planning and assessment of a facility), and systems replacement grants (20 year upgrades to facilities and building systems). ◆ Must be owned, leased, or used by one or more nonprofit cultural organizations, by higher education institutions, or municipalities (for municipalities the facility must be at least 50,000 sq. ft.in size with 50 percent of the space devoted to cultural programming). ◆ All grants must be matched by contributions from private and public sector donors.
Manufacturing Futures Program	◆ AMP it up! Campaign: promotes advanced manufacturing as a career pathway for students and displaced workers. Grant recipients use funding to create community-based programs to promote advanced manufacturing as a career and dispel common perceptions about careers in this industry. ◆ Manufacturing Innovation Grants: Targeted at small and medium-sized manufacturers, this program provides funding for equipment, expert consulting on product development, and competitiveness. Grant can be up to $75,000 or 75 percent of contract costs, whichever is less.

Source: MassDevelopment Website, 2016.

MassDevelopment Tax Incentive Programs
Unlike many other states, the Commonwealth of Massachusetts offers a more limited number of tax incentive programs. Through MassDevelopment, there are three such programs and they are focused on redevelopment, including 4% Housing, the Brownfield Tax Credit Program, and the New Markets Tax Credit Program. The New Markets Tax Credit Program is geographically bound to pre-designated zones characterized by disadvantaged populations, distressed real estate, and a dearth of private sector investment.

TABLE 33: MASSDEVELOPMENT TAX INCENTIVE PROGRAMS

Incentive Program	What it offers
4% Housing Program	◆ For eligible multifamily, low income rental projects. ◆ Low income housing tax credits available for projects where over 50 percent of the total development costs are being financed with tax-exempt bonds issued through Mass Development.
Brownfield Tax Credit Program	◆ Tax credit issued to eligible businesses and nonprofits for costs incurred in a brownfields remediation project. ◆ May be used against state tax liabilities or transferred or sold to third parties.
New Markets Tax Credit Program	◆ Created to stimulate investment in geographically defined low income communities throughout the state. ◆ Provides a source of gap financing for project developers. ◆ Eligible projects include community and health center; retail and office space; performing arts centers; mixed-use developments; light industrial use centers; new construction; and rehabilitation of historic and non-historic structures.

Source: MassDevelopment Website, 2016.

MassDevelopment Real Estate Services and Technical Assistance
MassDevelopment provides a number of advisory services and planning assistance to communities throughout Massachusetts. Many smaller communities lack the staffing to effectively address planning and redevelopment projects. MassDevelopment provides resources that include conducting market and feasibility studies for sites, master planning services, building reuse analysis and site planning assistance, permitting and entitlements processing, project management services, strategic planning and consensus building, assistance with the development of Request For Qualifications (RFQ) or Request For Proposals (RFP), and consultant screening and selection. MassDevelopment is also allowed to purchase and sell real estate.[197]

These services, coupled with MassDevelopment's expansive portfolio of financing programs, have resulted in the completion of a number of important projects within the state:

- Devens: Devens is a 4,400 acre mixed-use community developed on a former military base that was decommissioned in 1996. MassDevelopment purchased the site and is redeveloping it into a full service community that currently houses 100 businesses that employ nearly 4,000 workers, and includes 2,100 acres of preserved, open space. Bristol-Myers Squibb located its 400 employee biopharmaceutical manufacturing campus in Devens and the U.S. Army still maintains a significant presence of 2,000 employees in the community. Chapter 498 of the 1993 Acts in Massachusetts General Law was amended to allow MassDevelopment to redevelop the military base and to sell and lease property located in this facility. Mass Development will manage the Devens project through 2033.[198]
- Myles Standish Industrial Park Expansion, Taunton: In partnership with the Taunton Development Corporation, MassDevelopment formed a 501c (3) nonprofit organization in 2011 to redevelop a 220 acre site that had housed the Paul A. Dever School. Due to contamination, significant remediation and infrastructure were required and the area was designated as a District Improvement Financing (DIF) district. The site was added to the existing acreage in the Myles Standish Industrial Park and will include a 50 acre Life Sciences Business & Technology Park featuring a state-of-the-art Life Science Training and Education Center.[199]
- Village Hill Northampton: A 126 acre master-planned community on the site of an abandoned state hospital, Village Hill Northampton will feature 300,000 sq. ft. of commercial space for retail, office, and light industrial uses, 350 mixed income affordable homes and rental units, and ample open space. MassDevelopment is serving as the project's managing partner.[200]

Key Targeted Sector Initiatives

Manufacturing: Manufacturing is a target industry in Massachusetts and as such, MassDevelopment's financing and bond programs are tailor made to support the industry. This includes predevelopment financing, planning loans, working capital financing, equipment loans, and tax-exempt bond financing arrangements.[201]

MassDevelopment also has created a network of innovation centers that provide technical expertise and assistance to Massachusetts-based manufacturers. These innovation centers include Algonquin Industries (precision machined and sheet metal fabricated products), Boston Engineering Corporation (product development, engineering, and manufacturing expertise), Connecticut Center for Advanced Technology (machining processes, additive manufacturing, and reverse engineering solutions), Worcester Polytechnic Institute (financial modeling, equipment justification, technical analysis, and commercialization), and Massachusetts Manufacturing Energy Collaborative (promotion of energy efficiency).[202]

Defense Sector: As a member of the Military Asset and Security Strategy Task Force, MassDevelopment works to enhance programs, facilities, and operations affiliated with military installations. MassDevelopment operates and manages the Massachusetts Unmanned Aircraft Systems Test Center (MA USTC) at Joint Base Cape Cod. In partnership with the Massachusetts Army National Guard and the Massachusetts Air National Guard, the MA USTC also utilizes facilities at Camp Edwards, Otis Air National Guard Base, and the unrestricted airspace designated R-4101. MA USTC is part of the Northeast UAS Airspace Integration Research Alliance (NUAIR), and is one of only six sites nationwide devoted to the testing and research of Unmanned Aircraft Systems.[203]

Transformative Development Initiative (TDI): The Transformative Development Initiative is a MassDevelopment program focused on the redevelopment of Massachusetts' communities designated as Gateway Cities. The Gateway Cities program was initiated by the Commonwealth's Executive Office of Housing and Economic Development to encourage innovators and entrepreneurs to locate in communities with populations of less than 250,000 but more than 35,000, having median household incomes below the state average, and a rate of college completion lower than the state average. Investments from the Commonwealth in education, infrastructure, and innovation were hallmarks of the program. Presently, 26 cities are designated as Gateway Cities.[204]

The TDI is an integrated systems approach to investment and redevelopment, with MassDevelopment directing its financing programs and real estate and redevelopment expertise. TDI is designed to enhance public-private partnerships, stimulate improved quality of life, and foment private investment activity into the designated communities. A Transformative Development Fund was created within MassDevelopment pursuant to Chapter 287, Acts of 2014 in August 2014. TDI links local collaborative partnerships, geographically distinct TDI districts, and full-scale community engagement into a holistic revitalization program.[205]

In 2014, all 26 Gateway Cities were invited to participate in an open-competition for 10 TDI district awards. The selected communities included Brockton, Haverhill, Holyoke, Lynn, New Bedford, Peabody, Pittsfield, Revere, Springfield, and Worcester. Each community selected an area within its municipal boundaries to be designated as a TDI district. The TDI district is a geographic area that is a contiguous neighborhood with a primary land use but defined by a walkable and dense mixed-use areas with some recent private and public investments. A locally established TDI Partnership serves as the lead contact for the process and includes a mix of city, private sector, and nonprofit interests. It is through this group that the TDI district is identified.[206]

Through the TDI program, each city receives:

- Enhanced MassDevelopment support
- Customized real estate and technical assistance services including planning, economic development strategy development, industry analysis, communications/marketing, and community building
- First priority for TDI Equity Investments
- TDI Fellows[207]

The TDI Equity Investment program entails an equity investment that results in MassDevelopment holding a controlling ownership in any company; a membership interest constituting voting rights; a controlling interest in real estate or other assets, and an equity security. Investment projects, however, must meet specific criteria, including:

- Meet the definition of equity investment[208]
- Provide significant economic impact
- Be consistent with the Commonwealth and MassDevelopment's strategic goals
- Demonstrate community engagement
- Have a direct impact on the built environment
- Demonstrate market demand
- Be economically feasible
- Demonstrate the need for funding
- Be able to execute project in the near future.[209]

Additionally, MassDevelopment has developed the TDI Fellows program. TDI Fellows work with MassDevelopment as extensions of staff and serve as the primary community organizers for each community's TDI partnership. TDI Fellows are expected to have a background in a related field and must commit to three year contracts. 2015 is the first year of this program and only three of the TDI communities have been assigned a TDI Fellow, thus far.[210]

The TDI program is unique in that the state's primary economic development agency is directing intensive programming, technical assistance, and management into local communities in an effort to stimulate private investment and redevelopment efforts in these communities.

Summary

Massachusetts is the site of one of the first European Settlements in the United States; the Commonwealth has an extremely rich and important history and has benefited from centuries of investment, innovation and re-invention. Massachusetts' economy is prosperous because of its critically important anchor institutions: "eds and meds". With one of the world's greatest concentrations of world renowned higher education institutions and some of the best healthcare and medical schools and research institutions – all of which contribute to an unparalleled innovation ecosystem, Massachusetts' economy is difficult to replicate. The Commonwealth's human capital and talent development pipeline is unique in the world because of the concentration of these institutions, and its entrepreneurial ecosystem is supported by one of the highest concentrations of venture and equity capital in the U.S.

From an economic development standpoint, Massachusetts' rich history also manifests itself in the aging of infrastructure and structures. Because of this, there is a keener focus on redevelopment initiatives. Through the Executive Office of Housing and Economic Development and MassDevelopment, economic development services are provided with significant state support and are distributed widely through regional offices, regional economic development organizations, and communities. Redevelopment initiatives are widely supported by the Executive Office of Housing and Economic Development through its MassWorks Infrastructure Program and through the Economic Development Incentive Program (EDIP) that provides tax incentives for redevelopment of sites. Through MassDevelopment, a number of typical loan and bond financing programs are available, as are real estate and technical assistance programs for significant development and redevelopment projects.

The Commonwealth of Massachusetts has transformed its economic delivery system to focus on its strategic strengths while directing development investments in a manner that supports the growth of targeted economic sectors in the state. As a small and densely populated state, the Commonwealth does not have the space or natural resources to carve out new, pristine developable land sites for newly relocating or expanding business operations. Through the efforts of the primary economic development groups in the state, Massachusetts has developed a "reuse, rehabilitate, and renovate" approach to development that serves its people and business well.

SECTION 1.5: TEXAS

Located within the Southwest U.S. and rich in natural resources, the State of Texas has the second largest population and the second largest economy in the nation. Texas survived the Great Recession of 2007-2009 relatively unscathed due to the world's demand for energy and raw materials. The energy and mining wealth of the state allowed for increased diversification of the Texas economy, and the state consistently ranked as one of America's best states for business because of its economic resiliency and growth during the worst economic downturn in modern history.

In 2015, however, the declining price of oil adversely impacted the state's growth trajectory. An economic outlook report released by the Federal Reserve Bank of Dallas in January 2016 noted that in 2015, low oil prices coupled with a strong dollar and a tight labor market were suppressing job growth in the state.[211] According to a report released by the Real Estate Center at Texas A&M University in May 2016, the state is beginning to recover from the 2015 crash in oil prices; however, job growth between April 2015 and April 2016 in Texas was 1.6 percent compared to the national rate of 1.9 percent for the same time period. Overall, the state is seeing positive growth but at more subdued numbers.[212]

The current population of the state is 27,469,114 (2015 estimate), representing a 9.2 percent increase in population over 2010 numbers.[213] In 2015, Texas' per capita personal income (PCPI) was $46,745, ranking 22nd among all states. The state's PCPI grew 2.4 percent from 2014 to 2015, while the nation's PCPI increased 3.5 percent between 2014 and 2015. As a result, Texas' PCPI was 98 percent of nation's PCPI of $47,669.[214] The state's total personal income (TPI) in 2015 was $1,284,262,294,000 and ranked 2nd in the United States.[215]

The median household income for the state is $52,576; the poverty rate is 17.2 percent.[216] Nearly 82 percent of the population has attained a high school diploma or GED and 21.3 percent of the population holds a Bachelor's degree or higher.[217] The state's unemployment rate in November 2015 was 4.6 percent and has been steadily decreasing since that time. In April 2016, the state's unemployment rate was 4.4 percent.[218]

The state GDP (chained, 2009 dollars) in 2014 was approximately $1.5 trillion. This represented an 18 percent increase between 2011 and 2014.[219] In 2014, Texas' real GDP grew 3.8 percent, which was higher than the national GDP growth rate of 2.2 percent. Early figures for 2015 suggest that the state's GDP increased 4.8 percent in the first quarter, grew 0.5 percent in the second quarter, and increased 0.1 percent in the third quarter. As a result, Texas ranked 46th among all the states for GDP growth between the second and third quarters in 2015.[220]

In 2014, the largest economic sector in Texas as a contributor to the Texas GDP was Finance, Insurance, Real estate, Rental, and Leasing. This industry sector accounted for 13.7 percent of the state's overall GDP and for 4.7 percent of real growth. The second largest contributor to the state GDP was the Mining industry, accounting for 13.3 percent of the state's GDP and 8.5 percent of real growth. These two economic sectors were followed by Professional and Business Services and Government (tie); and Wholesale Trade (note: 45 percent of the state's GDP is made up of "All Others").[221]

Economic Development Entities in Texas

Economic development services and programs in the State of Texas operate under the auspices of the Office of the Governor in the Economic Development and Tourism Division. Within this division, there are ten organizations that serve specific economic development functions. They include the Texas Business Development Division; the Texas Economic Development Bank; the Office of Aerospace, Aviation, and Defense; the Texas Military Preparedness Commission; Texas Small Business Advocacy; the Texas Film Commission; the Texas Music Office; the Texas Workforce Investment Council, and the Governor's Commission for Women. Of these organizations, the Texas Economic Development Bank serves as the primary lead for providing traditional economic development services and programs. Through this organization, the state markets it location potential, targeted industry resources, research profiles, small business resources, international resources, and financing and incentive programs through a comprehensive website branded "Texas Wide Open for Business".[222]

The recruitment and marketing face for Economic Development and Tourism Division is the Texas Economic Development Corporation. In 2003, the Texas Economic Development Corporation launched TexasOne™, a program devoted exclusively to marketing Texas as a premier business location. In 2013, the Texas Economic Development Corporation board voted to incorporate as an independent, 501(c)3 nonprofit organization dedicated to business recruitment, economic development, and job creation, and to working collaboratively with the Office of the Governor and the Texas Economic Development Bank.[223]

FIGURE 15: OVERVIEW OF TEXAS'S ECONOMIC DEVELOPMENT INCENTIVES

Loan and Loan Guaranty Programs -
Texas Economic Development Bank

- Capital Access Program
- Product Development and Small Business Incubator Revolving Loan Program
- Texas Capital Fund Real Estate Development Program (Texas Dept. of Agriculture)
- Texas Leverage Fund
- Texas Military Value Revolving Loan Fund

Grant Programs -
Texas Economic Development Bank

- Texas Enterprise Fund
- Governor's University Research Initiative
- Texas Capital Fund Infrastructure Program (Texas Dept. of Agriculture)
- Defense Adjustment Assistance Grant Program (Texas Military Readiness Commission)
- The Texas Moving Image Industry Incentive Program (Texas Film Commission)

Bond Financing Programs -
Texas Economic Development Bank

- Sales Tax Bonds
- Exempt Facility Bonds
- Tax Exempt Industrial Revenue Bonds
- Cancer Prevention and Research General Obligation Bonds

Bond Financing Programs -
Texas Public Finance Authority

- Bond Financing
- Master Lease Purchase Program
- Texas Credit Enhancement Program for Charter Schools

Tax Incentives -
Texas Economic Development Bank

Limiting Taxes on Property Taxes

- Freeport Exemption
- Goods in Transit Incentive
- Pollution Control Incentive
- Wind and Solar Energy Tax Exemptions and Deductions
- Manufacturing Machinery & Equipment Exemption
- Data Center Exemption
- Natural Gas & Electricity Exemption
- Research and Development Tax Credit
- Franchise Tax Exemption and Deduction for Business Relocation
- Texas Enterprise Zone Program

Sources: Office of the Governor, Texas Economic Development Bank, Texas Economic Development Corporation, Texas Public Finance Authority Websites June 2016.

As a result of its independent status, the Texas Economic Development Corporation does not receive government funding; it derives its funds through contributions from businesses, economic development organizations, individuals and other groups that benefit from or support economic development. Contributions range from $1,000 to $250,000 pledged in five-year tranches. The organization's contributions are targeted directly for recruitment missions, special events, advertising campaigns, and other outreach marketing to site selectors and corporate decision makers. The Texas Economic Development Corporation has an eight person board of directors and four staff members.[224]

Texas' targeted economic sectors include Advanced Technology and Manufacturing; Aerospace, Aviation, and Defense; Biotechnology and Life Sciences; Information and Computer Technology; Petroleum Refining and Chemical Products; and Energy.[225]

The Texas Public Finance Authority, another organization reviewed in this report, does not have direct programs for business development purposes but is focused on providing programs and services for other state agencies and projects that have been authorized through the Texas Legislature.

Texas Economic Development Bank

As the primary economic development agency for the state, the Texas Economic Development Bank offers an array of programs and services that are similar to those in other states. These include loans, grants, bond programs, tax incentives, and workforce incentives. Many of these programs originate in other agencies but are comprehensively marketed through the Texas Economic Development Bank. The bank operates under the auspices of the Governor's Office.

The bank was created by the Texas Legislature in 2003 within the Texas Government Code, Section 489.101, for the purpose of providing globally competitive and cost effective state incentives and providing access to capital for both communities and businesses for economic development purposes.[226] According to the Texas Government Code, the bank's effectiveness is measured by the number of jobs created and retained and the total amount of non-state funds leveraged as a result of the bank's efforts and intervention.[227]

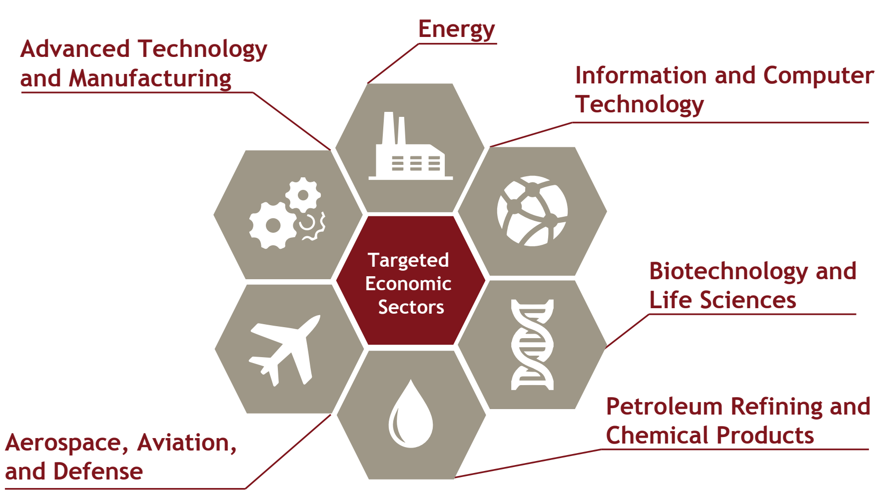
Texas Economic Development Bank Programs

The Texas Economic Development Bank offers an array of loan programs, grants, bond programs, tax incentives, and workforce incentives to businesses within or relocating to Texas.

Loan Programs

The Texas Economic Development Bank offers financing directly to businesses through a capital access program; to communities and economic development organizations through the Texas Leverage Fund, and to military communities through the Texas Military Value Revolving Loan Fund. Another program, the Product Development and Small Business Incubator Fund, is administered by a nine person board of directors appointed by the Governor and is focused on emerging technology business sectors including nanotechnology, biotechnology, biomedicine, renewable energy, agriculture, aerospace, and semiconductors. The bank also markets the Texas Capital Fund Real Estate Development Program, a no-interest loan program that originates in the Texas Department of Agriculture, and provides financing for the acquisition of real estate in rural communities for job creation or retention purposes.

FIGURE 16: TEXAS' TARGETED ECONOMIC SECTORS



Source: Texas Economic Development Bank Website June 2016.

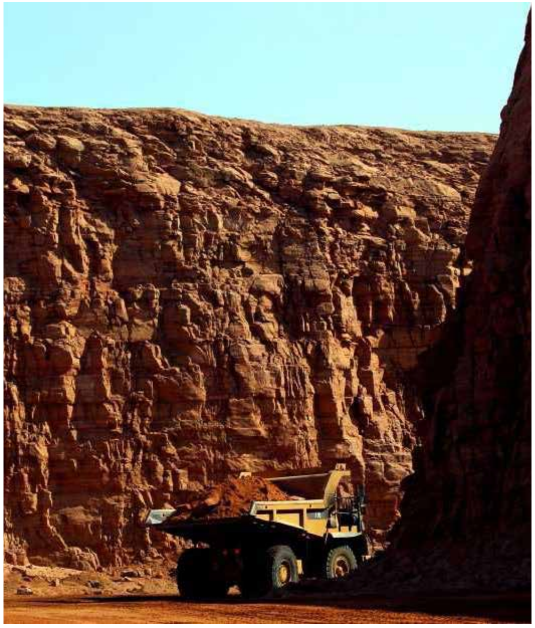


TABLE 34: TEXAS ECONOMIC DEVELOPMENT BANK LOAN PROGRAMS	
Incentive Program	**What it offers**
Capital Access Program	Loan program formed to increase the availability of growth capital for small businesses and nonprofits located in Texas. Eligible applicants must be small or medium-sized businesses (499 employees or less), a nonprofit, or have at least 51 percent of its workers located in Texas. ◆ The state provides monies to the participating lenders' reserve accounts to be used in case of a loan default. The state's contribution is limited to 4 to 8 percent of loan amount, not to exceed $35,000 per loan or $150,000 for any loan recipient over a three year period. ◆ Borrower must match 2 to 3 percent of loan amount. ◆ Participating lenders (LiftFund and PeopleFund are the two participating lenders in this program) must match borrower's contribution. ◆ Eligible project costs include the purchase, construction, or lease of capital assets including both buildings and equipment and working capital. Construction or purchase of residential housing is not an eligible project cost. ◆ There is no maximum or minimum loan amount. There is only a maximum amount that the state will contribute to the loan. ◆ Interest rates are set by the lender.
Product Development and Small Business Incubator (PDSBI) Program	A revolving loan program directed at businesses and nonprofits operating in the fields of nanotechnology, biotechnology, biomedicine, renewable energy, agriculture, aerospace, and semiconductors. Funds are used to develop, commercialize, and produce new or improved products associated with the aforementioned fields. Capital expenditures and working capital are also allowable projects costs. ◆ Applicants must submit business plan for consideration. ◆ Applicants are subject to the following loan-to-value standards (ratios are AFTER incorporation of new debt): maximum debt to equity ratio of 4:1; minimum current ratio of at least 1:1; and minimum debt service coverage ratio of at least 1.2x. ◆ Low variable interest rate and flexible terms. ◆ Communities and individuals can assist as Guarantors.
Texas Capital Fund Real Estate Development Program (Texas Department of Agriculture)	◆ Loan program designed exclusively to create or retain jobs in rural communities and counties. ◆ Eligible project costs include the acquisition, rehabilitation, and construction of new real estate assets. ◆ Applications are taken and awards are made every month; a minimum of $1 million in state funds are available for disbursement each month (for both the real estate development program and the infrastructure grant program). ◆ Zero percent interest rate with terms of up to 20 years. ◆ Loan amounts range from $50,000 to $1,500,000.
Texas Leverage Fund	Loan program targeting economic development corporations that have adopted economic development sales taxes in their regions. ◆ Communities may leverage future sales tax revenues to expand economic development through targeted programs of business attraction and expansion, as well as infrastructure improvements. ◆ Economic development corporations may borrow up to $5 million bases on sales tax revenues and debt service coverage ratios; typical loan amounts range from $25,000 to $5 million. ◆ Future sales tax revenues serve as collateral. ◆ Available for interim, long-term financing, or gap financing. ◆ Low cost loans pegged at floating Prime Rate as published in the Wall Street Journal.

TABLE 34: TEXAS ECONOMIC DEVELOPMENT BANK LOAN PROGRAMS	
Incentive Program	**What it offers**
Texas Military Value Revolving Loan Fund	Loan program providing financial assistance to defense communities located in Texas. The loan fund is financed through sale of general obligation bonds, approved at $250 million. ◆ Eligible project costs include enhancing the military value of area military bases and defense facilities; lessen the adverse impacts of BRAC 2005 or later; provide assistance positively impacted by BRAC 2005 or later; supplement the community economic redevelopment value of closed military facilities; assist in the preparation of community strategic impact plans. ◆ Minimum loan amounts of $1 million; 100 percent financing available. ◆ Projects must be completed in five years. ◆ Terms are structured and rates determined by the Office of the Governor, Texas Economic Development Bank, and the Texas Public Finance Authority.

Source: Texas Economic Development Bank Website, 2016.

Bond Financing Programs

The Texas Economic Development Bank also is charged with administering bond financing programs. A unique program is the Sales Tax Bond program, which can be used in communities that have enacted a local economic development sales tax in order to fund local economic development activities.

The bank also administers an exempt facility bond program and a tax exempt industrial revenue bond program. According to its Fiscal Year 2015 Annual Report, the bank did not receive any applications for new industrial revenue bond issuances or financing for that year.[228]

TABLE 35: TEXAS ECONOMIC DEVELOPMENT BANK BOND PROGRAMS	
Incentive Program	**What it offers**
Sales Tax Bonds	Sales Tax Bonds do not fall under the state's Volume Cap Allocation and are used by communities that have enacted an economic development sales tax to fund economic development activities. Ineligible projects for Sales Tax Bonds include for profit hospitals, multifamily housing, and municipal services.
Exempt Facility Bonds	◆ Government owned facilities (facilities can be leased or operated by management contractors) including airports, docks and wharves, mass commuting facilities, high-speed rail facilities, and certain hazardous waste facilities are eligible for funding. There is no limitation on amounts and issues do not require reservations under volume cap. ◆ Projects for water, sewer, solid waste facilities, local electric utilities, local gas transmission facilities, and local heating and cooling stations are eligible for exempt facility financing but must reserve a portion of the volume cap. Exempt Facility Bonds that are not governmentally owned may reserve up to $25 million in tax-exempt volume cap allocation each year.
Tax Exempt Industrial Revenue Bonds	◆ Bond financing designed to fund land and depreciable property assets for eligible industrial and manufacturing projects. ◆ Maximum bond amount is $10 million and the total capital expenditure limitation for each project is $20 million. ◆ Industrial Revenue Bond issues must receive a reservation under the state's volume cap.

Source: Texas Economic Development Bank Website, 2016.

Grant Programs

In June 2015, Governor Gregg Abbott signed legislation abolishing the Texas Emerging Technology Fund. The fund, primarily concerned with nurturing start-up businesses in Texas, had been established by Governor Rick Perry and had allocated a total of $400 million to businesses and universities in its decade-long existence. However, in 2011 a report issued by the State Tax Auditor noted that the program lacked transparency and performance of the fund had not been adequately tracked or measured. As a result, Governor Abbott replaced the program with the Governor's University Research Initiative.[229] This new program is targeted at helping Texas universities attract top research talent.

Other grant programs offered through the Texas Economic Development Bank include the Texas Capital Fund Infrastructure Program, an infrastructure grant program originating in the Texas Department of Agriculture; the Defense Economic Adjustment Assistance Grant Program (DEAAG) for military communities dealing with the contraction or expansion of military assets; the Texas Moving Image Industry incentive for movie and

TABLE 36: TEXAS ECONOMIC DEVELOPMENT BANK GRANT PROGRAMS

Incentive Program	What it offers
Governor's University Research Initiative	Enacted in 2015, the goal of the grant program was to bring distinguished researchers to Texas universities. ◆ Applicants for this grant are eligible Texas universities. ◆ Applications are accepted on a rolling basis from eligible institutions with a proposed grant match commitment of $5 million or less per distinguished researcher. ◆ A "distinguished researcher" is defined as a researcher who is a Nobel Laureate or the recipient of an equivalent honor; or a member of a national honorific society such as the National Academy of Sciences, the National Academy of Engineering, the National Academy of Medicine or an equivalent honorific organization.
Texas Capital Fund Infrastructure Program (Texas Department of Agriculture)	Grant program targeted at rural communities and counties with the goal of funding public infrastructure projects that assist in the attraction of expansion of businesses and the creation or retention of jobs. ◆ Award amounts range from a minimum of $50,000 to a maximum of $1.5 million. ◆ Applications are taken and awards are made every month; a minimum of $1 million in state funds are available for disbursement each month (for both the real estate development program and the infrastructure grant program).
Defense Economic Adjustment Assistance Grant Program (DEAAG) – Texas Military Readiness Commission	◆ Infrastructure grant program designed to assist military communities respond to and recover from a reduction or termination of defense contracts and those that are being positively impacted by new or expanding military missions. ◆ Eligible applicants include municipalities, counties, defense base development authority, junior college districts, Texas State Technical College campuses, and regional planning commissions representing military communities. ◆ Eligible project costs include the purchase of property, infrastructure projects, and the purchase of equipment to train defense workers. ◆ Grant amounts range from $50,000 to $2 million per project.
The Texas Moving Image Industry Incentive Program (TMIIIP) – Texas Film Commission	◆ Provides qualifying film, television, commercial, visual effects, and video game productions with cash grants to encourage the expansion of jobs in Texas. ◆ Grant is based on percentage of a project's eligible Texas expenditures, including wages paid to Texas residents.
Cancer Prevention and Research General Obligation Bonds	In 2007, Texas voters approved Proposition 15-HJR 90, a constitutional amendment that allowed the state to establish the Cancer Prevention and Research Institute of Texas and allowed the institute to issue $3 billion in general obligation bonds over a ten year period. The bonds are used to fund grants for cancer research, clinical trials, and laboratory facility construction in Texas.

Source: Texas Economic Development Bank Website, 2016.

entertainment industry, and the Cancer Prevention and Research General Obligation Bonds grant program that provides monies for cancer research and laboratories through the Cancer Prevention and Research Institute of Texas.

The most important grant program offered through the Texas Economic Development Bank is the Texas Enterprise Fund, a deal closing grant fund that is credited with Texas' premier position as business location. The fund is described separately due to the magnitude of its impact in the state's economic development portfolio.

Texas Enterprise Fund

The Texas Enterprise Fund is a deal closing fund that provides grant monies to companies considering relocating to Texas from other states or for existing Texas companies considering relocating to locations outside of the state. The Texas Enterprise Fund was established in 2003 at the behest of the Governor of Texas and has been re-appropriated four times since its inception. It is the largest deal closing fund of its kind in the United States and has been the centerpiece of Texas' ability to attract new businesses, capital investment, and jobs over the past 13 years. In fact, since its first year of operation, the Texas Enterprise Fund has awarded more than 100 grants totaling nearly $600 million.[230] These grants have resulted in 81,000 new or retained jobs, over $13 billion in new payroll, and $27 billion in new capital investment for the state.[231]

Dollar amounts awarded are determined through an analytical model applied to all applicants, which assures that the state will see a full return on its investment within a defined period of time from an increase in sales tax revenues. Additionally, award amounts are determined by the estimated number of jobs associated with a project, the wages associated with those jobs, and the estimated length of time needed to reach hiring needs. Awards have ranged from a low of $194,000 to a high of $50 million.[232]

In order to be eligible for grants through the Texas Enterprise Fund, projects must meet several criteria:

- Competition with another state for the project must exist and the business must not have made a final location decision at the time of application;
- The project must demonstrate significant new job creation;
- The new jobs created by the project must be high-paying jobs and above the average wage of the county where the project will be located;
- The project's capital investment must be significant;
- A significant rate of return on the public dollars invested in the project must be demonstrated;
- The project must demonstrate significant community involvement and support from the local community in the form of local economic incentive offers;
- The applicant must be financially sound and well established;
- The applicant's business sector must be an advanced industry and competitive enough to locate in another state or country;
- The Governor, the Lieutenant Governor, and the Speaker of the House for the Texas Legislature must unanimously agree to support Texas Enterprise Funds for the project.[233]

Every applicant applying for Texas Enterprise Fund grant monies must undergo an 11-step due diligence process that includes the following:

1. Texas Enterprise Fund Program application
2. Project executive summary
3. Applicant management and current news research
4. Current corporate tax status
5. Business climate evaluation and comparison
6. Economic impact assessment based on third party report
7. Applicant corporate financial analysis
8. Applicant credit assessment
9. Review of local and state economic incentive packages
10. Project cost-benefit analysis and return on investment
11. Project clawback analysis and calculation[234]

The Texas Enterprise Fund gives the state a competitive edge in attracting businesses and it has a demonstrated successful track record. Even though the funds are grant dollars, the state has developed a very analytical approach to the disbursement of these funds. Projects are heavily vetted and, moreover, the state has developed progressive clawback provisions that are included in agreements that protect public dollars in the event that the project does not deliver on its stated promises. The final decision-making power does not lie within the Texas Economic Development Bank but rather with the Governor, Lieutenant Governor, and the Speaker of the House, who must unanimously agree to expend the public dollars for the individual projects as submitted to them for consideration.

The success of the program is measured through a number of performance metrics. They include: amount of Texas Enterprise Fund grant awarded; amount of approved funds disbursed; the location of the project; project timing and length; the industry types associated with the projects; the number of direct jobs created by the project; the number of direct, indirect, and induce jobs created by the project; the total capital investment resulting from the project; dollar amount of liquidated damages

(clawbacks); other repayments of grant dollars; and total economic impact as measured by payroll resulting from direct, indirect, and induced jobs resulting from the project.[235]

Tax Incentives

A number of tax incentive programs are available for Texas businesses. These include incentives focused on manufacturing, research and development, business relocation, and data center exemptions.

One of the most effective tax incentive programs is the Texas Enterprise Zone Program, which resulted in 47 approved projects in 2015, $9 billion of capital investments, 5,340 new jobs created, and 14,291 jobs retained. In all, the program resulted in $30 million in state sales and use tax refunded to participating businesses.[236] There is an increased interest in this program due to new legislation that allows for projects to be located outside of enterprise zones if the project draws 35 percent of its employees from enterprise zone residents or economically disadvantaged populations. As a result, of the 47 designations for 2015, all were outside of established economic development zones. The program resulted in $514 million in net revenue for participating communities.[237]

The state also offers the Defense Economic Readjustment Zone Program as tool for business recruitment and job creation in adversely impacted military communities. Since its inception in 1997, seven zones and four projects have been approved. In the bank's 2015 Annual Report, it is noted that the program is significantly underutilized. In fact, there have been no new applications for zones or projects in the past seven years. While the program functions in a similar fashion to the Texas Enterprise Zone Program, part of the reason it may be under utilized can be attributed to the fact that the program is not mentioned on the Texas Economic Development Bank's website.[238]

TABLE 37: TEXAS ECONOMIC DEVELOPMENT BANK TAX INCENTIVE PROGRAMS

Incentive Program	What it offers
Limiting Taxes on Property (Texas Economic Development Act)	Provides a ten year limitation on the taxable value of property for taxpayers who agree to build or install property and create jobs. The value limitation applies to the local school district maintenance and operations tax portion of the property tax and the taxpayer must apply to the affected school district. ◆ Designed to encourage large scale manufacturing, research and development, renewable energy, nuclear and integrated gasification combined cycle electric generation facilities and other large scale industrial projects. ◆ Qualifying investment amounts begin at $100 million for urban areas and $30 million for rural areas. The investment amount can be adjusted for areas with a lower tax base.
Freeport Exemption	Communities may choose to offer Freeport Exemptions for goods that are detained in Texas for a short period of time. Freeport property includes goods, wares, merchandise, ores, and certain aircraft and aircraft parts. To receive the exemption, the goods in question must be detained in Texas for at least 175 days for the purpose of assembly, storage, manufacturing, processing, or fabrication.
Goods in Transit Incentive	An exemption for goods that include personal property being used for assembling, storing, manufacturing, processing, or fabricating purposes. The goods would have to be acquired in Texas, or imported into Texas, and stored at a location in Texas in which the owner does not have a direct or indirect ownership interest. Goods in Transit must be transported to another location in Texas or out of the state within 175 days after the goods have been acquired or imported into another state. Oil and gas, aircraft, and dealer's special inventories are not eligible for this exemption.
Pollution Control Incentive	Improvements to property as a result of pollution control measures can be exempted from property taxation. To be eligible, the property must have been purchased, acquired, constructed, installed, replaced, or reconstructed after January 1, 1994 to meet or exceed federal, state, or local environmental laws, rules, or regulations.
Wind and Solar Energy Tax Exemptions and Deductions	Franchise tax exemption for manufacturers, sellers, or installers of wind or solar energy devices. The state also allows for the corporate deduction from the state's franchise tax for renewable energy sources. Business owners may deduct the cost of the system from the company's taxable capital or deduct 10 percent from the company's income. Additionally, a 100 percent exemption on the appraised value of solar, wind, or biomass energy devices installed or constructed for energy production and use on site is permitted.

TABLE 37: TEXAS ECONOMIC DEVELOPMENT BANK TAX INCENTIVE PROGRAMS	
Incentive Program	**What it offers**
Manufacturing Machinery & Equipment Exemption	◆ A state and local sales and use tax exemption is allowed for leased or purchased machinery, equipment, replacement parts, and accessories used or consumed in the manufacturing, processing, fabricating, or repairing of tangible personal property for ultimate sale. Additionally Texas businesses are exempt from paying state sales and use tax on labor for constructing new facilities. ◆ Texas businesses are exempt from paying state sales and use tax on the purchase of manufacturing machinery used exclusively for processing, packing, or marketing agricultural products by the original producer at their home location in Texas.
Data Center Exemption	100 percent exemption on sales tax is available for computers, equipment, cooling systems, power infrastructure, electricity and fuel for Data Centers that meet the following criteria: $200 million in capital investment, at least 20 new jobs, and an average salary that is 120 percent of the county average salary.
Natural Gas & Electricity Exemption	Texas companies are eligible for a sales and use tax exemption on electricity and natural gas used in manufacturing, processing, or fabricating tangible personal property. Companies must demonstrate that at least 50 percent of the electricity or natural gas consumed by the business directly causes a physical change to the product.
Research & Development Tax Credit	Companies engaged in research and development activities can receive reductions in either applicable sales and use tax OR franchise tax (not both). ◆ Sales and Use Tax Exemption: exemption on sales and use tax that would accrue to the purchase, lease, rental, storage, or use of depreciable tangible personal property directly used in research and development activities. ◆ Franchise Tax Exemption: exemption on qualified research expenses that include in-house research expenses and contract research expenses. Expenses are related to wages.
Franchise Tax Exemption and Deduction for Business Relocation	Companies relocating their primary place of business from out of state to Texas are eligible to deduct relocation expenses from their apportioned margin while calculating their franchise liability.
Texas Enterprise Zone Program	The enterprise zone program is an economic development tool by local communities that provides real tax incentives for businesses that locate in one of these geographically bound areas. Texas State Law limits the number of enterprise zone projects to 105 every two years. Communities with less than 250,000 in population are limited to six enterprise projects during this time period and communities with more than 250,000 may have up to nine enterprise projects. Enterprise projects are eligible for a refund of all state sales and use taxes paid and used at a qualified business site. The refund is determined by size of investment and number of jobs created or retained: ◆ The refund amount for projects equals $2,500 per job created or retained by the project. ◆ If the project investment is greater than $150 million but less than $250 million then the refund amount per job increases to $5,000. ◆ If the project investment exceeds $250 million, the refund amount per job increases to $7,500. ◆ Enterprise project designation is up to a five year period. ◆ Projects may be physically located inside or outside of an Enterprise Zone. ◆ If located within a zone, the company commits that 25% of their new employees will meet economically disadvantaged, enterprise zone residency, or veteran requirements. ◆ If located outside of a zone, the company commits that 35% of their new employees will meet economically disadvantaged, enterprise zone residency, or veteran requirements. ◆ Jobs must provide employment of at least 1,820 hours during a 12-month period. ◆ Jobs must exist through the end of the designation period, or at least three years after the date on which a state benefit is received, whichever is later.

Source: Texas Economic Development Bank Website, 2016.

Workforce Incentive Programs

The workforce incentive programs marketed through the Texas Economic Development Bank originate within the Texas Workforce Commission's slate of programs. The Skills Development Fund provides customized training for incumbent workers in Texas businesses. It is a flexible and comprehensive program that provides a very effective means for upgrading worker skills to meet the rapidly changing demands of businesses. The Self-Sufficiency Fund is targeted at program participants in the federally funded Temporary Assistance for Needy Families (TANF) program or individuals at risk of becoming dependent on public assistance. The training is targeted at developing skills necessary to compete in the state's primary target industries.

TABLE 38: TEXAS ECONOMIC DEVELOPMENT BANK WORKFORCE INCENTIVE PROGRAMS

<table>
<tr><th>Incentive Program</th><th>What it offers</th></tr>
<tr><td>Skills Development Fund (Texas Workforce Commission)</td><td>State-funded program that provides local customized training for Texas businesses and workers to increase skill levels and wages in the workforce.
◆ Training needs are determined by a business, a consortium of businesses, or a labor union and then partners with a community college, technical college, or the Texas A&M Engineering Extension Service to fill the identified need and develop a proposal to be submitted for funding.
◆ Grants can be used for tailored curriculum to meet business needs, classes and be conducted at an employer's site or at a training provider's site.
◆ Grants for a single business site may be limited to $500,000 and can be applied towards tuition, curriculum development, instructor fees, and training materials. Grant funds cannot be used for trainee wages, drug testing, travel costs, and certain equipment purchases.
◆ 55 percent of total training should be categorized as business technical courses which are occupational or industry specific; up to 45 percent of total training can be categorized as general technical that are more foundational and include OSHA safety training, Lean and Six Sigma courses, Microsoft Office and other computer training; and no more than 10 percent of total training may be used for non-technical training that includes leadership, communications, and team building.</td></tr>
<tr><td>Self-Sufficiency Fund (Texas Workforce Commission)</td><td>Grant program that provides training that may lead to permanent employment for adult recipients of the Temporary Assistance for Needy Families (TANF) program, those individuals that are at risk of becoming dependent on public assistance, and non-custodial parents earning less than $37,000 annually.
◆ Businesses are not required to be partners in the project; letters of support from local businesses will be included in an application indicating support for job skills training.
◆ Grant recipients include community colleges, technical colleges, community based organizations who will partner with local businesses to target in-need individuals.
◆ Training must lead to an industry wide recognized credential or certificate.
◆ Training must be provided in one of the following targeted industries: Advanced Technologies and Manufacturing, Aerospace and Defense, Biotechnology and Life Sciences, Information and Computer Technology, Petroleum Refining and Chemical Products, and Energy.
◆ Targeted cost per trainee is $2,100 and covers both training costs and support services.
◆ Grant contract training period is up to 12 months.</td></tr>
</table>

Source: Texas Economic Development Bank Website, 2016.

Texas Public Finance Authority

Created in 1984 by an act of the Texas Legislature, the Texas Public Finance Authority provides cost-effective financing options for capital projects undertaken by state agencies, boards, commissions, and educational institutions in the state. The Authority is governed by a board of directors composed of seven members appointed by the Governor with the consent of the State Senate. An executive director is employed by the authority to manage a staff of 15 and an annual operating budget of approximately $925,000.[239]

The Texas Public Finance Authority administers three key programs that include Bond Financing, a Master Lease Purchase Program and the Texas Credit Enhancement Program for Charter Schools. The Texas Credit Enhancement Program for Charter Schools is administered under the auspices of the Charter School Finance Corporation, a public, nonprofit corporation created by the Texas Public Finance Authority and existing as an instrumentality of the Authority pursuant to Section 53.351 of the Texas Education code, as amended. The corporation is authorized to issue revenue bonds to finance authorized charter schools. The corporation is administered by an appointed six person board of directors.[240]

The Texas Public Finance Authority measures its efficacy based on established customer service performance standards:

1. Produce a high quality work product with complete and accurate information
2. Respond to requests for information promptly and accurately, if possible, within five business days
3. Be professional and courteous in dealing with state agencies and members of the public
4. Return phone calls and emails promptly, if possible within one business day
5. Be available and on-time for appointments and meetings.[241]

In 2014, the Authority released its 2015-2019 Strategic Plan that specified its future goals including the performance metrics by which the organization would be held accountable. These included the following:

1. Percent of bond debt issues completed within 120 days of request for financing
2. Percent of commercial paper debt issues completed within 90 days of request for financing
3. Number of requests for financing approved
4. Total dollar amount of requests for financings approved
5. Total number of new master lease purchase program lease contracts processed
6. Total dollar amount of new master lease purchase program lease contracts processed
7. Average issuance cost per $1,000 of bonds issued
8. Average ongoing commercial paper cost
9. Total issuance cost incurred
10. Total dollar amount of issues
11. Percent value savings on refunded bonds
12. Number of financial transactions including debt service payments
13. Total number of master lease purchase program lease contracts managed
14. Total dollar amount of master lease purchase program lease contracts managed.[242]

The Texas Bond Review Board is responsible for the approval of all state debt issuances with an initial principal amount of $250,000 or a term of five years or more. This includes the state's Private Activity Bond Allocation. The board consists of five members including the Governor, the Lieutenant Governor, the State Comptroller, the Speaker of the House of the Texas House of Representatives, and the chief Bond Counsel.[243]

Texas Public Finance Authority Programs

TABLE 39: TEXAS PUBLIC FINANCE AUTHORITY PROGRAMS	
Incentive Program	**What it offers**
Bond Financing	Issues revenue bonds, general obligation bonds, and other forms of debt obligations for agencies and projects that have been authorized by the Texas Legislature.
Master Lease Purchase Program	Program available to state agencies, boards, commissions, and institutions to finance equipment and real property. ◆ Generally used to finance equipment but other projects, including real estate and construction, can be financed if the project has been authorized by the legislature. ◆ Project costs for equipment must be at least $10,000 and the equipment must have a useful life of at least three years. ◆ A lease for an amount of $250,000 or more or for a term of five years or more requires Bond Review Board approval ◆ Initial financing interest rate is 5 percent.
Texas Credit Enhancement Program for Charter Schools	A $10 million grant from the U.S. Department of Education is used to fund charter school facilities. The monies are used to establish reserve funds at charter schools that are issuing municipal bonds to finance the acquisition, construction repair, or renovation of their facilities. Refinancing of existing debt is also possible if it falls within federal guidelines. In order to be eligible for this programs, schools must meet the following eligibility criteria: ◆ Have an academic rating of acceptable or higher for two consecutive years; ◆ Demonstrate fiscal soundness as determined by a satisfactory rating under the Financial Integrity Rating System of Texas (FIRST) as adapted for charter schools; ◆ Other educational and organizational criteria specified in the application.

Source: Texas Public Finance Authority Website, 2016.

Summary

While Texas has a large and diversified economy, much of its success can be attributed to resource extraction and energy industries that prospered in the years previous to the 2015 oil price crash. This allowed the state to grow through the global recession and expand its state financial reserves while other states were forced to slash budgets. As a result, the state has been able to develop important and significant incentive programs that exceed those of almost every other state. The most effective incentive the state offers is the Texas Enterprise Fund, which has supported significant job creation and private capital investment for the state.

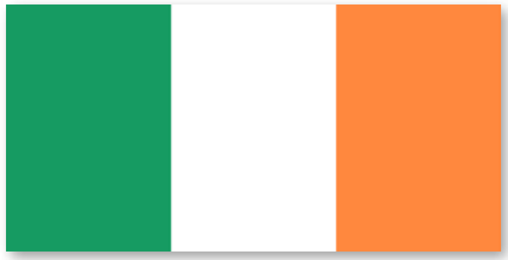
The state's economic development apparatus is truly a top down approach: the state's economic development office is within the Governor's Office and many decisions regarding project funding are reliant on support from the Governor and a select group of other elected officials. As a result, economic development in Texas could be considered highly politicized. With the highly political nature of the economic development process come questions of transparency and performance. As noted in the report, one popular state incentive program, the Texas Emerging Technology Fund, was abolished due to a perceived lack of transparency and because the effect of public dollars on funded projects could not be rationalized.[244]

In comparison to other states, Texas has a relatively weak entrepreneur focus. This may be attributable to the fact that local economic development corporations have the ability to enact local economic development taxes to support their activities, and in many cases throughout the U.S., the entrepreneurial focus primarily rests at the local level. According to the Texas Economic Development Bank's 2015 Annual Report, many of its programs, such as the Capital Access Program, the Industrial Revenue Bond Program, and other programs devoted to enhancing communities where the defense industry has outsized impacts, are underutilized.[245]

Texas, like Alaska, has developed an economy that is energy dependent and, as a result, the state will experience the deleterious effects of cyclical swings dependent upon commodity prices. However, Texas' economy is sufficiently diversified to withstand these cyclical swings, and the state government has used its resources accumulated through these revenues to attract companies from other value-added industries. In effect, Texas' economic development success is heavily reliant on its success at recruiting new businesses to the state rather than growing businesses through retention and expansion efforts.

SECTION 2: COMPARATIVE NATIONS' AND INTERNATIONAL DFIs

CANADA



IRELAND

SINGAPORE

IFC Asset Management Company

OPIC

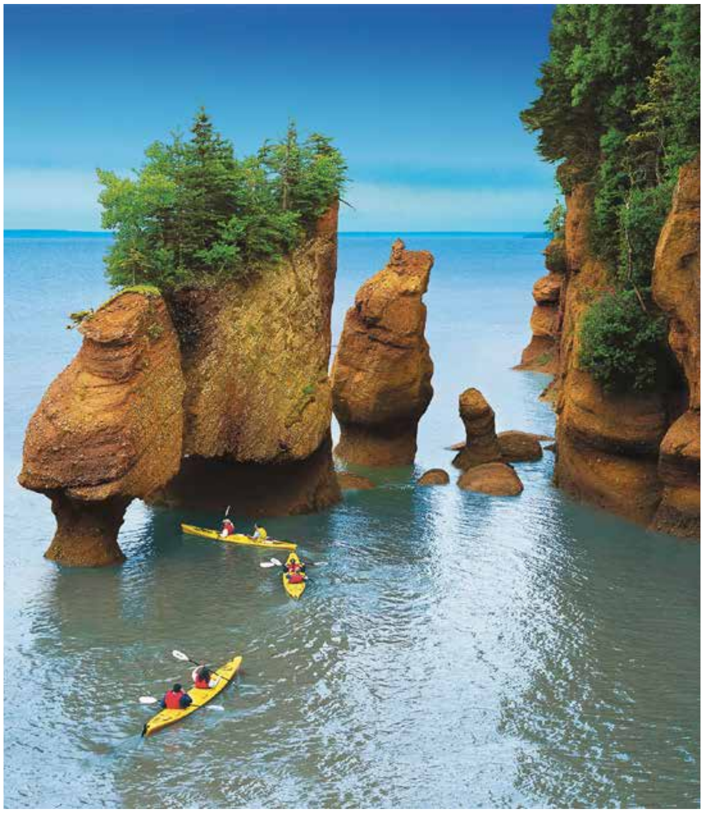
SECTION 2.1: CANADA

Named by the Reputation Institute as the world's most admired country in four of the last six years for its combination of quality of life, effective government, and advancement of the economy, Canada also is regarded as one of the most stable countries in the world.[246] With 3,855,103 square miles in its domain, Canada is the world's second largest nation.[247] Stretching across the North American hemisphere between the Atlantic and Pacific oceans, the country is bounded to the northwest by the State of Alaska, on its southern border by the continental U.S., and to the east by the Danish territory of Greenland and the French islands of Saint Pierre and Miquelon.[248] Canada is made up of a federation of 10 constitutionally created provinces and three federally created territories. The provinces are Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland, Labrador, Nova Scotia, Ontario, Prince Edward Island, Quebec and Saskatchewan. The territories include the Northwest Territories, Nunavut and the Yukon.[249] The country's capital is Ottawa, located in southern Ontario.

FIGURE 17: MAP OF CANADA

Source: Canadafacts.org, June 2016.

Despite its enormous size, Canada is sparsely populated relative to its massive land area. Its 35.7 million people reside primarily in the warmer southern reaches of the country. Its largest urban centers are Toronto, Montreal, Vancouver, Calgary, Edmonton and Quebec City.[250] Although English is the most widely spoken language, Canada hosts two official languages. The other, French, is spoken primarily in New Brunswick and in the southern Quebec Province.[251] A number of indigenous tongues also are spoken by a small percentage of the population.[252]



Canada has been hailed as a model nation for its economic stability, validated by a rapid recovery through the Great Recession of 2007-2009.[253] Although Canada experienced a deep dip in spending, employment and the value of its dollar during the recession, its relative economic strength, the regulatory stringency of its banking industry, its economic diversification, and an historically strong trading position that has only benefitted from the Canadian dollar's drop in value with the downturn all worked to return the country's economic indicators to stability within two years.[254] A similarly unique resiliency is evident in the aftermath of a 50 percent drop in the price of oil – one of Canada's main economic outputs and exports - during 2014 and 2015.[255] Business investments in the energy sector dropped sharply, with direct sector reductions in spending for equipment, services and labor, and indirect reductions in non-business consumer spending. The phenomenon placed significant downward pressure on the country's gross domestic product (GDP).[256] However, the resulting reduction in the value of the Canadian dollar over the same period led to an increased demand for the production of non-energy goods for export almost proportionate to the loss of energy-related trade, primarily from a U.S. market rebounding from the 2007 recession.[257] With an added assist from a strong real estate market, the economy seems to be back on track, even before oil prices began nudging back upward in late 2015.[258]

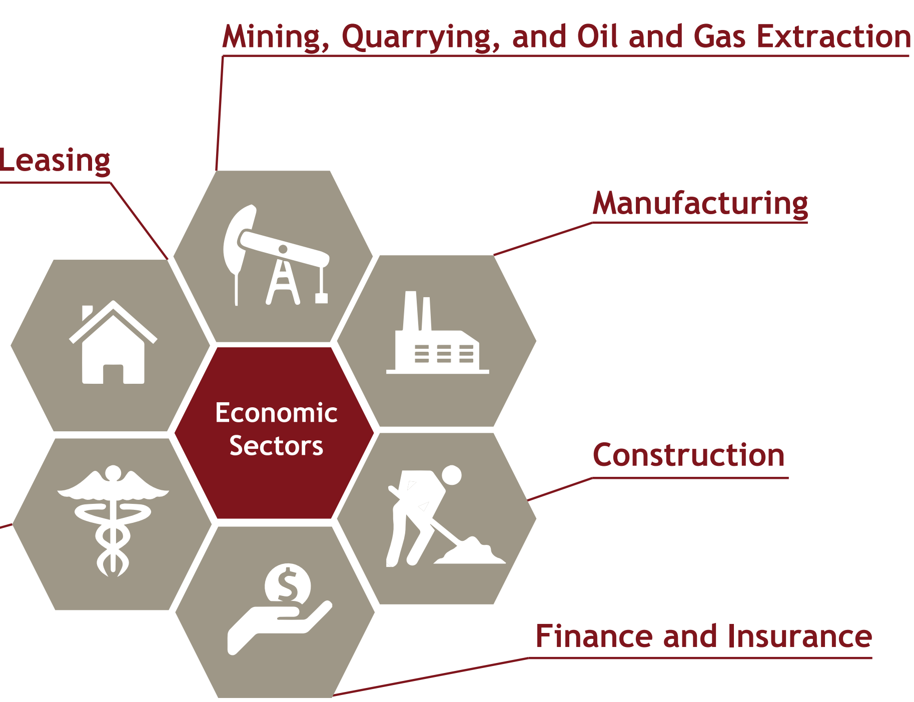
TABLE 40: SNAPSHOT OF CANADA'S GLOBAL RANKINGS		
Measure	Year	Index or Rank
Transparency International Corruption Perceptions index	2015	9 of 168[259]
Heritage Foundation Economic Freedom Index	2016	6 of 178[260]
World Bank's Doing Business Report: "Ease of Doing Business"	2016	14 of 189[261]
Global Innovation Index	2015	16 of 141[262]
World Bank GNI per capita	2014	USD $51,630[263]
IMD World Competitiveness Ranking	2015	7 of 60[264]

Canada's Economic Sectors

Canada's economy can be seen as bifurcated between a strong urban manufacturing sector primarily concentrated in Ontario and Quebec, and resource-based 'frontier' enterprises including oil and gas, forestry, fishing and agriculture.[265]

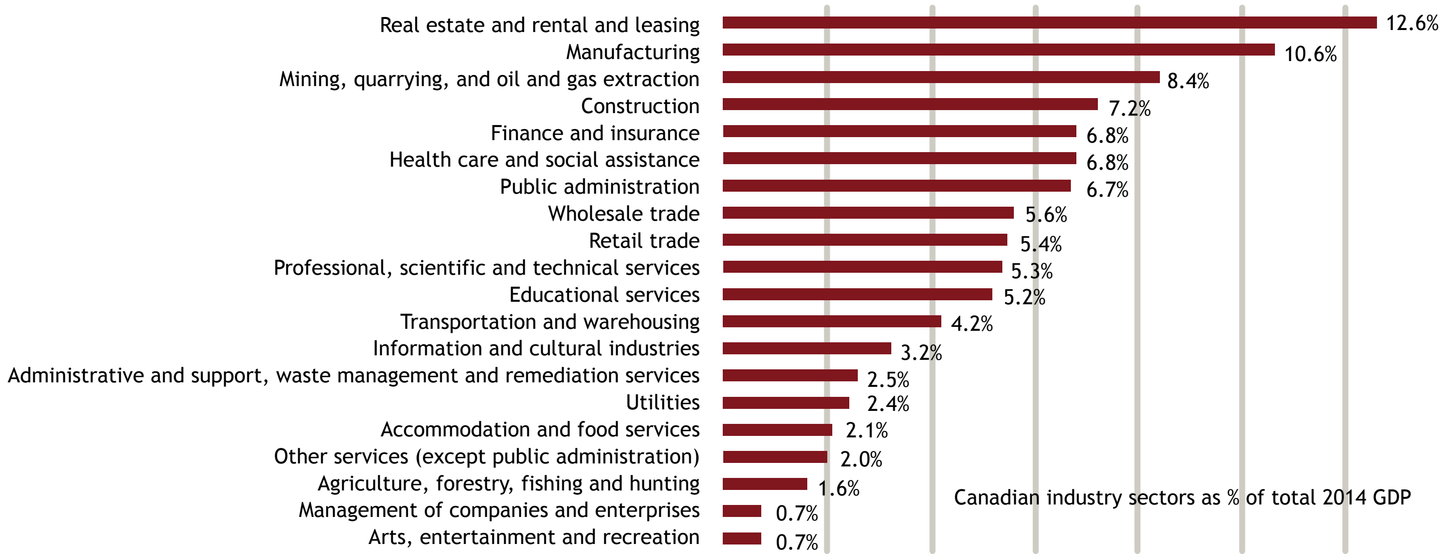
Based on data developed by Statistics Canada, Canada's overall economy is distributed across several economic sectors, demonstrating not only its economic diversity, but its resiliency as well.[266]

FIGURE 18: CANADA'S KEY ECONOMIC SECTORS



Source: Statistics Canada, June 2016.

FIGURE 19: CANADA'S ECONOMIC DIVERSITY - 2014



Source: Statistics Canada, June 2016.

Canada's Natural Resources, Agricultural and Forestry Sectors

Because Canada is an adjacent neighbor and a competitor in the natural resource, energy, agricultural and forestry sectors to the State of Alaska, a brief overview of these sectors provides an important basis for comparison.

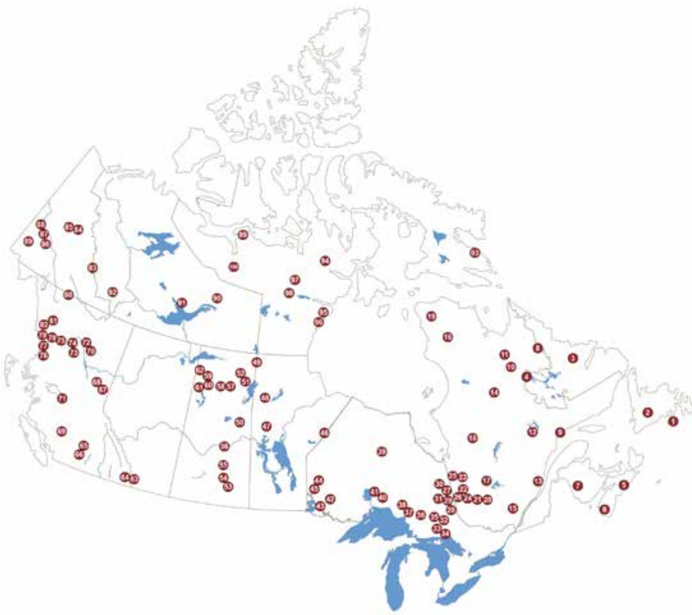
Natural Resources

For policy reasons, Canada combines what typically are considered individual economic sectors according to standard NAICS classifications. In Canada, the sectors of forestry, fishing, mineral solids extraction of ores and coal and related processing, extraction of liquid and gaseous minerals such as crude petroleum and natural gas, and all energy production and distribution are combined into a "Natural Resources" Sector, which also includes all processing, service and support industries in the value chain of those sectors.[267] In total, Canada's Natural Resources Sector (as defined in Canada) represented USD$245,830.91 billion in 2015 (in chained 2007 dollars),[268] and employed nearly 318,600 workers as of May 2016.[269]

Non-Fuel Mining of Minerals: Canada ranks 5th among the top five global producers of several mineral and metal commodities, exporting approximately 80 percent of production,[270] and ranks top in the world for foreign exploratory investment.[271] Canada is first in potash production; second in uranium and niobium; third in cobalt, aluminum, tungsten and platinum group metals; fourth in nickel, salt, sulphur and titanium, and fifth in diamonds, cadmium and gold.[272] Presently, there is a plethora of mineral exploration projects inside Canada.[273] The industry also encompasses mining, smelting, refining and semi-fabrication.[274] The industry accounted for 18.2 percent of the value of Canadian goods exports in 2014,[275] representing a USD$45.87 billion contribution to Canada's 2014 GDP, of which USD$18.89 billion is attributable to mineral extraction, and USD$25.98 billion to mineral processing and manufacturing.[276] The mining industry also contributes to the Canadian economy as a major employer, with 375,000 workers across the country in mineral extraction, smelting, fabrication and manufacturing, and another 68,000 jobs in the employ of mining supply operations.[277] As an employer of over 10,000 Aboriginals, this sector is the largest indigenous employer.[278] Additionally, the Natural Resources Sector pays the highest overall earnings of any of Canada's industrial sectors, with an average annual pay exceeding $100,000 – far exceeding by a range of $20,000 to $30,000 the annual wages earned by workers in forestry, manufacturing, finance and construction.[279] This sector additionally reinforces the over-all economy due to its capital-intensive nature, large investments in advanced technology and research and development, and its requirement for heavy equipment.[280]

Currently, Canada's Natural Resources Sector is in the midst of a corrective downturn caused by the global drop in commodities pricing after a decades-long upswing. Canada is believed to have over USD$110.2 billion in potential mineral project investments over the next decade, depending on economic factors. While Canada cannot control global commodity prices, the industry currently is focused on optimizing investment competitiveness, reviewing its regulatory obligations, encouraging infrastructure

FIGURE 20: CANADA'S TOP 100 EXPLORATION PROJECTS



Source: Government of Canada Natural Resources Guide 2015-16.

development within promising regions, and developing training and skills-development programming both to build the workforce, and to prepare to replace retired workers.[281]

Energy: Canada groups all of the following industries into the Energy Sector: oil and gas extraction; coal mining; uranium mining; support activities for oil and gas extraction; electric power generation; transmission and distribution; pipeline transportation; natural gas distribution; biofuels production, and petroleum refineries, renewable and nuclear electricity generation, biofuel production and carbon capture.[282]

In 2006, then-prime minister Stephen Harper announced Canada's intention to become an "energy superpower," stating that the development of the oil sands was "akin to the building of the pyramids or China's Great Wall," and reminding his audience that Canada was the only non-OPEC country with growing oil deliverability.[283] Canada is believed to have 10 percent of the world's known oil reserves - 1,656 billion barrels as of 2014, 97 percent of which is in the oil sands.[284] Since the gasoline shortage of 1976, the U.S. has been pushing to become independent from OPEC producers. Coupled with a growing demand for energy in China, domestic and foreign investments into exploration in Canada have been increasing. Today, Canada is the world's second largest exporter of electricity and uranium, third largest crude oil exporter, fourth for natural gas, and eighth for coal.[285]

The impact of this sector on Canada's economy is enormous. Oil and gas extraction leads this sector, creating USD$1.06 million in value per job created per year, with the petroleum products refining sector per job value roughly one-third that amount.[286] Overall, the sector's per job value ranges between five and 15 times higher than the national average for other sectors.[287]

As of 2015, the U.S. absorbs roughly 80 percent of Canada's USD$146 billion energy exports, including 76 percent of total crude oil production, 52 percent of Canada's natural gas production, and 10 percent of Canada's electricity production. The oil and gas exports alone represent USD$107.85 billion.[288] The sector also feeds into Canada's federal, provincial and territorial government coffers by way of crown royalties paid as a share of value of extracted oil and gas, and fees and profits from land leases and sales for resource rights.[289] In the years between 2009 and 2013, the total revenue flowing to the government was upward of USD$17 billion.[290]

TABLE 41: CANADA'S ENERGY POSITION IN THE WORLD 2014

Resource	Proved reserve/ capacity	Production	Exports
Crude oil	3rd	5th	3rd
Natural gas	18th	4th	4th
Coal	15th	12th	8th
Uranium	4th	2nd	2nd
Electricity	7th	6th	2nd
Renewable energy	-	7th	-
Hydroelectricity	4th	2nd	-
Wind	7th	-	-
Biofuels	-	5th	-

Note: Rankings relate to proved reserves for oil, natural gas, coal and uranium. Other resource rankings relate to capacity.
Source: Government of Canada, Natural Resource Factbook 2015-2016.

The oil and gas industry also generates significant related capital investment. In 2013, the most recent year for which data is available, oil and gas investment totals accounted for USD$64.95 billion, or 31 percent, of all non-residential energy-related machinery and equipment investments, which totaled USD$85.3 billion. Nearly USD$5 billion was spent by oil and gas interests on exploration in 2013.[291] Additionally, oil and gas tendered the largest tax and crown royalty share from the energy sector, averaging approximately USD$16 billion over the five years prior to 2015.[292] Canada also enjoys significant foreign direct investment (FDI) into this sector, with over 25 percent FDI in its energy sector in 2012, while 213 Canadian-based companies also operated abroad.[293]

Agriculture, Forestry, Fishing and Hunting

Canada's agricultural economy is comprised of crops, animal husbandry, timber harvesting, and related support activities.[294] Canada's agriculture also supports a supply and distribution chain encompassing primary producers, food and beverage processors, food wholesalers, retailers, and distribution warehousing and transportation, as well as foodservice providers.[295] The sector generated USD$82.55 billion in 2014 (most recent data available), or nearly seven percent of Canada's total GDP. The sector also provided one in eight jobs in 2014, employing more than 2.3 million people, with the foodservices industry the sector's leading employer, accounting for nearly six percent of all Canadian jobs.[296]

Approximately 58 percent of Canada's agricultural products are exported, with the U.S. consuming just over half of those exports. In 2014 Canada was the fifth-largest agriculture and agri-food exporter, after the European Union, the United States, Brazil and China, for total agricultural products exports that account for 3.6 percent of worldwide totals. The dollar value of those exports in 2014 was USD$39.33 billion.[297] Canada's agricultural and agri-business imports for the same year were approximately USD$30 billion, giving Canada a sector trade surplus of USD$9.3 billion.[298]

The forest sector is a key contributor to the Canadian economy. With revenues of USD$43 billion, its share of Canada's GDP is 1.25 percent.[299] The forest industry has directly created 232,700 jobs,[300] and another 289,000 people work in supporting sectors,[301] including engineering, transportation, and construction. Forestry added USD$21.2 billion to Canada's GDP in 2014 (latest available data),[302] paying salaries 19 percent higher than other sectors.[303] Canada produces over a third of the world's softwood kraft pulp. At 12 percent of the world's newsprint, Canada is the world's largest single producer, and lumber makes up 20 percent of Canada's forest products.[304] Canada enjoys the largest forest products trade balance globally,[305] with its processed forest-based products accounting for almost six percent, or nearly USD$24 billion, of all exports in 2014.[306] The U.S. is the largest single importer of Canadian products. Since 2008, forest products have contributed between 8 and 10 percent of the manufacturing sector's GDP.[307]

Over the past decade, the forestry industry economy has been tied to the vagaries in both the Canadian and U.S. construction markets, to China's buying capacity, to forest insects and disease, to trends away from newsprint and similar paper products, and to the ravages of forest fires. The U.S. demand for lumber slowed somewhat through the economic crisis beginning in 2007,[308] but began its rise again in 2015,[309] although the Canadian construction sector remained strong. Simultaneously, the industry was forced to prematurely salvage timber from trees ravaged by a widespread pine beetle infestation, predicted to reach 752 million cubic meters (58 percent) of all merchantable pine when the infestation runs its course in 2017. Much of the glut has been absorbed by the Chinese, which utilized its large economic stimulus package to purchase forest products and other natural resources.[310] The demand for newsprint and related paper products is expected to decline between 52 and 62 percent between 2006 and 2030, but simultaneously, utilization of paper packaging is predicted to help maintain a slowly rising product demand.[311]

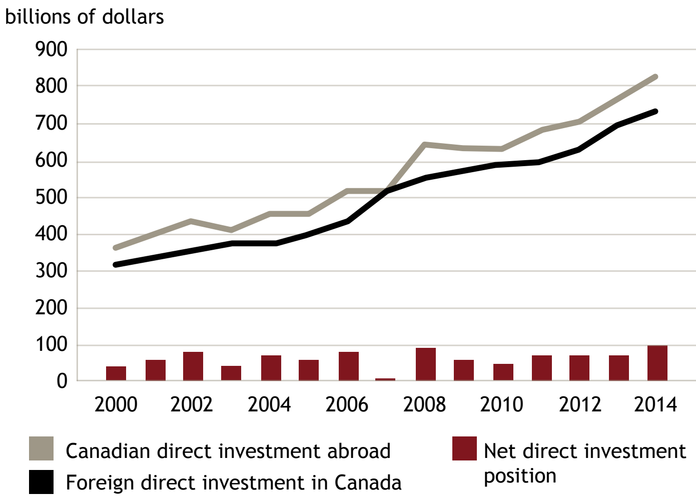
Canada's fishing and fishery industries include commercial sea and freshwater fisheries, aquaculture production, and seafood product preparation and packaging.[312] Though a relatively small contributor to Canada's total GDP at about one percent, the sector is an important employer – often the only employer – in some of Canada's small coastal communities.[313] In 2015, approximately 76,000 individuals made their living from fishing and related jobs.[314] There are about five times as many fishing and fishery operations on the Atlantic coast as on the Pacific.[315] Additionally, as of the last available data (2010), Canada hosts approximately 3.3 million recreational "anglers" annually, who spend nearly USD$2 million to fish.[316]

Foreign Direct Investment in Canada

Canada's economy benefits enormously from foreign direct investment (FDI), both inbound and outbound. As of 2013, 45.3 percent of all manufacturing and retail jobs in Canada were under foreign control,[317] and FDI accounted for 1.9 million jobs across all sectors.[318] Aggregate country FDI trends show continued expansion in Canadian investments in 2013 (8.7 percent increase), 2014 (4.5 percent increase) and 2015 (6.8 percent increase), despite oil price drops.[319] In 2015, total FDI from all countries

was just over USD$599,288 billion.[320]

FIGURE 21: FDI TRENDS IN CANADA



Source: Government of Canada 2015.

Canada's export programs and policies have created a thriving relationship with its largest trading partner, the United States.[321] Canada's market share of 2014 U.S. export goods was USD$312 billion, an expansion of four percent since 2013. Simultaneously, the United States is Canada's largest export market, at USD$348 billion, representing 77 percent of all Canadian exports in 2014. In 2013, Canada ranked third in the world in FDI to the United States, while the U.S. is Canada's largest FDI contributor. This mutually beneficial dynamic also is advantaged by an integrated supply chain, technology development collaboration, and Beyond the Border and the Regulatory Cooperation Council, which are initiatives that streamline border crossings for both people and goods and help reduce trading costs, respectively. These programs facilitate tourists and highly skilled talent from both countries across the border for mutual benefit.[322]

After the U.S., the other top FDI investors in Canada's economy in 2015 include the Netherlands at USD$53.39 billion; Luxembourg atUSD$41.35 billion; the United Kingdom at USD$37.26 billion; Switzerland at USD$21.37 billion; China at USD$19.37 billion; Brazil at USD$15.35 billion; Japan at USD$13.5 billion; Germany at USD$10.72 billion, and France with USD$9.03 billion.[323]

Canadian Provinces and Territories Competitive to Alaska

FIGURE 22: CANADA'S PROVINCES AND TERRITORIES

Source: Government of Canada Website, June, 2016.

For purposes of this report, six Canadian provinces and territories have been selected for a more in-depth analysis. These six provinces and territories more closely approximate the State of Alaska's geographical composition, economic base and population characteristics. They also serve as competitors in several key economic sectors, including natural resources, energy, agriculture, forestry and tourism.

Alberta Province: Alberta traverses 255,200 square miles along the Canada-U.S. border, and represents seven percent of Canada's land mass.[324] The province is heavily forested, and also contains some of the most promising oil fields, with the third-largest proven crude oil reserve in the world after Saudi Arabia and Venezuela.[325] Additionally, Alberta has a strong economic presence in other sectors, including Aerospace and Defense; Agri-food; Building Products, Engineering and Construction; Environmental Products and Services; Financial Services; Industrial Manufacturing; Information and Technology; Life Sciences; Refining and Petrochemicals; Tourism, and Logistics and Market Access.[326] With a total of 4.2 million residents, Alberta's two largest cities are Edmonton and Calgary. Edmonton is home to 878,000 people as of 2015. Calgary, corporate headquarters to many Canadian oil and other companies, has a population of 1.2 million as of 2015.[327]

Although Alberta has led the provinces in economic growth for two decades with an average 3.2 percent growth, Alberta's economy is currently experiencing a strong contraction due to dropping oil prices as of mid-2014.[328] Alberta's 2015 GDP of USD$294.7 billion represents a four percent drop over 2014. As of May 2016, Alberta's economy supported 2.5 million jobs, down 2.3 percent from the prior year.[329] The downturn has prompted Alberta officials to take steps to diversify the province's economy, including creation of royalty credits for construction of several petrochemical facilities that use methane or propane to produce the materials for products that include plastics, detergents and textiles.[330]

In 2010, the Alberta government passed the Alberta Competitiveness Act[331] and formed the Alberta Competitiveness Council, in a bid to enhance partnerships between government, industry and business. The Council benchmarks Alberta's economic performance and competitiveness relative to its competitor peers.[332] In 2013, the Alberta Competitiveness Council was integrated into the Alberta Economic Development Authority [AEDA] by legislative act.[333]

Alberta's economic development efforts are collaboratively managed by the Alberta Economic Development and Trade (AEDT), Community Futures Alberta (CFA), Alberta's Industrial Heartland (AIH), the Central Alberta Economic Partnership (CAEP), and a host of small regional and municipal economic development offices. AEDT is focused on programs to foster and support small and medium size enterprises, to promote competitiveness through the stimulation of science and innovation, and to attract investment and facilitate import/export trade.[334] This summer, it released a brief on economic development opportunities in Alberta developed collaboratively by Alberta economic developers. The brief commits to supporting the following three goals:

- Supporting the development of locally-owned business, social enterprises, and cooperatives;
- Supporting the creation of community-owned renewable energy projects;
- Enabling and promoting local investing opportunities.[335]

Community Futures Alberta provides funding and business consultation services to small rural businesses through 27 offices across the province.[336] AIH is a consortium of municipalities working collaboratively to attract and support industry within Alberta.[337] The CAEP is working according to its 2016-2019 strategic plan on four primary goals:

- Building influential relationships and collaborations;
- Facilitating knowledge-sharing and resource development;
- Capacity building assistance;
- Maximizing regional assets and interests.

Yukon Territory: Yukon, the west-most Canadian territory bordering Alaska, represents 4.8 percent of Canada's land mass, at 183,000 square miles[338] and is Canada's smallest territory. Today, Yukon's sub-arctic climate is home to 37,566 residents as of December 2015,[339] of which 28,500 (77 percent) live in Whitehorse, the Territory's only city. The rest reside in fifteen communities across the Territory ranging from under 50 to just over 2,000 population.[340] Part of Yukon's population is an indigenous or "First People" population descended from the Dene or Athabaskan language speakers who migrated across the Bering Strait toward the end of the first Ice Age.[341]

Yukon's primary economic sectors are mining, oil and gas, tourism, construction and retail.[342] These industries provided approximately 19,400 jobs as of December of 2015.[343] The territory has a small economy that can be dramatically influenced by external factors. Since 2013, Yukon's economy has contracted as a result of the impact of global ore, gas and oil prices.[344] Yukon's GDP for 2015 was USD$1.67 billion, which represents a 3.8 percent decline from 2014 and the third year of contraction. The labor market also shows some decline, with 2015 unemployment up two percent over 2014, at 6.3 percent.[345]

Yukon's GDP experienced a significant decrease of 3.8 percent in 2015 after a smaller, 0.8 percent reduction in 2014. Sector performance was mixed. Goods-producing industries declined by 21 percent, while low metal ore prices and the shutdown of a mine resulted in a decrease of gold, silver, copper, nickel, lead and zinc ore mining production. Support activities, including engineering and exploration and infrastructure-related construction, also decreased. However, public spending on infrastructure and health care, and private spending on residential construction increased. Service industries, including retail; professional, scientific and technical services; government administration and education increased.[346]

Yukon placed 9th globally in 2014 for the most attractive mining investment environment.[347] Primary mining products are gold (placer), quartz and coal;[348] lead, zinc, silver, tungsten, iron, molybdenum, nickel, and copper are also present.[349] The mining sector, representing 22 percent of Yukon's GDP, reacted to the decline in mineral prices since 2013. Weak mine prices are predicted to reduce 2016 capital financing for exploration to USD$56.3 million, down by a third from 2015 dollars. That, plus reduced spending in the sector and two mine closings since 2013[350] has been the primary cause of Yukon's economic slowdown.[351] Although global mineral prices are expected to remain depressed, the reopening of Yukon's Minto Mine is expected to boost production somewhat, along with modest gains in jobs and revenues in 2016.[352] Additionally, to prepare Yukon's mining sector for the future, the Yukon government has developed a 2016 Mineral Development Strategy to maintain Yukon's competitiveness.[353] Direct support for prospectors is provided by allowing credit for double the value of their claim, and also by making available a large fund (USD$1.07 million) for exploration dollars. Exploratory dollars have supported 51 miners during 2014-2015, and is leveraging an estimated USD$1.6

million in industry investment.[354] Yukon has also instituted a Mine Licensing Improvement Initiative, to reduce overlap and duplication in mine licensing.[355]

Yukon's oil and gas reserves are significant, and include an estimated 14.77 trillion cubic feet of natural gas, 663 million barrels of conventional oil and an additional estimated 40 trillion cubic feet of natural gas offshore in the Beaufort Sea. Additional resources are also believed to exist but have yet to be appraised.[356]The development of hydrocarbon resources depend in part on recent discussions about the environmentally controversial process of hydraulic fracturing, and to that end, a Select Committee Regarding the Risks and Benefits of Hydraulic Fracturing was created, and released 21 recommendations for next steps.[357]

Tourism in Yukon taps the food and accommodations, retail and transportation sectors, and has contributed a stabilizing effect during the territory's recent economic downturn.[358] A 2015 Yukon Business Survey attributes USD$174.13 million of gross business revenue in 2014 to tourism, which would represent an estimated USD$73.60 million of GDP attributable to this economic activity, or almost four percent of Yukon's total GDP in 2014.[359]

The Construction Sector has experienced vagaries as well, up 65 percent in 2014 over 2013 to USD$100.2 million, only to drop by approximately 10 percent to USD$90.33 million in 2015.[360] This decline encompasses both residential and non-residential permits, reflects the impact of other sectors' decline, and is expected to mirror those sectors in the future.

Due in part to the lower value of Canadian dollar, retail trade has been a bright spot for the Yukon economy, with sales in 2015 rising 4.3 percent in 2015 to USD$531.21 million. Food, health and personal care supplies and gasoline are responsible for about half the sales revenues. Motor vehicles and parts, electronics and appliances, building materials, clothing, sporting goods, books and music and general merchandise provide the remainder.[361] Sales are predicted to continue their modest rise through 2017.

Additionally, Yukon has small but important operations in the following sectors: agriculture, film and sound, fishing, forestry, and hunting and trapping.[362]

Economic development in Yukon is managed by the Yukon government Department of Economic Development, based on a three-pronged strategic plan for 2012-2017 to diversify its economy through new investment, grow Yukon's economy through strategic collaborations, and to build the territory's strategic economic advantage through research, innovation and the development of enabling infrastructure.[363] The department offers the following programs:

- Business Incentive Program
- Community Development Fund (CDF)
- Enterprise Trade Fund
- Film Development Fund
- Film Production Fund
- Film Training Initiative
- Filmmakers Fund
- Regional Economic Development Fund
- Strategic Industries Development Fund
- Yukon Film Incentive Program
- Yukon Small Business Investment Tax Credit
- Yukon Sound Recording Program[364]
- Yukon Venture Loan Guarantee Program

Northwest Territories

Canada's Northwest Territories (NWT) encompass just under 735,135 miles of Canada's northwestern reaches, or 13.5 percent of Canada's land mass,[365] bordered by Yukon and Nunavut to the west and east respectively, and sitting north of British Columbia, Alberta and Saskatchewan.[366] Despite its enormous size, NWT is home to only about 44,000 people, about half of whom are First Nation and speak nine official native languages in addition to English and French.[367] The NWT landscape is divided into three geographical[368] regions: the Arctic Archipelago, the Arctic Mainland and the MacKenzie Valley area. The 94 islands of the Arctic Archipelago endure long days of summer and short or non-existent light during winter, permafrost and a severely cold climate. The Arctic Mainland is a soil poor tundra with a myriad of lakes. The MacKenzie area has a more variable climate and contains the boreal forest area.[369] Yellowknife, with just under half the territory's population, is the NWT's largest urban center, and its capital.[370]

Primary economic sectors in the NWT include mining, oil and gas, construction, transportation and tourism. Ores mined include diamond, tungsten, cobalt, silver, bismuth, nickel, zinc and gold. Oil and gas exploration has increased in the Central Mackenzie region, and six trillion cubic feet of gas reserves and nearly seven billion barrels of oil have been discovered. The construction industry has grown as a result of mining development and exploratory work, as has the transportation industry. NWT's tourism industry is year-round, with several distinct markets within the territory and activities as varied as hunting and fishing, to viewing the aurora, to visiting Aboriginal cultures.[371]

The NWT 2015 GDP was USD$2.96 billion. Although up 2.4 percent in 2015, its growth is slowing, as 2014 figures were up 5.9 percent over 2013. The largest single contributor was defense and public administration at USD$444.32 million, followed by diamond mining, at USS$434.5 million, construction at USD$431.69 million, and real estate and finance, which together account for USD$323.75 million.[372] Residential construction rose 11 percent, primarily due to public housing projects. However, non-residential building construction, diamond mine production and other metal ore mining declined significantly due to a temporary mine closure. Unlike other areas, oil and gas extraction increased 1.1 percent in the NWT, and federal public administration and defense, and local, municipal, regional and aboriginal public administration grew as well.[373]

Economic development activities in NWT are overseen by the Industry, Tourism and Investment (ITI) department of the Government of the Northwest Territories.[374] ITI operates several business and economic development programs, including its Business Incentive Policy (BIP), which gives government procurement preference to NWT businesses, and a plethora of policies designed to promote diversity and to assist enterprises in the areas of agribusiness, tourism, fisheries, the diamond industry, mining exploration, the fur trade, the film industry, manufacturing, traditional craft and micro-business, among others.[375] ITI's Community Economic Development Seed fund makes up to $25,000 available annually for planning, capital assets, investment and development, and promotion and project management.[376] NWT economic development officers can assist with business development or expansion, network enterprises to sector specialists, provide mentoring, facilitate funding and management or other necessary training, access information and marketing data, and assist businesses in opening up new opportunities across economic sectors.[377]

The Northwest Territory's government strives to ensure a sustainable economy by supporting the creation of a diverse economy, and provides programs, services, and training opportunities to business.[378] Recent funding commitments to the NWT include infrastructure investments such as the Inuvik-Tuktoyaktuk Highway; the Mackenzie Fiber Optic Link; hydro initiatives; support for the Mackenzie Gas Pipeline project, working toward an environmentally and economically sustainable mining strategy, and support for the First Nations' traditional economy.[379]

Nunavut Territory: Nunavut spans 770,000 thousand square miles, features two-thirds of all of Canada's coastline, and represents 20 percent of Canada's landmass. Despite its enormous size, Nunavut is home to only 37,315 (April 2016) residents, the vast majority of whom are Inuit.[380] Of these, 13,600 are employed; and the territory's unemployment rate is 14.5 percent.[381]

Nunavut's economic base is comprised of mining, fisheries, arts and culture, and tourism. Nunavut's real GDP in 2015 (in chained 2007 dollars) is USD$1.56 billion, up 3.2 percent from 2014. Defense and public administration contributed the most to that total, at USD$289.26 million, followed by mining at USD$259.77 million, and construction at USD$200.95 million. USD $43.1 million is attributable to the wholesale and retail trade, and another USD$26.1 million is attributable to agriculture, forestry, fishing, hunting, arts, culture and tourism combined. Miscellaneous manufacturing in Nunavut's economy accounts for USD$5.85 million.[382]

Nunavut's economic development is led by the Nunavut Economic Developer's Association (NEDA), which provides advocacy for Nunavut, networking, funding, planning, training, fostering collaboration, and facilitates funding through regional lending partners that primarily assist small businesses in the region through assorted funding instruments for startup, inventory, and capital, along with consulting services for planning, networking for technical assistance, and measurement. Partners include Atuqtuarvik Corp., the Baffin Business Development Corporation (BBDC), the Nunavut Business Credit Corporation, and the Kitikmeot Community Futures Incorporated (KCFI). Other economic development organizations include the Nunavut Department of Economic Development & Transportation, which oversees transportation infrastructure programs linking Nunavut communities to each other and to greater Canada; Indian and Northern Affairs Canada (INAC), providing community development and business investment funding through the Northern Affairs Program Organization; the Kakivak Association, which offers business training to the Inuit on start-ups, management and business expansion, and ancillary support services, such as child care. The Kitikmeot Economic Development Commission (KEDC) serves the Kitikmeot region of Nunavut through several programs. Kivalliq Partners in Development (KPID) serves the Kivalliq region of Nunavut.[383]

British Columbia Province: British Columbia (BC) bounds Canada's western border, abutting both the Alaska Panhandle and the Pacific Ocean to the west, the Yukon and Northwest Territories to the north, the U.S.'s northwestern border to the south, and the province of Alberta to the east.[384] At 364,764 square miles, British Columbia represents 9.5 percent of Canada's land mass.[385] BC ranks as the third most populated province, home to 4.5 million residents, most of who reside in Vancouver (2.3 million) and Victoria (368,000). More than 2.6 million residents are employed; the province's unemployment rate is 6.1 percent.

British Columbia's primary economic sectors include forestry, mining, agriculture, fishing, hunting and trapping, as well as construction, manufacturing, film and television, tourism and high technology. BC's GDP in 2015 was USD$160.89 billion, with the largest share attributable to real estate and leasing at USD$29.5 billion, followed by USD$17.1 billion for wholesale and retail trade combined. Construction (residential and non-residential) follows at USD$13.2 billion; durable and nondurable manufacturing at

USD$11.5 billion; the energy sector at USD$9.25 billion; finance and insurance at USD$9.45 billion; mining and oil and gas at USD$8.7 billion, and transportation and warehousing at USD$8.93 billion. Tourism, the arts and culture contribute USD$6.1 billion, while agriculture, forestry, fishing, hunting contribute USD$3.2 billion to British Columbia's GPD. British Columbia's overall GDP rose 3.0 percent in 2015, following growth of 2.9 percent in 2014. Tourism, service industries, goods-production and export, retail trade and real estate all increased in 2015. Conversely, most but not all mining, quarrying and oil and gas extraction activities declined, along with export demand and the need for support services including engineering construction. Extraction and quarrying activity for natural gas and select minerals, including copper, nickel, lead and zinc mining remained strong.[386]

Despite the recent recession, British Columbia's economy fared better than anticipated, expanding 2.6 percent in 2015, and based on a forecast by the Business Council of British Columbia, is expected to continue to grow at a similar pace in 2016. The main factor in BC's relative economic success is the diversification of its economy. While oil and gas prices have taken a big toll on the province's economy, other sectors have shown strength, including such technology sectors as publishing and computer systems design; environmental services and waste management; aquaculture, and training and education.[387]

Economic development in British Columbia is a collaborative effort of three organizations: the Union of British Columbia Municipalities (UBCM), the Ministry of Jobs, Tourism and Skills Training (MJTST) and the BC Economic Development Association (BCEDA).[388] A recent survey of British Columbia communities identified partnerships, strong leadership and a growing awareness of economic development factors as economic development strengths, only two thirds of respondents say their communities use performance measurement strategies to track their ED activities.[389]

Several programs for attracting and sustaining BC businesses are in place. UBCM funnels federal funding to its member communities, such as gas tax and community infrastructure funding.[390] Through BCEDA programs include:

- Rural Dividend Program funded with $75 million over three years to help small communities diversify their economies.
- Forest products marketing assistance, particularly to India.
- Rural tourism maintenance includes funds for historic site maintenance and tourist accommodations within municipalities.
- Agricultural Land Commission funding supports regional agricultural assistance.
- Aerospace investment partners the government with the Aerospace Industries Association of Canada by continuing to fund mutually beneficial activities.
- Funding for the International Maritime Centre to support the attraction of shipping and related companies to Vancouver.
- A large scale economic commitment to support the music industry.
- Small Business Venture Capital Tax Credit funding.
- Farmers' Food Donation Tax Credit.
- Mining Flow-Through Share Tax Credit and a Mining Exploration Tax Credit extended for three years.[391]

The MJTST makes available to business many consulting and training options[392] and also offers funding in limited areas, including low cost loans, facilities capital, and First Nation infrastructure financing through the Aboriginal Business and Investment Council (ABIC);[393] cost-sharing funds for employee training and retraining through Canada BC Job Grants,[394] and programs to help business address an imbalance between labor needs and available labor through the Sector Labor Market Partnerships Program.[395]

Saskatchewan Province: Saskatchewan, with 228,445 square miles and representing 6.5 percent of Canada's land area, is landlocked, bordered by the U.S. to the south, the Northwest Territories to the north, and Manitoba and Alberta to the east and west.[396] Home to 1,033,381 people, fourteen communities have 5,000 or more residents, the largest being Saskatoon and Regina, with populations of 222,189 and 193,100 respectively.[397]

Saskatchewan's last published GDP figures are for 2014, when the province posted USD$45.6 billion (2007 chained dollars) in 2014. This represented an increase of 1.6 percent in real GDP compared to 2013.[398] Statistics Canada has published a 1.4 percentage decline in Saskatchewan's GDP for 2015, or USD$44.95 billion.[399] As of May of 2016, 568,900 residents were employed, and unemployment stood at 6 percent, an improvement over the prior year (6.3 percent).[400]

The decline in Saskatchewan's GDP primarily reflects the decline in oil and gas production. Engineering and residential construction fell 19 percent, along with support services for oil and gas industries. Mining and quarrying, however, increased 13 percent, particularly for potash and uranium mining. Drought conditions created mixed results in agribusiness, with a small percentage increase in crop growth, but a loss in animal production. Manufacturing for the declining sectors was down, but was offset by demand for refined petroleum, food and wood products. Lower economic activity contributed to decreases in wholesale and retail trade and truck transportation.[401]

The Saskatchewan government, in its Plan for Growth, 2020 and Beyond,[402] and its Ministry of Economy's Plan for 2015-2016[403] identified six core growth activities to foster economic growth:

- Investing in the infrastructure required for growth;
- Educating, training and developing a skilled workforce;
- Ensuring the ongoing competitiveness of Saskatchewan's economy;

- Supporting increased trade, investment and exports through international engagement;
- Advancing Saskatchewan's natural resource strengths through innovation;
- Ensuring fiscal responsibility through balanced budgets, lower debt and smaller, more effective government.

The Government of Saskatchewan partners with the Saskatchewan Economic Development Association (SEDA), the Saskatchewan First Nations Economic Development Network (SFNEDN), and twenty-eight regional economic development authorities.[404] Saskatchewan has identified the following sectors with potential for economic growth:

- Agriculture: Saskatchewan is Canada's primary agricultural producer of grains, meat, dairy and food products utilizing those products, and supports an important agri-biotechnology sector.[405]
- Energy: Saskatchewan produces crude oil, natural gas, uranium, biofuels, geothermal, wind and hydro power, and is the second largest oil producer in Canada and an important supplier to the U.S. Saskatchewan's reserves are estimated at nearly 1.1 billion barrels, and the state has 14,291 miles of pipeline, capacity to refine and upgrade the crude, and readily available support industries.[406]
- Forestry: Over half of Saskatchewan is forest, and forestry is the province's second largest industry. Saskatchewan's Commercial Forest Zone contains approximately 30 million acres, of which over 13 million acres are currently productive. Ten large and 100 smaller manufacturing facilities employ over 4,000 people directly, and produce lumber, pulp and panels, and a variety of other forest products. Forestry averages over USD$768.8 million in forest product sales annually, and over USD$615 million in exports.[407]
- Life Sciences and Biomass: Saskatchewan has worked to become a globally recognized agricultural biotechnology research center, with advanced bioprocessing facilities. Fifty-seven life sciences enterprises focus on agriculture, food science and processing technology, botany, medicine, animal science, and bio-based products from green chemicals to biomass energy production, from R&D to commercialization.[408]
- Manufacturing: Saskatchewan's manufacturing enterprises are distributed across the province, with two-thirds located outside major metropolitan areas contributing to rural economies. Products include machinery, transportation and industrial equipment; food, crop and beverage processing; wood products, and chemical manufacturing. Emerging clusters include aerospace and defense, automotive accessories, and electronics and instrumentation.[409]
- Minerals: Saskatchewan is the world's leading supplier of potash and the second-largest supplier of uranium. Gold, coal, salt, silica sands, kaolin, sodium, potassium sulphate, and clays. Diamond exploration also is underway. The value of Saskatchewan's mineral production in 2015 totaled approximately USD$6.3 billion.[410]

Canada's Public Sector Economic Development Landscape

In 2007, the Government of Canada set out a comprehensive, multi-year strategy for leveraging a strong financial sector, flexible work force and track record of research to boost economic development in the areas of science and technology.[411] The strategy included creating incentives and support for private investment in the science and technology sectors, supporting excellence in research, and recruiting world class talent.[412] Policies toward these goals included plans to institute a tax structure lower than any other G7 nation, while creating regulations and market conditions that foster a positive business response to environmental challenges through innovation. Canada also increased R&D assistance programs, with a focus on supporting commercialized outcomes.[413] To enhance recruiting, Canada pledged to reduce personal income, and to adjust immigration and foreign temporary worker rules to facilitate the availability of highly skilled workers for the business sector.[414] The government also committed to facilitating important partnerships between the federal government and the provinces, between the education and business communities, and between researchers in Canada and those around the world.[415]

Today, Canada ranks second in business competitiveness, and has a 14.6 percent lower cost of doing business than the U.S.,[416] making it an attractive candidate for FDI. Using the U.S. as the benchmark, this competitiveness ranking reflects a 26 percent discount in corporate services costs, a 27.7 percent discount in research and development costs (R&D), and a 10 percent discount in manufacturing costs.[417] Canada also benefits from meaningful salary, lease, and utility cost differentials[418] and an exceptionally favorable Canadian business tax burden, at 46.6 percent lower than the U.S.[419]

Economic Development Organizations in Canada

Within Canada there are twelve government agencies that have a direct role in the nation's economic development and development finance. These have distinctly different missions but are coordinated by the Ministry Innovation, Science and Economic Development.[420] Chief among these agencies are:

- The Atlantic Canada Opportunities Agency
- Business Development Bank of Canada
- Canada Economic Development for Quebec Regions
- CanNor (Canadian Northern Economic Development Agency)
- Canadian Space Agency
- FedDev Ontario (Federal Economic Development Agency for Southern Ontario)
- National Research Council Canada
- Natural Sciences and Engineering Research Council Canada
- Statistics Canada
- Western Economic Diversification Canada

Affiliated private and nonprofit institutions also serve important roles in Canada's economic development, including:

- Export Development Canada
- Genome Canada
- Canada Foundation for Innovation
- Science Technology and Innovation Council
- Sustainable Development Technology Canada

TABLE 42: CANADA'S PUBLIC SECTOR ECONOMIC DEVELOPMENT AGENCIES

Agency	Primary Roles in Economic Development
Innovation, Science and Economic Development Canada (ISEDC)	Oversees a coalition of twelve federal departments and agencies including collaborating to build a knowledge-based economy across Canada and to assist with job and economic growth. Program areas include support for science and technology innovation across business and institutions; facilitation of trade and attraction of foreign investment; access to capital for small and medium-sized business (SMEs), and working with communities to foster economic growth.[421] In 2016 the ISEDC launched a six-prong Innovation agenda to enhance Canada as a center for global innovation. An action plan is anticipated by the summer of 2016, and will focus on the following activities: ◆ Promoting an entrepreneurial and creative society; ◆ Supporting global science excellence; ◆ Building world-leading clusters and partnerships; ◆ Growing companies and accelerating clean growth; ◆ Competing in a digital world; ◆ Improving ease of doing business.[422]

TABLE 42: CANADA'S PUBLIC SECTOR ECONOMIC DEVELOPMENT AGENCIES	
Agency	**Primary Roles in Economic Development**
Business Development Bank Canada (BDC)	Business Development Bank of Canada (BDC), is the country's business development bank exclusively serving SMEs and entrepreneurs. It was federally-mandated by the Business Development Act of Canada of 1995. BDC offers venture, growth and transition capital and loan programs; indirect financing to support financial intermediaries; and operations, management, marketing, efficiency, human resource, technology, certification, high-impact scaling and international expansion consulting and technical assistance.[423] BDC estimates entrepreneurs and SMEs will infuse USD$85.29 billion into the Canadian economy in 2016, similar to 2015. The largest of these investments, at USD$48.4 billion, will come in the form of commercial real estate projects, representing a five percent increase over 2015. Computer hardware and software, and other e-commerce development and information technology are also planned. BDC notes that 75 percent of planned investments come from just 10 percent of all firms, which are an average of 35 years old.[424]
Export Development Canada (EDC)	An independent self-sustaining Crown corporation that serves as Canada's export credit agency. Provides support to Canada's export trade by helping companies respond to international business opportunities. EDC provides insurance and financial services, bonding products and small business assistance to Canadian exporters, investors and international buyers. EDC supports direct investment abroad and in Canada.[425] EDC partners with other financial institutions and the Government of Canada. EDC has many successes, particularly in the areas of risk management, business growth and access to working capital.[426] EDC twice annually publishes a Trade Confidence Index, with the spring edition published in April 2016 demonstrating a strong 75.1 index rating, despite market volatility and fluctuating Canadian dollar values. Confidence ratings were partially based on the U.S. market, but increasingly, more Canadian firms are expressing confidence in the potential of emerging economies, notably India and China.[427]
National Research Council Canada (NRCC)	A federal agency founded 100 years ago to solve the nation's most pressing economic and social problems, and today continues to provide industry with innovation support, strategic research, and scientific and technical services. NRCC provides knowledge resources, research equipment and access to applied research, as well as technical and commercialization services to industry. It also undertakes important research and development projects, works to develop and recruit highly skilled workers aligned with the needs of Canadian enterprise, and facilitates collaboration and connection between university-based researchers and industry.[428] NRCC employs scientists, engineers and business experts to work closely with Canadian firms, providing expertise, services, licensing opportunities, facilities and networking to bring products to market. Demonstrating the breadth of its funding and support programs, recent projects include working with the Canadian aluminum sector to develop innovative products for ground transportation vehicles,[429] innovative defense and security focused armor products,[430] and high speed, low energy data center technology.[431] As a partner with Canada's health care industry for innovative technology, NRCC also has supported a neurosurgery simulator for open cranial and endoscopic brain surgery procedure training[432] and nanotechnology for vaccine and drug delivery systems.[433]
Genome Canada	A nonprofit, federally-funded organization with a mission to catalyze the development and application of genomic-based technologies into the economy. Genome Canada facilitates collaboration between science and the private sector to find new uses for genomics; invests in large-scale science and technology to stimulate innovation, and promotes discoveries into the health, agriculture and agri-food, forestry, fisheries and aquaculture, the environment, energy and mining sectors.[434] In terms of its direct role in economic development, Genome Canada stimulates genome research in Canada by utilizing project competitions and other funding incentives to promote collaboration on genome projects. Between 2012 and 2015, Genome Canada has expended or brought partner funding in the amount of USD$145.23 million into agricultural projects; USD$32.27 million into energy projects; USD$91.44 million into environmental projects; USD$33.8 million into fishery projects; USD$69.16 million into forestry projects; USD$920 million into health care projects, and smaller levels of funding into other sectors.[435]

TABLE 42: CANADA'S PUBLIC SECTOR ECONOMIC DEVELOPMENT AGENCIES	
Agency	**Primary Roles in Economic Development**
Canada Foundation for Innovation (CFI)	Created in 1997 by the Canadian government to position Canada at the forefront of global research and technology development. CFI invests in state-of-the-art facilities and equipment for universities, colleges, research hospitals and non-profit research institutions, and undertakes recruiting and talent development and training. CFI also supports the work of Canadian researchers and private-sector innovation.[436] CFI administers four core funding programs, including the Leaders Opportunity Fund to support leading research institutions; the Leading Edge/New Initiatives Fund to strategically support globally competitive research; the College-Industry Innovation Fund to enhance the capacity of colleges to support the business sector through research; the Major Science Initiatives Fund to support operations and maintenance of key research institutions and a new Cyberinfrastructure Fund to enhance data and computational infrastructure.[437] CFI also administers other available funds for STEM-related projects.[438] From an economic development standpoint, CFI funding is awarded based on a merit-based review process that incorporates both academic researchers and private sector administrators. Review committees are typically made up of volunteers who make recommendations to the CFI Board of Directors for final funding decisions. Since its inception in 1997 through April 2016, CFI has invested USD$51+ billion in 9,397 projects at Universities and research centers across Canada.[439]
Sustainable Technology Development Canada (STDC)	Government-funded Sustainable Development Technology Canada (SDTC) was established to fund and otherwise support traditionally risky and difficult-to-finance cleantech projects.[440] SDTC's suite of funding programs include the SD Tech Fund™ to support projects addressing climate change and environmental quality; the SD Natural Gas Fund™ to support new natural gas technologies; the NextGen Biofuels FundTM funds a large, state-of-the-art demonstration facilities for renewable fuels innovation, and the SDTC Joint Fund with the Climate Change and Emissions Management Corporation (CCEMC) for clean air greenhouse reduction projects. SDTC also recently launched a jointly-funded project with the Alberta Innovates Energy and Environment Solutions (AI-EES) for water technology projects.[441] SDTC offers advisory consulting to entrepreneurs and works to build partner and stakeholder networks, involving private industry, academia and local and foreign governments. SDTC funds projects rather than companies, and requires applicants to have a Canadian "go to market" business plan and a consortium of collaborators to convert the project from idea to commercialization. SDTC requires proof that technology is new intellectual property, will bring environmental and economic benefits to Canada and aligns with SDTC's priority areas of interest.[442] Priority is given to projects stressing responsible natural resource development, carbon free power generation and distribution, rural utility availability, energy efficiency, and next generation technologies for biofuel development, food security and biodiversity protection.[443] Since its inception in 2001, SDTC has supported more than 320 clean technology projects representing an investment of USD$712.84 million and a market capitalization of USD$2.60 billion.[444]
National Science and Engineering Research Council	The National Science and Engineering Research Council (NSERC) facilitates collaboration between student researchers and the business community, by funding discovery research, equipment and technology for advanced student researchers, and by encouraging Canadian companies to invest in postsecondary research projects. Support programs are available for students and fellows, faculty, institutions and business partners.[445] USD$384.07 million in funding annually has been made available to over 12,000 research professionals and 30,000 students since the program's inception through 2015.[446]
Canadian Space Agency (CSA)	Offers business and universities the opportunity to engage in collaborative research projects for the mutual economic benefit of Canada and its partners, through joint research agreements that define the ownership of intellectual property and describe the expertise and resources to be contributed by the partners. CSA makes funding available for some collaborative research opportunities through its Class Grant and Contribution Program. Funding may be allocated through a competitive process.[447] Over the past 15 years, CSA has worked with 21 Canadian companies and partially funded innovative space technologies, including the development of over 175 novel technologies ranging from self-healing carbon fiber materials to automated shuttle inspection systems.[448]

Source: Government of Canada Website, June 2016.

Federal Regional Economic Development Organizations

In addition to federal, nationwide government economic development agencies, there are six federal regional economic development organizations, each of which plays a significant role in Canada's economic development.

TABLE 43: CANADA'S FEDERAL REGIONAL ECONOMIC DEVELOPMENT ORGANIZATIONS

Agency	Primary Roles in Economic Development
Atlantic Canada Opportunity Agency	The Atlantic Canada Opportunity Agency (ACOA) is a federally created agency focused on enterprise development, community development, and policy and advocacy through 30 offices located throughout Atlantic Canada, including Nova Scotia, New Brunswick, Newfoundland, Labrador and Prince Edward Island. Initiatives include the Atlantic Shipbuilding Action Plan to connect business to Canada's naval and coast guard fleets; the Building Canada Fund, providing funding for municipal infrastructure projects, particularly in smaller communities; the Seed Capital Initiative to assist startups, and the Canada-Atlantic Provinces Agreement on International Business Development (IBDA) to facilitate exporter startup and expansion.[449] ACOA, in partnership with the Government of Canada and the four Atlantic provinces, has recently announced its new Atlantic Growth Strategy to stimulate the region's economy. The strategy focuses on skilled workforce development; innovation; clean growth and climate change; trade and investment, and infrastructure. As part of the Atlantic Growth Strategy, ACOA recently announced a USD$5.45 million funding award for four innovation projects in 2016.[450]
Canadian Economic Development for Quebec	Canada Economic Development for Quebec (CEDQ) has been a stand-alone, federally-created agency since 2005, promoting long-term economic development for the province by providing networking and information, organizational guidance and financial consulting services to business, communities and organizations through a network of offices located throughout Quebec. Programs include economic development through the Quebec Economic Development Program, community development through the Community Futures Program, and infrastructure development through the Infrastructure Program. CEDQ also implements the Industrial and Technological Benefits (IBF) policy to coordinate between business and the Canadian Armed Forces and the Canadian Coast Guard.[451] CEDQ primarily assists startups and SMEs to become more competitive, productive and innovative, and also assists with business attraction. CEDQ supports development efforts by securing or providing financial assistance for projects.[452] The Government of Canada has made available nearly USD$6.594 billion to sustain the organization since its inception.[453]

TABLE 43: CANADA'S FEDERAL REGIONAL ECONOMIC DEVELOPMENT ORGANIZATIONS	
Agency	**Primary Roles in Economic Development**
FedDev Ontario	FedDev Ontario focuses on business creation, retention and growth in Ontario. FedDev Ontario self-administers several programs, and collaborates with partners to promote their programs. FedDev programs include the Advanced Manufacturing fund supporting large-scale or technologically transformative manufacturing activities; the Economic Development Initiative to support strategic planning in southern Ontario's Francophone communities; the Investing in Business Growth and Productivity program to assist existing businesses to adopt new technologies; the Investing in Business Innovation program focused on ramping up Ontario's competitiveness; the Investing in Commercialization Partnerships program to increase collaboration for productivity performance, and the Investing in Regional Diversification project. Partners for third-party programs include the Yves Landry Foundation, which funds export-oriented manufacturers; AC JumpStart, an accelerator project; Community Futures, a community development funder; the Eastern Ontario Development Program, focusing on rural economic and job development; SMART Advanced Technologies for Global Growth, which funds technology enhancements for export-oriented manufacturers; the SmartStart Seed Fund, for entrepreneurship skills training and start-up funding, and the Southern Ontario Fund for Investment in Innovation, which facilitates business loans to small- and medium-sized enterprises through funding partners.[454] FedDev Ontario achieves its mission through three core transfer payment programs that address specific challenges facing the region: the Southern Ontario Prosperity Initiatives (SOPI); the Advanced Manufacturing Fund (AMF), and the Eastern Ontario Development Program (EODP). FedDev generally requires funded projects to leverage FedDev funding to obtain financing from other sources. As of the first quarter of 2015 (latest available data), FedDev Ontario has invested more than USD$920 million in program funding since its inception, and leveraged an additional USD$1.84 billion and contributed 26,552 jobs to the Southern Ontario economy.[455]
FedNor	A program unit inside of the Ministry of Innovation, Science and Economic Development, FedNor administers economic development and funding programs to foster sustainable growth in Northern Ontario communities.[456] Much smaller than FedDev Ontario, FedNor does not have the authority or autonomy that characterizes other federal regional EDOs, and is project-centric.[457] Through loans and other funding, FedNor supports a broad assortment of business initiatives, technology enhancements, research and development, community development and community infrastructure projects, along with advisory consulting to both business and communities.[458] FedNor's budget has been significantly lower than the other federal regional economic development organizations.[459]
Western Economic Diversification Canada	Western Economic Diversification Canada (WD) is a government department within the Ministry of Innovation, Science and Economic Development, promoting economic sustainability in Canada's western region, and advocating favorable and economic policies, programs and project development and implementation.[460] WD offers direct grant programs and other support to universities and other post-secondary academic institutions, research institutes, industry associations and other not-for-profit organizations, directly through WD or via partnerships. WD funds an Innovation Initiative providing small and medium sized business loans; a Diversification Program that invests in and supports innovative community and business development projects, and has established and partially funds a Business Services Network to provide a range of services to help small businesses. WD also manages a number of federal development projects in Western Canada, including the Canada Economic Development Initiative.[461] WD's actual expenditures in 2014-2015 were nearly USD$116 million. Of that sum, business development accounted for 65 percent,[462] with a focus on business diversification and on bringing innovative new technologies to market.[463] Nearly 19 percent was utilized for community development projects, 6.4 percent was spent on policy development and advocacy, while operations accounted for 10.1 percent. WD's annual spending has decreased significantly as major infrastructure and other collaborative partnership projects have been completed.[464]

TABLE 43: CANADA'S FEDERAL REGIONAL ECONOMIC DEVELOPMENT ORGANIZATIONS

Agency	Primary Roles in Economic Development
Canadian Northern Economic Development Agency	The Canadian Northern Economic Development Agency (CanNor) offers economic development assistance in the three territories of Nunavut, Yukon, and the Northwest Territories as well as in the Circumpolar North.[465] Its work primarily focuses on funding, skills development, research and support for mining, tourism, fisheries, cultural industries, and community and business development. The agency supports business and community development, advocates for the interests of the North, and undertakes research. Federal programs coordinated by CanNor include the Strategic Investments Northern Economic Development (SINED), Community Readiness and Opportunities Planning, and Entrepreneurship and Business Development.[466] Currently, CanNor is working to counteract the impact of declining oil prices by focusing on diversification and on an expansion and enhancement of the North's broadband capacity to support the development of digital technologies. Adopting digital technologies and digital skills are key to Canada's competitiveness.[467] The Canadian government has recently invested USD$2 million to increase broadband Internet access for northwestern Canadian households, and has committed to investing another USD$384.04 million to enhance broadband service for rural and remote communities and institutions across Canada.[468] As an acknowledgement of the importance of CanNor to economic development in the northern areas, Canada has also budgeted an additional USD$7.68 million over four years for CanNor's Northern Projects Management Office, and USD$3.07 million for job skills training to ensure a skilled workforce.[469]

Source: Government of Canada Website, June 2016.

FIGURE 23: OVERVIEW OF GOVERNMENT INCENTIVES IN CANADA

SMEs

- Innovation, Science and Economic Development Canada
  - » Grants for Technology Projects
- Export Development Canada
  - » Financing
  - » Direct Lending
  - » Project Financing
  - » Bonds
  - » Guarantees
  - » Insurance
- Global Affairs Canada
  - » Matching Grants for Export Promotion
  - » Matching Grants for Collaborative Research
- Business Development Bank Canada
  - » Direct Loans
  - » Loan Guarantees
  - » Startup Financing
  - » Business Transfers
  - » Equity/Venture Capital Fund
  - » Technical Assistance
- Sustainable Technology Development Canada
  - » Grants for Sustainable Technology
- National Research Council Canada
  - » Canada Incubator and Accelerator Program

Infastructure

- Canada 150 Infastructure Program

Research & Development

- Innovation, Science and Economic Development Canada
  - » Technology Demonstration Fund
- National Research Council Canada
  - » Industrial Research Assistance Program
- Genome Canada
  - » Grants to Genomics Technology Projects
- Canada Foundation for Innovation
  - » Funds Collaborative Academic/Industry Partnerships
- Canadian Space Agency
  - » Funds Space-related Industry Innovation Projects

Manufacturing & Internationally Traded Goods

- Export Development Canada
- Business Development Canada
- Sustainable Technology Development Canada

P3s

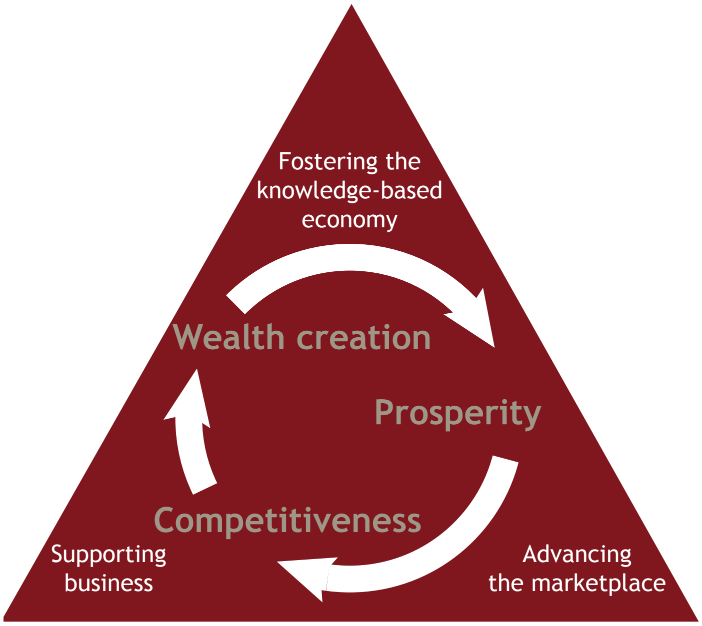
- National Research Council Canada
- Genome Canada
- Canada Foundation for Innovation
- Canadian Space Agency

Ministry of Innovation, Science and Economic Development

Formerly the Ministry of Industry, the Ministry of Innovation, Science and Economic Development reflects Canada's keen focus on advancing its knowledge and innovation economy. Through this ministry, entrepreneurs and established businesses are able to access the Canadian government's portfolio of resources that support startups, business expansions and business locations.

Canada has three basic strategies for advancing its economy: fostering the knowledge-based economy, advancing the Canadian marketplace to be globally efficient and competitive, and supporting the growth of business and industry.[470]

FIGURE 24: CANADA'S INNOVATION, SCIENCE AND ECONOMIC DEVELOPMENT STRATEGIES



Source: Government of Canada Website, Innovation, Science and Economic Development Canada, retrieved May 20, 2016.

The Ministry of Innovation, Science and Economic Development has many departments with differentiated mandates and functions, and a great deal of its work is carried out through partnerships with other Canadian federal agencies, non-profits and Crown corporations. The ministry's sphere of responsibility includes: "industry and technology; trade and commerce; science; consumer affairs; corporations and securities; competition and restraint of trade; weights and measures; bankruptcy and insolvency; intellectual property; investment; small business, and tourism."[471]

Through the Ministry of Innovation, Science and Economic Development, a constellation of 12 federal departments and agencies comprise Canada's portfolio to fulfill these responsibilities, achieve the ministry's goals and foster economic growth. While many of these programs are housed in Canadian government-sponsored nonprofits and independent corporations as well as other national governmental agencies, firms are able to access these resources through a single portal website at www.canadabusiness.com. Some of these programs fall under the direct control and management of the Ministry of Innovation, Science and Economic Development.

Many of Canada's economic development agencies are focused on small-to-medium sized enterprises (SMEs) and export promotion; according to many of the annual reports, Reports on Plans and Priorities and strategic plans of each of these agencies, SMEs account for 99 percent of all Canadian business establishments.[472] Export promotion also is critical to Canada's economic prosperity, as its own domestic market is relatively small with a 2015 population of 35.8 million.[473]

National Research Council Canada

National Research Council of Canada is one of many Canadian government agencies focused on research and innovation; this agency falls under the aegis of the Ministry of Innovation, Science and Economic Development. Billing itself as Canada's "premier research and technology organization", National Research Council Canada's mandate supports and advances Canada's quest to be a world leader in the knowledge and innovation economy.[474] The agency's formal mission is to "stimulate wealth creation for Canada through technological innovation".[475]

To achieve this, National Research Council Canada offers programs and services that include research and collaboration; technical and advisory services; licensing opportunities and some limited funding through the Industrial Research Assistance Program, which is targeted to Canadian SMEs.[476] The agency assists more

TABLE 44: MINISTRY OF INNOVATION, SCIENCE AND ECONOMIC DEVELOPMENT PROGRAMS

Incentive	What It Offers
Technology Demonstration Fund	Provides non-repayable contributions (grants) to support large-scale technology demonstration projects in specific economic sectors: aerospace, defense, space and security. Funding provided to Original Equipment Manufacturers or to Tier 1 firms (major supplier to an OEM) for large-scale R&D or innovation project that can lead to commercialization that advances Canada's innovation and national security position. ◆ Grant of up to $54 million for a five-year project horizon for up to 50 percent of total project costs. ◆ Recipient must have an Intellectual Property agreement in place and must match the public sector's contribution. ◆ Total government funding from all public sector sources cannot exceed 75 percent of total project costs. ◆ Must include at least one SME in the project. ◆ Qualified applicants must demonstrate: » The project's ability to generate social, economic, security or other benefits to Canada. » Strong collaboration with other firms, higher educational institutions, SMEs, etc. » Technological feasibility that can lead to new capabilities to realize the public benefits to Canada. » Management and technological capabilities and demonstrated track record to bring the project to fruition. » Financial acumen and the ability to leverage additional private sector investment. » Commitment post-project to pursue commercialization of the technology and to sustain operations.[477]

Source: Ministry of Innovation, Science and Economic Development, March 7, 2016.

than 10,000 SMEs annually with their research and innovation projects.[478]

National Research Council employs more than 3,500 researchers, technologists and support staff and hosts 1,200 guest researchers from academia, government and the private and nonprofit sectors who also conduct their research at the agency.[479] National Research Council Canada's business proposition for entrepreneurs, business, industry and academia posits that research, discovery and commercialization will cost less because of the breadth and depth of the agency's knowledge and experience, and the time from 'bench to market' will be accelerated because of the agency's intellectual property (IP) portfolio and networks of experts.[480]

National Research Council Canada's research spans a wide range of sectors, and therefore provides technical and advisory services, including counsel on IP, patenting and other related areas, in many scientific, technological and economic disciplines.[481]

Industrial Research Assistance Program

Grant funding from National Research Council Canada is available to qualified Canadian SMEs to support their R&D and technological innovation initiatives. To be eligible, firms must be for-profit and incorporated in Canada; have fewer than 500 full-time employees and be able to demonstrate their commitment to expand and increase revenues and profits through the development and commercialization of technology-driven products, services or processes in Canada.[482]

On an average basis since 2009, the Industrial Research Assistance Program grants $89 million to SMEs each year. Funding through this program is rendered as non-repayable, e.g., financial assistance is provided as a grant. Each grant requires a 50 percent match from the SME for the overall project cost.[483]

- **Small Technology Innovation Projects, or the Accelerated Review Process:** Provides grants of up to $50,000 to assist SMEs fund research and development and/or commercialize technology projects.
- **Mid-sized Technology Innovation Projects:** Provides larger grants (depends on the project) that are typically focused on creating original software, developing new products, or engaged in other various internal R&D projects; grant amounts are on a case-by-case basis.
- **Youth Employment Strategy Programs:** Pays up to 50 percent – up to $15,000 – for salaries of new hires between the ages of 15 to 30.
- **Digital Technology Adoption Pilot Program:** Provides grants of up to $100,000 or 80 percent of direct labor and 75 percent of subcontractor costs associated with the adoption of digital technologies. The goal for this grant funding is to accelerate the rate at which SMEs develop their own digital skills internally as well as adopting digital technologies and processes.

Canada Accelerator and Incubator Program

The National Research Council Canada also provides funding for qualified incubators and accelerators throughout Canada through a five-year grant program that was created in 2013 with an initial

FIGURE 25: NATIONAL RESEARCH COUNCIL CANADA FOCUS SECTORS

Agriculture and aquaculture
Agriculture

Astronomy and astrophysics
Astronomy technology
Optical astronomy
Radio astronomy

Construction
Building construction
Public utilities

Defense and security
Information security
Physical security

Energy, mining and environment
Environment
Mining
Oil and gas
Renewable energy
Utilities

Health sciences
Biology/Biotechnology
Medical technology
Nutrition
Pharmacology

Information & communications technology
Analytics
Cyber security
Electronics/Semiconductors
Learning
Photonics
Print technology

Measurement science
Metrology/Calibration

Transportation
Aerospace
Automotive
Cargo
Marine
Rail

Source: National Research Council Canada Website, June 2016.

appropriation of $60 million, supplemented by an additional $40 million in 2014. The program provided a minimum of $5 million annually to each of the 14 incubators and accelerators located throughout Canada that met stringent eligibility criteria.[484] With the five-year funding horizon in its waning phase, applications for these grants no longer are being accepted. Although the Government of Canada's FY 2016 budget calls for more investment in innovation and the promotion of entrepreneurship, a specific line item for the continuation of this program was indeterminable.[485]

Business Development Bank of Canada

The Business Development Bank of Canada is the nation's sole financial institution devoted exclusively to Canada's entrepreneurs and SMEs. As a self-sustaining Crown corporation that was first established in 1944 as the Industrial Bank of Canada, over its history, the Business Development Bank has morphed into a full-service financial institution to support the lifeblood of Canada's economy: small-to-medium-sized enterprises.[486] In 1995, the Canadian government enacted the Business Development Bank Act of Canada, and the bank's official mission is to "support Canadian entrepreneurship by providing financial and management services and by issuing securities or otherwise raising funds or capital in support of those services".[487] The bank reports to the Minister of Innovation, Science and Economic Development.

The Business Development Bank of Canada offers direct and indirect lending to support SMEs; advisory services that include consulting; special services for high impact firms, and export assistance to its clients. Through BDC Capital, the bank provides venture capital and other investments to support the growth of its selected clients.

With 100 Business Development Bank of Canada (BDC) business centers dispersed throughout Canada and more than 2,000 employees as of 2015, the bank's reach is pervasive.[488] Governed by a 12-member board of directors, the Business Development Bank provides financial services, technical assistance and equity capital through its BD Capital subsidiary. The bank reports that since 1998, it has been profitable each year and has returned $417 million in dividends to the Government of Canada.[489]

In its Corporate Plan Summary, the BDC projects for 2016:

- An increase in its support to SMEs in Ontario and Western Canada, which will contribute to an overall projected increase in its loan portfolio to $20.4 billion; net income will increase to $458 million;
- Consulting services will generate revenues of $19 million;
- Growth and transition capital lending activities will bring that portion of its portfolio to $730+ million, resulting in a $34 million increase in net income;
- The venture capital portfolio will experience an increase of $668 million and a $14 million loss in net income;
- A consolidated net income of $423 million and $60 million in dividend payments to the Government of Canada will be realized.[490]

BDC's performance metrics are expansive, and encompass traditional indicators such as loans reviewed and approved, as well as the corporation's efficiency ratio, which is defined as "operating and administrative expenses divided by net interest and other income".[491]

TABLE 45: BUSINESS DEVELOPMENT BANK OF CANADA METRICS			
	Target F2015	F2015 YTD	Target F2016
Entrepreneurship			
# of loans ≤$500,000 for Financing and Growth & Transition Capital based on commitment size of ≤$750,000	8,000	6,464	8,200
# of authorizations to new businesses (≤2 years) (Financing and Growth & Transition Capital)	1,500	1,720	2,000
% of BDC-financed start-ups that survive five years	65%	60%	65%
% of very satisfied clients	n/a	56%	57%
# of transactions authorized with and from partners (syndications, pari passu, loan referrals and alliances)	2,400	1,857	2,500
Productivity			
# of loans authorized for equipment purchase (Equipment Line and loans with "equipment purchase" as purpose)	2,000	1,312	1,750
Growth			
% of high-growth firms in BDC Growth & Transition Capital portfolio (high-growth firm defined as having annualized sales growth greater than 20% per year over a three-year period)	30%	32%	30%
Innovation			
Support for Digital Canada 150 Financing: $200M in acceptances annually to 2017 VC: $300M in authorizations by 2017 (% of objective reached)	n/a	$190.7M	$200M
VC: $300M in authorizations by 2017 (% of objective reached)	n/a	30%	60%
Venture capital return of capital (RoC)	1.00	1.04	1.01
Efficiency			
BDC Financing reported efficiency ratio	39.7%	37.8%	38.7%

Source: Business Development Bank of Canada Corporate Plan Summary, April 2015.

Business Development Bank of Canada Loan Programs – BDC Financing

The BDC offers several loan programs to meet the needs of SMEs at all stages of growth. One of the areas of distinction for the BDC vis-à-vis its lending policies is that for many of the loan programs, the personal assets of the borrower is not required for collateral. As well, for many of its loan programs, the BDC offers a postponement of up to three years for repayment to support the growth and expansion and cash flow needs of its more than 42,000 clients.

TABLE 46: BUSINESS DEVELOPMENT BANK OF CANADA LOAN PROGRAMS	
Incentive	**What It Offers**
Small Business Loans	Loans for up to $50,000 (no fees assessed) are available to credit-worthy SMEs that are incorporated in Canada and have been in business for at least 24 months; the entire process for applying is online only. Term for the loan is four years; current interest rate being quoted is 5.75 percent.[492]
Working Capital Loans	Qualified borrowers can obtain working capital loans, which are offered through two channels: ◆ Working capital loans are available to complement an existing line of credit; terms are similar to the terms of the Small Business Loans and repayment options are flexible and can be matched to the business's cash flow.[493] ◆ Customized working capital financing: loans available from $250,000 up to $35 million for qualified firms. Financing is offered through three options: » Mezzanine financing: Loan term is 2 to 8 years; repayment of this loan will be via balloon payments and/or cash flow sweeps by the bank and/or monthly payments. » Cash flow financing: Loan term is 3 to 8 years; first 12 months of repayments can be postponed. » Quasi-equity financing: Loan term is 2 to 8 years; repayment of the loan takes place at the end of the term, based partially on the firm's earnings forecast and demonstrated success and profitability.[494]
Commercial Real Estate Financing	Loans for up to 25 year terms; no personal assets used for collateral. Financing available for: ◆ "Purchase of land and buildings; ◆ Construction of new premises; ◆ Expansion or renovation of existing premises; ◆ Replenishment of working capital depleted by real estate costs".[495]
Equipment Purchase Financing	Two types of financing: (1) loans to buy new or used equipment or (2) equipment line-of-credit. ◆ Borrowers can obtain a higher percentage of cost than from traditional banks. ◆ All expenses can be financed, e.g., equipment, shipment, installation and training. ◆ For outright purchase, repayment is over 12 years. ◆ For line-of-credit, repayment is over five years. ◆ More advantageous terms provided to Canadian manufacturers and exporters.[496]
Start-Up Financing	For a new business in the start-up phase or first 12 months of sales, bank provides loans for: ◆ Working capital to supplement an existing line of credit; ◆ Fixed assets; ◆ Fund marketing and start-up fees; ◆ A franchise purchase; ◆ Consulting services. Depending on the credit-worthiness of the borrower, BDC can extend longer amortization periods and offers an option to postpone payments at the start of the loan. To qualify for these loans, borrowers must: ◆ "Demonstrate realistic market and sales potential; ◆ Provide a solid business plan; ◆ Have experience or expertise in his/her chosen field; ◆ Demonstrate key personal characteristics of a successful entrepreneur; ◆ Have a competent management team; ◆ Have a reasonable financial investment in the enterprise; ◆ Provide personal and credit references."[497]

TABLE 46: BUSINESS DEVELOPMENT BANK OF CANADA LOAN PROGRAMS	
Incentive	**What It Offers**
Technology Financing	Loans available for the purchase of hardware, software and related consulting services. Borrowers can opt for BDC's less-than-$50,000 loan or go through the more rigorous process of applying for a $50,000+ loan.[498]
Transfer a Business	Loans available to finance these transactions, ranging from $250,000 to $35 million. BDC provides two types of financing for the transfer of a business: ◆ Mezzanine Financing: loans repaid over a 2 to 8 year time horizon; repayment terms are adapted to the firm's cash inflow and the bank takes balloon payments and/or cash flow "sweeps", and/or monthly payments. ◆ Cash Flow Financing: borrowers can repay their loan over 3 to 8 year time period and can postpone loan repayments for the first 12 months of the loan.[499]
Xpansion Loan	Loans available to growing firms for: ◆ Domestic or international expansion; ◆ Technology investments; ◆ Marketing; ◆ Product development; ◆ Purchase of licenses and costs for patenting and trade marking; ◆ New employee hiring and training; and ◆ Business certifications. The bank allows the borrower to re-borrow up to the amount that has been repaid if he/she needs additional capital. As with other loan programs, BDC does not require the pledge of personal assets for collateral.[500]

Source: Business Development Bank of Canada Website, June 2016.

Business Development Bank of Canada Venture and Equity Investing - BDC Capital

In 2012, the Government of Canada appropriated $400 million to facilitate private sector investments in funding early-stage firms and technologies and to spawn the establishment of large-scale private sector venture capital funds. In early 2013, the Canadian government formally announced and launched its Venture Capital Action Plan that framed how it will work to build the nation's venture capital ecosystem:[501]

- "$250 million is dedicated to the establishment of new and large national-scale funds of funds led by the private sector;
- Up to $100 million is apportioned for the recapitalization of existing large private sector-led funds of funds; and
- Up to $50 million is available for investment in three to five existing high-performing venture capital funds in Canada".[502]

Since the launch of Canada's Venture Capital Action Plan, an additional $900 million of private sector capital has been infused into Canadian venture capital funds or invested in early-stage firms and technologies.[503] In April 2016, the Government of Canada announced the closing of the fourth of four funds, which combined, have a total of $1.35 billion under management as a result of this initiative.[504]

Through its subsidiary, BDC Capital, the Business Development Bank of Canada serves as Canada's lead entity to realize the goals of the government's plans to expand the nation's venture capital ecosystem. As a result of legislative refinements enacted in 2014, venture capital and equity investments are part of BDC Capital's official mandate.[505] With more than $1 billion under management in the BDC Capital portfolio, the bank subsidiary is the largest Canadian investor in early-stage technology ventures.[506]

BDC Capital directly invests in Canadian technology firms in support of the nation's overall goal of commercializing innovation and building its knowledge economy and global competitiveness. The primary focus is on promising firms and technologies in the Information and Communication Technology (ICT), Energy and Clean Tech, and Healthcare sectors, consistent with the focus of many of Canada's other Federal agencies, Crown corporations and nongovernmental organizations.

In addition, BDC Capital's Fund of Funds group has cultivated, developed and attracted leading fund managers from the private sector who are participating in financings and investments with the bank in Canadian ventures and technologies. BDC Capital also has a business unit – the Strategic Investments and Partnerships Group – focused on supporting startups by addressing gaps in the availability of seed capital. Additionally, this group is investing in "non-traditional, emerging venture models" to provide the management assistance and validation that nascent enterprises require.[507]

BDC Capital uses two primary vehicles to conduct its venture capital and equity investment transactions: equity investments and growth and transition capital.

Equity Investments: BDC Capital invests as part of a syndicate; the institution can participate as a lead, co-lead or as one of many investors in these transactions. The typical equity investment ranges from $250,000 to $3 million where the total transaction ranges from $1 million to $10 million. BDC Capital approaches these opportunities recognizing that there may be several rounds of financing required over time, and commits to the long-haul with these ventures. Additionally, BDC typically requires a seat on the board of directors of the enterprise and limits its ownership stake to no more than 49 percent. The criteria utilized for selection of its equity investments are several. The enterprises receiving BDC Capital equity investments must:

- Demonstrate a "distinct, sustainable and competitive advantage"; own intellectual property or have "substantial proprietary knowledge and technology ownership" that present obstacles for market entry; a technological platform that either is developed or currently in the process of development that had applications beyond a single market segment.
- Have a highly skilled and entrepreneurially-capable management team that demonstrates a commitment to partnerships and is open to opportunities.
- A clearly articulated and realistic business plan, with a finely-honed strategy for success in a market that can support rapid ascension and growth over the long-term.
- Potential for market domination that also could lead to an exit transaction, e.g., merger, acquisition or an IPO.[508]

Growth and Transition Capital: As a subsidiary of the Business Development Bank of Canada, BDC Capital is able to avail itself of the financing tools available in its parent's portfolio to customize financing options to support the enterprises it funds. These financing options are available to firms that are either established or are experiencing rapid growth, with a management team and financial reporting accountability systems in place. BDC Capital (through its parent) can lend from $250,000 to $35 million and the institution is willing to share the risk with firms that have yet to realize positive cash flow but have a realistic go-to-market strategy for commercializing its products or services in the near term. The enterprise has two to eight years to repay the loan. BDC Capital also structures these growth and transition loans so that security is subordinated to secured lenders in the first position. BDC Capital will extend loans to enterprises that need to finance R&D, product and market development and intangible assets, e.g., patents, copyrights, etc. The institution also will lend funds for the acquisition of a competitor's or supplier's firm, or the transfer of a business, including management and partner buy-outs.[509]

Business Development Bank of Canada Advisory Services

In addition to its financial offerings, Business Development Bank of Canada (BDC) also provides advisory services to SMEs and generates revenues from these activities as noted previously. Services include:

Developing and Managing a Business: Preparing business plans, strategic plans and financial plans; board and executive team/owners development.
Growing A Business: Assisting with sales and marketing domestically and internationally.
Competitiveness and Efficiency: Assisting with achieving operational efficiencies; obtaining certifications.
Technology Adaptation: Developing technology plans; connecting clients with training and certification programs; assisting with technology acquisition.

For high impact firms, the BDC has developed a cadre of seasoned professionals to work directly with these enterprises (defined as spanning all economic sectors that employ between 100 to 500 employees and have a high growth potential) with a full range of services, from management development, to exporting, to human resource management.[510]

Genome Canada

Funded in its entirety by the Government of Canada, Genome Canada is an integral component of Canada's portfolio of assets to advance the nation's knowledge economy, innovation and leadership on the world stage. A nonprofit corporation, Genome Canada is led by a 16-member Board of Directors, comprised of luminaries from academia, business and government. The CEOs of five of Canada's leading research and technology organizations serve on Genome Canada's board. The organization conducts research and also funds research and other programs that support Canadian enterprise. A core value of Genome Canada's approach is partnership; the organization has an expansive network of partnerships with academic and research institutions, nongovernmental organizations, public sector entities and business and industry. Genome Canada also has six regional Genome Research Centers located throughout Canada.[511]

Among its funding programs, Genome Canada supports small-scale proof-of-concept or pilot projects as well as large scale R&D.

TABLE 47: GENOME CANADA'S FUNDING PROGRAMS	
Incentive	**What It Offers**
Genomics Application Partnership Program	Funds downstream (business value that can result from these projects) and R&D projects that address global challenges for which genomic solutions can be applied. Major areas of focus are genome-based innovations in life sciences disciplines, including "health, agriculture, fisheries, forestry, energy, mining and the environment". Working in partnership with Genome Research Centers, investments are made in large-scale genomics research and leading-edge technologies. Total funds available through this program are $30 million. ◆ Genome Canada provides up to one-third of funding for small-scale proof-of-concept or pilot projects ranging from $300,000 to $6 million. ◆ The remaining 2/3 of the project cost must be obtained through co-funding sources – public, nonprofit and private. Eligible projects must be in alignment with the goals of this program and focused on one of the sectors of opportunity, and » Entail a partnership with academia; » Develop, augment or "validate a genomics-derived solution, e.g., product, tool or genomics-based process; » Focus on downstream R&D activities.
Genome Canada and SSHRC Joint Initiative on Societal Implications of Genomics Research	Carried out jointly with the Canada Social Sciences and Humanities Research Council, through this initiative, five grant programs are available for business, academia and nonprofits: ◆ Insight Development Grants – support early-stage research, from $7,000 to $75,000 over a one-year period. ◆ Insight Grants – support "research excellence in the social sciences and humanities"; provides grants ranging from $7,000 to $400,000 for projects that span 3 to 5 years. [512] ◆ Partnership Development Grants – support new research and also the design and testing of new partnerships for research; grants range from $75,000 to $200,000 over a one to three year period.[513] ◆ Partnership Grants – support new or existing formalized partnerships (academia, nonprofit, business and industry); provides $500,000 to $2.5 million over a 5 to 7 year horizon.[514] ◆ Connection Grants – support participation in workshops, conferences, etc.; provide grants from $7,000 to $25,000, and up to $50,000 for "outreach activities".[515]

Source: Genome Canada, Strategic Plan 2012-2017.

Export Development Canada

Serving as Canada's export credit agency, Export Development Canada is a Crown corporation, wholly-owned by the Canadian government. As a Crown corporation, Export Development Canada (EDC) is financially self-sufficient and operates much like a commercial finance institution.[516] The corporation derives its revenues from the interest it charges on its loans and the premiums it collects for its insurance services.[517] EDC's profits are reinvested into retained earnings to sustain and increase its financial capacity to continue and expand the services it delivers to Canadian exporters. The corporation has paid $4 billion in dividends to the Canadian government since December 2006.[518]

Established in 1944, Export Development Canada reports to the Canadian Parliament through the Minister of International Trade. The organization is governed by a 12-member Board of Directors primarily representing business and industry; board members are appointed by the Government of Canada.[519]

Export Development Canada provides substantial resources and programs to Canada's exporters in the form of loans, bonds, guarantees and insurance. The corporation reports that in 2015, it assisted nearly 7,400 Canadian firms that conducted business in 142 nations, whose combined export sales and investments that year equaled $104.2 billion. The EDC estimates that the impact of these activities generated $66.8 billion in economic additionality to Canada's GDP and helped to sustain 530,000 jobs.[520] Eighty-one percent of EDC's clients are SMEs.[521]

EDC's metrics include business measures, customer measures and financial measures. Specific metrics include:

- Business measures: total business facilitated; SME transactions; CDIA transactions; business investment in emerging markets; number of partnership transactions.
- Customer measures: customers are surveyed and a "net promoter score" is averaged based on the feedback of the corporation's customer surveys.
- Financial measures: a productivity ratio is calculated and compared to the annual target; this indicator measures administrative expenses as a percentage of the organization's operating income.[522]

FIGURE 26: EXPORT DEVELOPMENT CANADA'S PERFORMANCE SCORECARD

Performance Measures	Change	2015 Actual	2015 Plan	2014 Result
BUSINESS MEASURES				
Total Business Facilitated ($B)	↑ 5%	104.2	0 - 3% growth	98.9
Small- and Medium-Sized Enterprise Transactions*	↑ 7%	4,280	0 - 5% growth	4,005
Business in Emerging Markets ($M)	↑ 6%	633	5 - 10% growth	597
CDIA Transactions	↑ 7%	372	0 - 4% growth	347
Partnership Transactions	↓ 6%	3,697	0 - 3% growth	3,918
CUSTOMER-RELATED MEASURE				
Net Promoter Score	Achieved 2015 target	71.9	70.0 – 76.0	74.3
FINANCIAL MEASURE				
Productivity Ratio (%)	Exceeded 2015 target	22.9	25 – 28	23.3

* New measure in 2015.

Ratings in our performance measures are as follows:
- Target met or exceeded (> 98% of plan)
- Target substantially met (> 95% and < 98% of plan)
- Target not met (< 95% of plan)

Source: Export Development Canada Annual Report 2015.

Export Development Canada's Programs

Export Development Canada offers a broad range of programs to support the export of Canadian products and services, facilitate Canadian investment overseas and to recruit Foreign Direct Investment into Canada. Dubbed the "Canadian Direct Investment Abroad" program, EDC delivers financing, insurance and technical assistance to support Canadian exports.[523]

Financing Programs

Several financing programs are available from Export Development Canada, ranging from loan guarantee, direct lending to project financing.

TABLE 48: EXPORT DEVELOPMENT CANADA FINANCING PROGRAMS

Incentive	What It Offers
Working Capital Financing (Export Guarantee Program)	Facilitated through the EDC's Export Guarantee Program, and based on the premise of shared risk between the EDC and the Canadian exporter's financial institution. With an Export Guarantee from the EDC, more capital is made available to the borrower.[524] The Export Guarantee Program enables financial institutions to share risks with the EDC on behalf of their Canadian export clients. Coverage levels are: ◆ A cap of $10 million (Canadian dollars); ◆ Up to 75 percent guarantee on domestic assets or up to 90 percent for individual credit facility so long as the guaranteed amount is less than $500,000; ◆ Up to 100 percent coverage for qualifying foreign assets.[525] ◆ Guarantees can be used for operating capital, lines of credit, and overseas investments including capital expenditures.
Buyer Financing	Provides financing to buyers of Canadian products. Enables Canadian exporters to offer this financial resource as a competitive edge. EDC offers loan guarantees for transactions under $10 million directly to the buyer's financial institution.[526]
Direct Lending	Provides secured loans either directly to the Canadian company or to its foreign affiliate, secured by foreign assets.[527] Loan amounts are rendered on a case-by-case basis, depending on a range of factors.
Structured and Project Finance	Provides financing for projects owned by Canadian firms that have more than $50 million in annual revenues and with operations outside of Canada.[528] EDC enables a financial institution's mid-market, credit-worthy customers to obtain financing for foreign investment outside of Canada. Financing is arranged through a secured loan structured in one of two ways: ◆ Loan is made directly to the bank's customer in Canada to support its foreign investment; the foreign affiliate is required to provide a guarantee secured by a first position on its foreign assets; ◆ Loan is made directly to the foreign affiliate and is secured by the foreign assets, with the Canadian parent providing a guarantee, secured by a second position on the Canadian assets. Loan amounts and terms are determined on an individual, case-by-case basis.[529] Firms eligible for this financing must have annual revenues of at least $10 million (Canadian dollars) and have been in business for at least three years.[530]

Source: Export Development Canada, February 26, 2015.

Bonding and Guaranty Programs

Export Development Canada also offers several lending and guaranty programs.

TABLE 49: EXPORT DEVELOPMENT CANADA BONDING AND GUARANTY PROGRAMS	
Incentive Program	**What It Offers**
Account Performance Security Guarantee	Protects the exporter's financial institution if the foreign customer demands payment against the guarantee that they provided to the bank. EDC's Account Performance Security Guarantee provides assurance to the financial institution and in many cases, the institution opts to forego the collaterally that is typically required to post such guarantees. The EDC can provide a 100 percent risk transfer through this guarantee.[531] Eligibility and approval is made by EDC on the basis of several factors: ◆ Managerial, technical and financial capabilities of the firm; ◆ Contractual terms; ◆ Review of the guarantee; ◆ Geopolitical and economic conditions in the customer's country; ◆ Customer's profile and performance; ◆ Acceptable Canadian exports of goods and services; and ◆ Benefits to Canada derived from the export activity.[532]
Foreign Exchange Facility Guarantee	Enables Canadian exporters to better manage "forward contract collateral" due to fluctuations in the Canadian dollar; the bottom line is that cash flow is freed up by using this guarantee to replace the financial institution's collateral requirements on foreign exchange contracts.[533] EDC provides a 100 percent irrevocable and unconditional guarantee, which in turn allows the financial institution to free up the financial capacity for its customer. This particular guarantee has a one year term and can cover foreign exchange contracts with terms from one to three years.[534]
Surety Bond Insurance	Provides surety bond insurance to the exporter's surety bond company, or, EDC can facilitate the issuance of surety bonds through its network of partnerships.[535] EDC utilizes several factors in evaluating and approving these transactions: ◆ Managerial, technical and financial capabilities of the firm; ◆ Contractual terms; ◆ Bonding instruments; ◆ Geopolitical and economic conditions in the customer's country; ◆ Acceptable Canadian exports of goods and services; and ◆ Benefits to Canada derived from the export activity.[536]

Source: Export Development Canada, February 26, 2015.

Risk Mitigation (Insurance) Programs

EDC's risk protection programs include Accounts Receivable Insurance, Trade Protect online credit insurance and Political Risk Insurance.

TABLE 50: EXPORT DEVELOPMENT RISK MITIGATION PROGRAMS

Incentive Program	What It Offers
Accounts Receivable Insurance (also called Bank Factoring Insurance)	Covers up to 90 percent of bank losses resulting from credit extended to a Canadian exporter that incurs losses as a result of "buyer non-payment; refusal to accept the goods; bankruptcy or insolvency; cancellation of important or export permits; currency conversion or transfer; and war, revolution or insurrection."[537] ◆ Any Canadian firm that exports goods or services is eligible, based on bank's approval. ◆ Exporters insured under this policy must have an overall Canadian content of at least 40 percent, and must complete a Canadian Benefits Report demonstrating the benefits to Canada from their exporting activities. ◆ Exporter is responsible for accepting this insurance, paying premiums and paying the fee assessed by the EDC. ◆ Premium pricing is determined on a variety of factors, including foreign country in which buyer is located; nature of products or services; spread of buyer, risk, terms of payment, etc. ◆ Enables the bank to include foreign receivables into the customer's borrowing base, with the premise that the firm will be able to have access to a greater amount of capital for their operations.[538]
Single Buyer Insurance	Insures up to 90 percent of exporter's losses resulting from "buyer non-payment; refusal to accept the goods; bankruptcy or insolvency; cancellation of important or export permits; currency conversion or transfer; and war, revolution or insurrection."[539] Allows exporter's bank to finance specific receivables while mitigating risk and also provides a temporary increase in the exporter's operating line with no additional risk to the bank. ◆ For single transaction wherein the receivables are due within a 180 day period. ◆ Maximum liability on the policy, which is the maximum value of receivables that can be owed at any point in time.[540]
Contract Frustration Insurance	Enables banks to increase the operating line of credit to exporter customers as a result of the EDC's insurance policy. ◆ Applied to a single, specific export contract for services, capital goods or projects. ◆ Covers up to 90 percent of the exporter's losses that may result from a wide range of commercial and political risks. ◆ EDC takes several factors into consideration before approving this insurance, including the benefits to Canada; the creditworthiness of the exporter's foreign buyer; geopolitical and economic conditions in the foreign buyer's country, and the exporter's technical and managerial track record and abilities.[541]
Performance Security Insurance	Protects the exporter for up to 95 percent of losses incurred if a letter of guarantee "is called without valid reason".[542] EDC examines a variety of factors before issuing this insurance: ◆ Acceptable contract terms; ◆ Acceptable guarantee instruments; ◆ The exporter's foreign customer's profile and both current and future economic conditions in their country; ◆ Acceptable Canadian exports of goods and services; and ◆ Benefits to Canada derived from the exporter's business activity.[543]

TABLE 50: EXPORT DEVELOPMENT RISK MITIGATION PROGRAMS	
Incentive Program	**What It Offers**
Political Risk Insurance	◆ Protects financial institutions from risks associated with their client's assets and/or investments in emerging market economies, with the premise that the more the bank is protected, the higher the likelihood they will extend credit to support their Canadian exporting customers. Protects the assets of Canadian borrowers in emerging markets, e.g., cash in banks, equipment and manufacturing facilities.[544] ◆ Political risk insurance for assets or equity insures up to 90 percent of eligible losses "resulting from expropriation, political violence or currency inconvertibility or non-transfer."[545] » For asset-based coverage, exporter must have full ownership of physical assets in an emerging nation economy, e.g., inventory or cash accounts. » For equity-based coverage, exporter must have equity invested in a plant or controlling interest in a joint venture in an emerging market economy.[546] ◆ Political risk insurance for bank loans insures up to 100 percent of the bank's loss resulting from the same factors. To quality for this coverage, the bank's loan must be made to a "commercial entity located in an emerging market in support of Canadian FDI or exports."[547]
Trade Protect Insurance	Only available online; this is EDC's export credit insurance option for Canadian firms seeking to insure up to five of their U.S. or international customers against non-payment. ◆ Insures up to 90 percent of losses for nonpayment; ◆ Frees up cash flow for the exporter.[548]

Source: Export Development Canada Website and Reports 2016 (see endnotes).

Adam Chowaniec Memorial Fund for Global Entrepreneurship

In addition to Export Development Canada's financing, insurance and bonding programs, there is an additional fund that the corporation administers – the Adam Chowaniec Memorial Fund for Global Entrepreneurship. Through this fund and in partnership with Startup Canada, Export Development Canada provides up to a $3,000 grant to entrepreneurs who are seeking to grow an international business or to engage in exporting. The fund was established as a memoriam tribute to Dr. Adam Chowaniec, former Chairman of Startup Canada and former board member of EDC. Grants are awarded to individuals, groups and organizations to expand Canadian exports, and the funds can be used for trade missions, export training boot camps and other similar endeavors.[549]

Global Affairs Canada

Comprised of three primary ministries of the Canadian government – Ministry of Foreign Affairs, Ministry of International Trade and Ministry of International Development and La Francophonie, Global Affairs Canada is the umbrella under which additional programs are offered to support Canadian exports and outward bound Foreign Direct Investment.[550] Three programs in particular provide significant incentives to Canadian firms seeking to increase their international sales: CanExport Program; Going Global Innovation, and Canada International Innovation Program.

CanExport Program

Jointly administered between Global Affairs Canada's Trade Commissioner Service and the National Research Council of Canada, this program provides financial assistance to Canadian SMEs seeking to expand their business overseas. Because SMEs account for 99 percent of all Canadian businesses, this initiative is funded through a five-year, $50 million appropriation that was announced in January 2016 by the Minister of International Trade. The goal is to extend this assistance to 1,000 Canadian SMEs so that they can grow and contribute to Canada's global competitiveness.[551]

The CanExport program supports endeavors that focus on promoting international business activities; they must demonstrate "incrementality", meaning that the international business activities go beyond the firm's core activities and represent new or expanded initiatives that will produce incremental but measurable results. Eligible activities can include market research; business travel; participation in international industry/trade expositions; consulting fees, and legal fees associated with an international business transaction.[552]

CanExport reimburses up to 50 percent of eligible expenses based on a dollar-for-dollar match. The minimum contribution amount from CanExport is $10,000 and the maximum is $99,999.

Funding is available to qualified SMEs across all sectors except for food and beverage related sectors, which are eligible for export support through the Canadian government's AgriMarketing program.[553]

To be eligible for the CanExport program, firms must be a for-profit enterprise and an incorporated legal entity in Canada; minimally employ one full-time equivalent employee and a maximum of 250 full-time employees, and have annual revenues of $200,000 to no more than $50 million declared in Canada.[554]

Canadian International Innovation Program

Operating under the aegis of the Canadian Trade Commissioner Service, the Canadian International Innovation Program (CIIP) is also targeted to SMEs in Canada. This program provides grant funding to support collaborative research and development projects that will "lead to the commercialization of new products, processes, or services". In contrast to other Canadian funding programs for collaborative research, the CIIP actively strives to connect and match Canadian enterprises with international partners in China and Brazil (with more nations in the pipeline) to accelerate the cycle of 'bench to market' and expand the global business market and impact Canadian R&D.[555]

Qualified firms can receive up to 50 percent of costs associated with the product development or commercialization up to $600,000 per project. Canadian firms also benefit through CIIPs ability to match them with foreign partners as well as from the engagement of public and private sector firms and institutions that engage in research, development and commercialization.[556]

CIIP supports three types of research and development projects that are focused on affordable healthcare; clean technology; water technology; information and communication technologies and electronic system design and manufacturing technologies. The three distinct categories of research and development projects are:

- "Technology Adaptation: Modifications or improvements to existing technologies to meet requirements either in Canada or the project partner's market.
- Technology Validation: Validation of quality, usability, functionality, or overall performance, including product value validations.
- Technology Co-Development: Acquiring innovative technologies to fill a gap in the solution created by Canadian and international partners".[557]

To be eligible for this program, the Canadian firms must be for profit and incorporated in Canada; have fewer than 500 employees; be capable and prepared to collaborate with international entities on an industrial/large-scale R&D project, and able to demonstrate their commitment to grow their enterprise through R&D and the commercialization of the resultant products, services or processes.[558]

Going Global Innovation

Also administered directly under the Canadian Trade Commissioner Service, this program is designed to advance Canada's global competitiveness and innovation economy by supporting Canadian researchers who are working collaboratively with "key players" in foreign markets on the commercialization of technologies. The program contributes up to 75 percent of eligible expenses up to $75,000 for approved projects, which must be in alignment with Canadian national research and innovation priorities. Eligible expenses encompass travel (both internationally and locally); meeting participation expenses and legal fees incurred in creating or supporting formalized partnerships. This program is extended to Canadian SMEs, universities or non-government research centers.[559]

Canada Foundation for Innovation

Established in 1997 by the Government of Canada as a nongovernmental organization (NGO), the Canada Foundation for Innovation is responsible for investing in and advancing Canada's R&D and technology development. With a $1.33 billion appropriation from the Canadian government in FY 2015, the Canada Foundation for Innovation is well-positioned to fulfill its charge and invest in "state-of-the-art facilities and equipment"; higher educational institutions; research hospitals and nonprofit research institutions. The organization is led by a 13-member board of directors, six of whom are appointed by the Canadian government.[560]

The Canada Foundation for Innovation has five major funding programs that support its work. Additionally, the organization provides consulting support and services to help better align community needs with those of the institutions it supports and to build Canada's research infrastructure to maintain and propel Canada's global leadership in innovation.[561] Although the foundation's funding does not provide financing directly to the private, it does encourage the academic, governmental and nonprofit institutions that receive funding to partner with the private sector.

Sustainable Development Technology Canada

Governed by a 15-member board of directors, Sustainable Development Technology Canada (SDTC) is funded in its entirety by the Government of Canada. Created in 2001, the organization receives joint oversight from the Ministry of Innovation, Science and Economic Development, the Ministry of the Interior and the Ministry of the Environment. Sustainable Development Technology Canada is considered as a Crown corporation under its enabling legislation.[562]

The organization funds clean tech projects and provides technical assistance to firms that are developing clean tech solutions across a broad range of sectors; SDTC's primarily works with entrepreneurs and SMEs.[563]

In addition to its grants programs, SDTC provides business support services to its clients, ranging from accessing export opportunities, to identifying both strategic and business partners, to assisting its client firms with raising capital from other sources.[571]

Canada's Federal Regional Economic Development Organizations

Canada's regional development organizations have evolved since the late 1950s, when the Canadian government initiated region-specific programs to more effectively deliver federal government services and programs, many of which were designed to decrease economic disparities between Indigenous and non-indigenous peoples and between regions of the country. In their early phases, the federal regional economic development organizations (EDOs) focused on providing specific incentives to induce job creation. In the ensuing years, and through several iterations, these regional EDOs morphed from sub-departments of the Canadian government in the 1960s to becoming legislatively-mandated

TABLE 51: SUSTAINABLE DEVELOPMENT TECHNOLOGY CANADA

Incentive Program	What It Offers
SD Tech Funds™	Supports the development and demonstration of post proof-of-concept but pre-commercialization of clean tech "solutions", projects that have the potential to meet Canada's environmental and economic development goals. Projects span transportation; power generation; energy utilization; agriculture; forestry, wood products and paper and pulp products. Projects funded through this program in FY 2015 ranged from $1 million to $51+ million.[564] ◆ Firms must demonstrate: » Once their innovative technologies are commercialized, they will "displace" an existing technology; » The application of their technology will lead to a "quantifiable reduction of GHG emissions, reduction in contaminants to water, soil or air, and/or reduction in water consumption".[565] ◆ Firms must be for profit, incorporated in Canada and have a consortium established with at least two other entities involved in the project (academic, research or another business). Funding also is available to nonprofit organizations. ◆ Projects should range from $300,000 to $15 million and entail a one to five year demonstration period. ◆ SDTC will fund up to one-third of the total project cost; the firm and its partners are required to fund the remaining two-thirds; however, SDTC does allow for government funding of up to 75 percent of the total project cost.[566]
SD Natural Gas Fund™	Supports the "late-stage development and pre-commercial demonstration of new downstream natural gas clean tech solutions that will generate cleaner energy, create new jobs and stimulate economic growth in Canada".[567] This program provides funding for projects that are in conformity with Canada's natural gas technology priority areas, supporting projects in the residential; commercial; industrial; power generation; transportation, and renewable natural gas sectors.[568]SDTC issues calls for statements of interest twice annually and typically funds one-third of total eligible project costs. Projects funded through this program are not expected to generate revenues during the duration of the project term.[569]
NextGen Biofuels Fund™	This is a repayable grant program that presently is winding down; as a result, SDTC is taking applications only for construction-ready projects. It supports the "market entry of next-generation renewable fuels and co-products, in near full or full-scale production plants, that require high capital expenditure (high CAPEX) to support their larger demonstration-scale activities".[570] Firms can receive up to 40 percent of total project costs; the SDTC's contribution must be repaid within a 10 year period.

Source: Export Development Canada Website and Reports 2016 (see endnotes).

entities in the 2000s. Most of these regional EDOs are official 'stand alone' agencies of the Canadian government, reporting to Parliament primarily through the Minister of Innovation, Science and Economic Development, in addition to serving as regional offices of the Canadian government delivering services and programs throughout the country.[572]

Many of the regional EDOs also have their own Minister (department head), and in addition to dispersing the Canadian government's largesse into their own region, they also have distinctive roles in participating in trade agreements and other federal policy-making and serving as the voice of that region back to the federal government and to parliament. Most of these regional organizations advocate for the unique needs of their provinces or territories and participate in developing public policies needed to advance their economic and social well-being.[573] As with all Canadian federal government agencies, Crown corporations and nonprofits, each federal regional economic development organization is required to submit a strategic plan in alignment with its five-year funding cycle as well as annual reports on performance.[574]

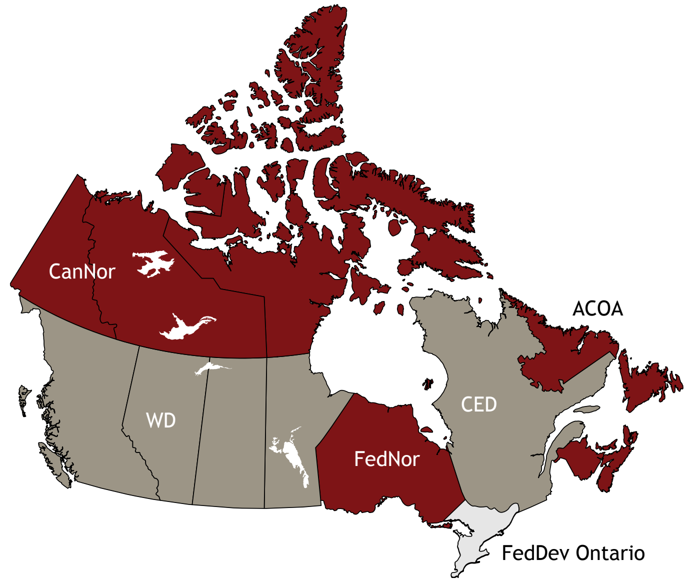
Funded through Canadian Parliament budget appropriations, the EDOs serve as 'one-stop-shops' for businesses, communities and nonprofits to access a broad range of government programs. These EDOs receive substantial budgetary support to execute primarily on economic and community development; skills training and education; infrastructure development and other specialized programs, including those that support and assist Indigenous peoples.[575] Funding is approved and renewed by Parliament in five-year tranches.[576]

As noted previously in this report, for purposes of this analysis, six Canadian territories and provinces were selected for in-depth review, based on consultation with AIDEA. The six territories and provinces are those which are most similar to the State of Alaska in terms of: general proximity to Alaska; Arctic geography and climate, and base industries such as those in Alaska, including mining, oil, natural gas, fisheries, seafood and tourism. These provinces and territories are the Yukon Territory; Northwest Territories; Nunavut; British Columbia; Alberta and Saskatchewan. As the individual territories rely upon their regional economic development organizations for economic development programs and services, following is a representative overview of these EDOs' offerings.

Canada Northern Economic Development Agency

Established in 2009 through an act of the Canadian Parliament, the Canada Northern Economic Development Agency (CanNor) encompasses the country's three territories and is responsible for fostering economic development in these areas. CanNor serves as a direct delivery model for the Canadian government, providing

FIGURE: 27 CANADA'S FEDERAL REGIONAL EDOS



Source: Government of Canada Website, June 2016.

a single point of access to all of the nation's economic and community development (and other) services. Through CanNor, specialized economic development programs are available for people, communities and businesses in the Yukon, Northwest and Nunavut territories. Many of this EDO's programs are geared specifically toward the Aboriginal Peoples, and are part of an overarching national strategy for this community.

Nearly all of CanNor's economic development programs are designed to support the growth and expansion of key economic sectors, which include "mining, tourism, fisheries, cultural industries, and community and economic development".[577] To fulfill its mandate and to support economic development, CanNor offers nine programs, many of which are structured to meet the unique needs of Canada's territories. Among these programs, two

TABLE 52: CANNOR ECONOMIC DEVELOPMENT PROGRAMS OF RELEVANCE TO ALASKA

Incentive	What It Offers
Strategic Investments in Northern Economic Development (SINED)	Provides non-repayable contributions (grants) to support short-term projects that can be completed prior to March 2018 (end of current two-year Canada FY 2016 budget funding cycle). SMEs are eligible to receive this funding in addition to nonprofit corporations. Funding under this program focuses on three priority areas: (1) the development and innovation of projects, products and services in clean tech; (2) "driving clean economic growth and diversification"[578] and (3) capacity development to enable economic growth and diversification. ◆ SMEs can receive up to $99,999 for up to 50 percent of eligible project costs; ◆ Nonprofits can receive up to 80 percent of total project costs for a maximum of $2 million. More details on the types of eligible projects and uses for these funds can be found on CanNor's website at http://www.cannor.gc.ca/eng/1385477070180/1385477215760#What.
Entrepreneurship and Business Development Fund	Designed to foster business development opportunities among the Aboriginal people, and to cultivate an entrepreneurship culture within this community. This grant program is available through the Government of Canada's Northern Aboriginal Economic Opportunities Program (NAEOP).[579] Eligible projects include mentoring, coaching, negotiation; planning and research for specific business opportunities; funding to help startup, acquire, expand or modernize an enterprise that conducts business in Canada, and a host of other criteria. All of these ventures must be owned or controlled by Aboriginal people. The maximum amount awarded to each recipient cannot exceed $3 million per annum, and covers 100 percent of eligible expenses.[580]

Source: CanNor Website and Strategic Plan 2013-2018, June 2016.

are of particular interest to this inquiry, as they address economic development opportunities and challenges that mirror those of Alaska. Other CanNor programs directly address economic and community development, and training and educational needs for Aboriginal Peoples, consistent with Canada's Federal Framework for Aboriginal Economic Development, which can be accessed via this link: http://www.aadnc-aandc.gc.ca/eng/1100100033498/1100100033499.

In addition to this and other programs available through CanNor, the regional EDO also facilitates services and programming with the territorial governments and their respective economic development organizations:

Yukon Territory: däna Näye Ventures is the official economic development corporation for the Yukon Territory. It is First Nation-controlled, providing economic and business development and financial services, primarily geared toward SMEs, throughout the Yukon Territory and also in the Northern British Columbia communities of Atlin, Good Hope Lake and Lower Post.[581] In addition, the Government of Yukon offers a significant incentive to business, industry and economic development entities (up to $500,000 in 50-50 matched funds, depending upon the program) through its Strategic Industries Development Fund Program (http://www.economicdevelopment.gov.yk.ca/pdf/sidf.pdf). As well, another program offered by the Government of Yukon is the Yukon Mineral Exploration Program, which provides up to $15,000 per year to qualified prospectors searching for 100 percent of expenses associated with finding new "mineral occurrences" in Yukon, or up to $50,000 per year for up to 50 percent of expenses incurred by individuals and businesses that undertake basic exploration work in exploring potential new mineral opportunities with the intent of taking these endeavors to an advanced stage of exploration (http://www.geology.gov.yk.ca/ymep.html).

Northwest Territories: Northwest Territories Business Development and Investment Corporation is a Crown corporation that provides loan guarantees and other financial resources, training and support to foster economic development in these territories. Most of the emphasis is on assisting the startup, development and growth of SMEs. This organization also has ownership position in several firms that it has financed with venture capital, as well as what it calls subsidiary organizations that have been developed to support specific sectors that comprise the territory's economy.[582] One specific program administered by the Government of the Northwest Territories Department of Industry, Tourism and Investment is the Support for Entrepreneurs and Economic Development Program (SEED Program). This program offers funding in five specific areas, all aimed at SMEs. Detailed information about this program can be found at http://www.iti.gov.nt.ca/en/services/support-entrepreneurs-and-economic-development-seed.

Nunavut Territory: Nunavut Development Corporation, created through a legislative act of the Government of Nunavut, is a Territorial corporation that makes equity investments in key sectors that account for most of the employment and income for Nunavut's residents; the emphasis of this endeavor is to assist and invest in the territory's smaller communities.[583] Additionally, the Kakivak Association is another organization in the Nunavut Territory that provides economic and community development resources and programs to support the Intuit community. Business development programs include the Makigiaqvik Loan Program, and through a grant program, the Sivummut Grants to Small Businesses (http://www.kakivak.ca/en/bus_programs).

Western Economic Diversification Canada

Western Economic Diversification Canada (WED) is a department of the Government of Canada, under the Ministry of Innovation, Science and Economic Development. Established in 1989, WED is one of the earlier federal regional EDOs created within Canada's government structure under the Western Economic Diversification Act.[584] Economic development programs designed specifically for the Canadian provinces of British Columbia, Alberta, Saskatchewan and Manitoba fall under the aegis of this department.[585]

WED provides a broad range of business development services and programs, many of them emphasizing the creation of opportunities in innovation, entrepreneurship and SMEs. The primary focus of these offerings is on SMEs in key economic sectors: Life Sciences, Information and Communication Technology, and other technologies, including those that related to the base industries in the Western provinces, e.g., environmental sciences, advanced materials and composites and micro/nanotechnology.[586] These programs are available only in Western Canada's four provinces: British Columbia, Alberta, Saskatchewan and Manitoba.

In addition to Western Economic Diversification Canada's economic development programs, the four provinces within this region also have their own provincial-level economic development agencies, programs and resources. In all cases, these provinces fully integrate federal programs into their own delivery systems. For purposes of this report, three of Canada's Western provinces are included in greater detail, as their proximity and/or economic structures closely approximately Alaska's economy. These three provinces are British Columbia, Alberta and Saskatchewan.

TABLE 53: WED ECONOMIC DEVELOPMENT PROGRAMS OF RELEVANCE TO ALASKA	
Incentive	**What It Offers**
Western Innovation Initiative (WINN)	Represents a five-year, $100 million investment on the part of the Canadian Government. Provides repayable contributions to qualified SMEs with operations in Western Canada that are developing and seeking to launch and/or expand their market presence for newly-developed and innovative products, services and processes.[587] An overarching goal of this program is to significantly increase the number of highly-skilled STEM jobs in Western Canada's provinces as well as advancing the region's innovation and technology-oriented sectors. The WINN program funds as follows: ◆ Eligible activities and projects entail » Introducing new products, services and processes to new and existing markets; » Improving existing products, services and processes; » Developing and accelerating technologies; » Pilot and demonstration projects; » Providing support for marketing, human resource acquisition and development; process improvement and other related endeavors that support the development and acceleration of these types of products, services and processes. ◆ 20 percent of this funding has been devoted to projects seeking $500,000 or less and the balance to projects seeking more than that level of funding. ◆ Up to $3.5 million per project to support the commercialization of SMEs' development of technology-based projects, processes and services. ◆ The maximum funding limit over the five-year period is $7.5 million per recipient.[588]
Funding for Business	Provides indirect "gap financing" through a network of business and economic development organizations located throughout Western Canada to support entrepreneurship and SMEs. Funding programs include: ◆ Community Futures – a network of 269 grass-roots organizations nationally that support entrepreneurship and small business; in Western Canada, there are 90 such organizations. For funding through this vehicle: » Eligible firms must be located in a rural part of the four provinces, within a Community Futures designated area; » Financing provided includes loans on commercial terms (conventional financing); equity financing and loan guarantees; » Total funding amount: up to $150,000.[589] ◆ Women's Enterprise Initiative Loan Program – WED has established a separate, nonprofit program – the Women's Enterprise Initiative – with offices in each of Canada's four Western provinces. » Eligible firms must be at least 50 percent owned by a woman; » Have a viable business plan; » Seeking financing for a business startup, the expansion of an existing business or the purchase of an existing enterprise; » Total funding amount: up to $150,000.[590]

Source: WED Website and Report on Plans and Priorities 2016-17, June 2016.

British Columbia: Many of British Columbia's economic development programs, especially those with a significant level of provincial and federal funding, are geared solely to First Nations peoples. First Nations peoples are descendants of the original, Indigenous people who resided in lands that now are Canada.[591] In Canada, there are 617 First Nations; 198 of these communities are in British Columbia.[592]

One of British Columbia's major economic development programs is the Coast Opportunity Fund, which is a $116 million pool of moneys from the province, the Government of Canada and six private foundations. Two separate funds and initiatives comprise the Coast Opportunity Fund: the Conservation Fund and the Economic Development Fund.

Other unique programs of interest to any U.S. state, including Alaska, are available through nonprofit industry sponsored organizations or charitable nonprofit organizations. These include the B.C. Buy Local Program, which is sponsored and managed by the Investment Agriculture Foundation of British Columbia, and the Coast Opportunity Fund, funded jointly by the British Columbia provincial government, the Government of Canada and six foundations.

<table>
<tr><th colspan="2">TABLE 54: BRITISH COLUMBIA ECONOMIC DEVELOPMENT PROGRAMS OF RELEVANCE TO ALASKA</th></tr>
<tr><th>Incentive</th><th>What It Offers</th></tr>
<tr><td>B.C. Buy Local Program</td><td>Designed to assist and support British Columbia's food producers, processors, agribusiness and rural communities. Supports firms that seek to increase their sales in the domestic Canadian or local markets and funds advertising, participation in trade shows and events, and branding and public relations activities.
◆ Funding is awarded on a 50 percent dollar-for-dollar match (in cash);
◆ Funding ranges from $5,000 to $75,000, depending on the project;
◆ Eligible products include "any food, seafood or beverage product made entirely from ingredients sourced in British Columbia" (including processed and packaged) or comprised of "85 percent of their main ingredients" from the province.[593]
This program is available to food-specific trade associations, individual businesses, cooperatives, nonprofit organizations and Aboriginal groups.[594]</td></tr>
<tr><td>B.C. Tech Co-op Grants Program</td><td>Administered and funded by the BC Innovation Council, a private, industry-driven nonprofit membership organization comprised of technology and related firms. A fundamental goal of this program is to cultivate and development young, college educated youth in technology fields and to encourage them to seek employment in technology firms. This also is designed to address talent and skill shortages. Through this program, a grant of up to $2,700 is awarded towards the salary of the student to a technology firm with fewer than 99 employees, to technology-related nonprofits, or to a non-tech firm that is seeking to fill a technology-oriented position. The BC Innovation Council disburses these grants through co-op programs at colleges and universities located in British Columbia.[595]</td></tr>
<tr><td>Coast Opportunity Fund - Conservation Fund</td><td>Represents a $56 million permanent endowment that serves the First Nation communities in protected coast regions of British Columbia; the economic development aspect is the protection of full-time and seasonal jobs. This fund is a separate legal nonprofit entity. Its primary goal is to restore, preserve and protect the ecodiversity of British Columbia's coast, in which many First Nation peoples reside. Projects funded under this program include:
◆ "Science, research and monitoring"[596] of the coastal ecosystems and habitats;
◆ Certified training and workforce development programs that contribute to the capacity development of British Columbia's Coast Opportunity areas;
◆ Annual funding awards generally range from $1.5 million to $2 million.[597]</td></tr>
<tr><td>Coast Opportunity Fund - Economic Development Fund</td><td>Funding through this initiative is $58 million; the goals of this program are to increase the capacity of First Nations, and to create economic opportunities, especially in specific industries including shellfish aquaculture, tourism and cultural enterprises. The funding originally was intended to be totally disbursed by 2014; however, the fund was extended through June 2017. Only First Nations are eligible for funding under this program. The range of projects eligible for funding is vast, and includes (for a complete description, visit http://www.coastfunds.ca/eligibility):
◆ Tourism, including cruises, trails, wildlife viewing and other strategic cultural/marketing infrastructure;
◆ Shellfish aquaculture, fisheries;
◆ Nutraceuticals;
◆ Non-timber forest products;
◆ Technology and communications infrastructure (e.g., broadband internet);
◆ Transportation infrastructure;
◆ Small business infrastructure, e.g., incubators, coworking spaces, retail market space.[598]

Between 2008 and June 2016, Coast Opportunity Funds has awarded more than $42.77 million to support 142 projects that fall within the parameters of the organization's goals and objectives.[599]</td></tr>
</table>

TABLE 54: BRITISH COLUMBIA ECONOMIC DEVELOPMENT PROGRAMS OF RELEVANCE TO ALASKA	
Incentive	**What It Offers**
Remarkable Micro-Loan Program	Funded by credit unions located in British Columbia, this program is designed specifically for young people to encourage them to develop "remarkable" ideas that can germinate new businesses, products and services. What distinguishes this program from most other similar micro-loan programs is that the loan is based on the quality of ideas and not on an individual's credit history. Borrowers can obtain up to a $5,000 and repay over a two year time period, making interest-only payments, after which time the credit union will customize a repayment plan.[600]

Source: Government of the British of Columbia and other organizational websites, June 2016.

Alberta: The Province of Alberta has an extremely well-developed and robust portfolio of economic development programs, which are administered by the Alberta Ministry of Economic Development and Trade. The province's programs reflect the breadth of its well-developed and relatively diverse economy, as well as its concentration of population and skilled workforce. Alberta's targeted economic sectors include "oil and gas; engineering and construction; refining, petrochemicals and biochemicals; environmental products and services; aerospace and defense; industrial manufacturing, and logistics and market access".[601] Many of the province's programs support industries that are similar to the economic mainstays of Alaska's economy. Two programs in particular, have relevance to the State of Alaska: the Innovative Energy Technologies Program that supports the oil and gas sector, and the Agriculture Revolving Loan Program, an asset-based loan program to support agriculture. Additional information on other business and economic development incentive programs available in Alberta can be found at http://economic.alberta.ca/documents/CRED-Funding-Opportunities.pdf?0.08180785558908177.

TABLE 55: ALBERTA ECONOMIC DEVELOPMENT PROGRAMS OF RELEVANCE TO ALASKA	
Incentive	**What It Offers**
Innovative Energy Technologies Programs (IETP)	Established in 2014, this program represents a $200 million commitment on the part of Alberta to encourage and support innovation, research and the development of technologies in the energy sector. The goals of this program include: ◆ "Increasing the recovery from oil and gas deposits resulting in incremental production and royalties; ◆ Finding a flexible commercial technical solution to the gas over bitumen issue that will allow efficient and orderly production of both resources improving the recovery of bitumen resources by in situ technologies; ◆ Improving recovery of natural gas from coal seams; and ◆ Disseminating technology and information developed through the projects supported by this program".[602] The Province of Alberta owns 81 percent of all mineral rights within its domain.[603] Over time, the total commitment of public and private sectors will be $1.15 billion, with Alberta Energy contributing $195 million and the remaining $995 million contributed by the oil and gas industry. ◆ Approved projects can receive up to a 30 percent adjustment in the royalties that they otherwise would pay; the industry is responsible for providing the remaining project costs (at least 70 percent). ◆ It is anticipated that over time, the technologies benefitting from this royalty adjustment will result in (a) success; (b) enhancement of resource recovery; (c) an increase in royalties that will enable the province to fully recover the costs associated with this program.
Agriculture Revolving Loan Program	Administered by the Alberta Ministry of Agriculture and Forestry, and is available to "Canadian citizens and landed immigrants who meet Alberta residency requirements and who are primary agriculture producers".[604] ◆ Direct loans secured by real property can be used to acquire assets or pay liabilities or expenses associated with starting, expanding or buying a farm operation. ◆ Maximum loan amount is $5 million; borrowers can re-borrow the amount that already has been repaid. ◆ Loan term is 12, 24 or 36 months only. ◆ Repayment is one percent of the outstanding principal plus interest payable on a monthly basis; all payment transactions are made via pre-authorized electronic debiting from the borrower's commercial account.[605]

Source: Government of Alberta Website, June 2016.

Saskatchewan: As with the Province of Alberta, Saskatchewan offers economic development incentives, including tax concessions, to qualified firms in its primary targeted sectors: manufacturing and processing; research and development; agriculture; energy and natural resources, which includes forestry and forestry development; First Nation/ Métis communities, and theme-based tourism. Many of this province's economic development programs have relevance to the State of Alaska; there is an abundance of these programs, and reference to them can be found at http://www.economy.gov.sk.ca/Business-Incentives. Of particular import to Alaska are Saskatchewan's programs to support and advance its oil and gas industry and its agricultural sector.

TABLE 56: SASKATCHEWAN ECONOMIC DEVELOPMENT PROGRAMS OF RELEVANCE TO ALASKA	
Incentive	**What It Offers**
Saskatchewan Petroleum Research Incentive	Administered by the Saskatchewan Ministry of the Economy, this program is designed to advance and expand enhanced oil recovery projects through the R&D of promising new technologies that will result in the growth of the province's oil and natural gas production. Other important goals of this incentive are to improve efficiencies and costs of the oil and natural gas production industry, as well as to reduce the environmental impact of this sector.[606] To receive support through this incentive program, each project must demonstrate the feasibility of and pathway for the transfer of the technology being proposed. ◆ Eligible projects must either be an Enhanced Oil Recovery pilot project in the province or meet all of the criteria of the program eligibility. ◆ Approved projects receive credits toward the remission of royalties and taxes otherwise due as follows: » 50 percent of eligible research costs directly involving the Petroleum Technology Research Center (PTRC - located in Regina, Saskatchewan) up to a maximum of $1 million per project; and » 30 percent of any remaining costs directly involving the PTRC and all other eligible research costs up to a maximum of $3 million per project.[607]
Saskatchewan Agri-Value Initiative	Administered by the Saskatchewan Ministry of Agriculture through its Agriculture Research Branch. The goal of this program is to encourage added value to Alberta's agricultural products with funding to SMEs and to producers and processors. This program takes these entities through three stages: (1) Information Services; (2) Business Proposal/Plan, and (3) Funding. Awardees must provide 50 percent of the cost of the project (dollar-for-dollar match). Funding opportunities are as follows: ◆ Total funding limit is up to $100,000 per firm or organization over the term of the program (April 1, 2013 to March 31, 2018). ◆ Individual component maximums are as follows: » Up to $60,000 for prototype/product development; » Up to $40,000 for marketing support and to participate in marketing opportunities; » Up to $5,000 for skills and other technical training; and » Up to $100,000 for enhanced training, which supports firms that are training or re-training new and existing employees to meet specific skills needs.[608]

Source: Government of Alberta Website, June 2016.

Summary

Canada serves as an important benchmark for Alaska, as it shares its border, its climate, its vast stretches of wild land mass rich with natural resources including minerals, oil and gas, forests and coastline, and a highly rural, multicultural and multilingual population. In contrast to the state of Alaska, Canada's economic development sector is generally organized around government-mandated and funded institutions that distribute government funds through multiple assistance modalities, based on regionally established and federally-aligned goals. They further lever these funds through partnerships with business and industry, and financial institutions. Additionally, Canada's commitment to create a favorable business environment, including a tax base significantly lower than the U.S., a commitment to innovation in all sectors that is backed by significant federal dollars, and a pragmatic realization that some of Canada's most significant sectors are subject to global economics and other cyclical trends, has pushed Canada to diversify its economies in all provinces and territories to ensure a ballast against economic winds.

SECTION 2.2: IRELAND

Dubbed the "Celtic Tiger", Ireland has actively promoted foreign direct investment (FDI) for over 50 years with marked results. Ireland's multi-faceted portfolio of tax and other incentives has yielded significant FDI, particularly from the United States. The goal of Ireland's comprehensive economic development and investment promotion strategies drive toward the creation of new jobs for the nation's 4.6+ million residents, with an emphasis on technology-intensive and high-skill industries.[609] In recent years, Ireland has strived to elevate its global competitiveness by instituting new tax and grant programs that encourage both indigenous and foreign-owned firms to increase their research and development activities as well as the production and export of higher value goods and services.[610]

Between 1995 and 2007, Ireland's GDP grew by six percent. During the Great Recession of 2007, Ireland was hit particularly hard when its domestic property market and construction industry collapsed.[611] When Ireland's deficit reached 32.4% of GDP in 2010 – the largest such deficit in the world - the European Union and International Monetary Fund provided a $92 billion loan as part of a "bailout" to help Ireland stabilize its finances. With the EU/IMF loan as well as continued austerity measures, Ireland formally exited the bailout program in late 2013.[612]

Today, Ireland is once again experiencing significant growth in GDP; in 2014, GPD growth was 5.2% and in 2015, Ireland's estimated GDP growth was 7.8%, marking the highest GDP growth rate in the European Union for the second consecutive year. Ireland's estimated GDP in 2015 was $250.3 billion.[613]

Ireland's low corporate tax rate of 12.5% has been a primary factor in its attractiveness to FDI, and U.S. multinationals have gravitated to Ireland because of this and other location factors. American firms now account for the majority of FDI in Ireland; approximately 700 U.S. subsidiaries operated in Ireland as of year-end 2014. More than 115,000 direct jobs that support the work of an additional 250,000 workers are attributable to U.S. FDI in Ireland. U.S. firms in Ireland are concentrated primarily in the computer hardware and software; electronics; financial services; business services and processing; biosciences, including pharmaceuticals and medical devices, and chemicals sectors.[614]

Overall, foreign firms operating in Ireland account for 174,448 direct jobs and an estimated 122,000 indirect jobs, exporting €124.5bn in goods and services. These firms also invest/expend €1.4bn on research and development annually and pay €2.8bn in corporation taxes to the Irish treasury each year.[615]

Ireland increasingly has become an important research and development center for U.S. firms located in Europe, and the nation's targeted tax incentives (via tax credits and low taxation rates) to encourage more research and development (R&D) investment have paid off particularly well in the Information Communications and Technology and Digital Media sectors. Global leaders in these sectors have established major R&D operations in Ireland, including Google, Amazon, eBay/Paypal, Facebook, Twitter, LinkedIn, and Electronic Arts, all of which have made Ireland the headquarters and hubs of their respective European operations.[616] These R&D tax credits are in addition to the 6.5% corporate income tax rate that was instituted in 2015, which applies solely to business activity arising from research and development that takes place in Ireland.

At a national level, the Irish Government has been steadfastly committed to building, maintaining and improving its business-friendly climate by providing a cost-effective operating environment that is anchored in favorable taxation and business incentives. Each of these policies is foundational to Ireland's economic development competitiveness and tool kit. Ireland's standard 12.5% corporate income tax rate historically has served as the basis of its industrial policy. The low corporate tax rate; an enhanced tax rate for intellectual property; the relatively new tax benefits for R&D; liberal exemptions from dividend, royalty and interest withholding taxes; the absence of laws governing foreign companies, and the existence of incentive packages that maximize financial assistance available through the European Union contribute to Ireland's desirability as a location for business.[617]

According to global rankings, Ireland also is cited for other important business location factors, including the quality, flexibility and multi-lingualism of its workforce; positive business-labor relations; stable political environment; pro-business policies and regulations; a fair and transparent judicial system; transportation infrastructure and market access, and proximity to the U.S. and Europe.[618]

TABLE 57: SNAPSHOT OF IRELAND'S GLOBAL RANKINGS		
Measure	**Year**	**Index or Rank**
Transparency International Corruption Perceptions index	2015	18 of 168[619]
Heritage Foundation Economic Freedom Index	2016	8 of 178[620]
World Bank's Doing Business Report: "Ease of Doing Business"	2016	13 of 189[621]
Global Innovation Index	2015	8 of 141[622]
World Bank GNI per capita	2014	USD $46,520[623]
IMD World Competitiveness Ranking	2015	16 of 61[624]

Source: U.S. Department of State, May 2015.

Ireland's Public Sector Economic Development Landscape

To align with its overarching goal of providing jobs to Irish citizens and creating higher value work and income opportunities, government incentives specifically target multinational firms that generate and sustain high-skilled jobs and net exports with significant local content. In terms of FDI in Ireland, firms in the manufacturing of pharmaceuticals and medical devices, financial services, Information Communications and Technology (ICT) and Professional Services sectors have clustered in that nation over the past 25 years. Industry accounts for a higher level of output than is the case in most other developed economies, and the structure of Ireland's economy is becoming more like that of other developed nations. While Ireland is focused on high tech and high-value-added economic activity, agriculture still remains relatively more important in that nation compared to other European Union economies.[625]

Within Ireland, there are several government agencies that have a direct role in the nation's economic development and development finance. While most claim to have distinctively different missions, many of them overlap in the area of small-to-medium sized enterprises (SMEs). Chief among these agencies are:

- The National Treasury Management Agency
  - NewERA (New Economy and Recovery Authority)
  - Ireland Strategic Investment Fund
  - National Development Finance Agency
- Department of Jobs, Enterprise and Innovation
  - IDA Ireland (Industrial Development Authority of Ireland)
  - Science Foundation Ireland
- Enterprise Ireland
- Department of Foreign Affairs and Trade
- Udaras na Gaeltachta (Udaras)
- Bord Bia
- Shannon Group (formerly the Shannon Free Airport Development Company)

The National Treasury Management Agency

The National Treasury Management Agency (NTMA), which reports to the Irish Minister of Finance, is the entity of the Irish government that manages the country's assets and liabilities. Several "businesses" are managed by the NMTA, in addition to its core functions of borrowing for the Irish national treasury (Exchequer), managing the national debt, and operating and serving as the State Claims Agency. The NMTA provides staff and business support services to Ireland's National Asset Management Agency and the Strategic Banking Corporation of Ireland.[626] It also controls the coveted NewERA, Ireland Strategic Investment Fund and Strategic Banking Corporation of Ireland.

In 2014, the NTMA was reconstituted to provide for a nine-member board of directors, six of whom are appointed by the Minister for Finance. The Chief Executive of the agency and the Secretaries General of the Departments of Finance and Public Expenditure and Reform serve as ex-officio members of the agency. These changes were instituted to provide more oversight; the CEO previously reported directly to the Minister of Finance.[627]

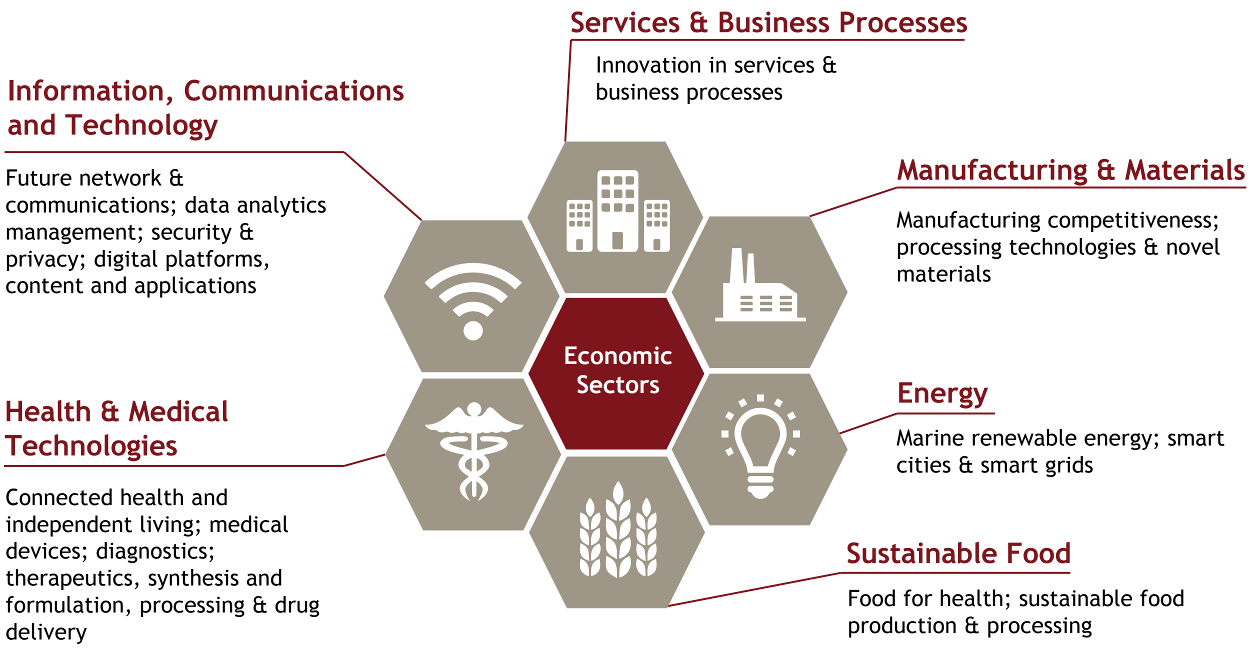
In terms of its direct role in economic development and development finance, the NMTA has under its auspices NewERA, the Ireland Strategic Investment Fund, the National Development Finance Agency and the Strategic Banking Corporation of Ireland.

NewERA (New Economy and Recovery Authority)

NewERA delivers centralized financial and commercial advisory services and advice to Irish government ministers whose agencies provide critical infrastructure that supports economic development. Much of NewERA's focus is on facilitating energy, telecommunications, transportation and water resources.[628]

From an economic development and development finance standpoint, New ERA works with public and private stakeholders to develop proposals for energy, telecommunications, water and forestry projects that will support existing and generate new economic activity and job generation.[629] While NewERA does not directly fund these essential infrastructure projects per se, it plays a central role in evaluating proposed mergers, acquisitions, disposals and other proposals that will impact Ireland's energy, telecommunications, water, forestry and airline industries.

FIGURE 28: IRELAND'S KEY ECONOMIC SECTORS



Source: IDA Ireland, Facts About Ireland, Autumn, 2015.

TABLE 58: IRELAND'S PUBLIC SECTOR ECONOMIC DEVELOPMENT AGENCIES

Agency	Primary Roles in Economic Development
National Treasury Management Agency	A state body that provides asset and liability management services to the Irish Government. The agency has evolved from it single purpose into a manager of a wide-ranging and complex portfolio of public assets and liabilities. Primary economic development and development finance functions under the National Treasury Management Agency include the NewERA (New Economy and Recovery Authority), Irish Strategic Investment Fund, National Development Finance Agency and Strategic Banking Corporation of Ireland.
Department of Jobs, Enterprise and Innovation	Responsible for job creation and a host of related functions that support economic development. Primary economic development/development finance responsibilities under the aegis of this department are IDA Ireland (Industrial Development Authority of Ireland), Science Foundation Ireland and Microfinance Ireland. Through IDA Ireland and Science Foundation Ireland, this agency offers grant aid and other incentives to businesses in primary targeted sectors. Microfinance Ireland provides microloans to SMEs, particularly those that are microenterprises.
Enterprise Ireland	Enterprise Ireland is an independent, statutory body established by the Industrial Development (Enterprise Ireland) Act 1998 to promote Irish exports. This entity has been empowered to offer many programs to both indigenous and foreign firms, small, medium and large, operating in Ireland that either manufacture or conduct international commerce.
Department of Foreign Affairs and Trade	Responsible for supporting Ireland's trade promotion agenda as well as engagement internationally to attract FDI. The Department Foreign Affairs and Trade's staff and global embassy network work closely with Irish government economic development agencies to coordinate the promotion of trade, tourism and inward investment. Primary areas related to economic development include: ◆ Assist Irish companies in accessing new markets internationally; ◆ Provide general advice on doing business locally and pursue export and investment opportunities that will benefit Ireland; ◆ Work to secure market access for Irish products in key sectors in high-growth and emerging markets.

Udaras na Gaeltachta (Udaras)	Has responsibility for economic development in those areas of Ireland where Irish (Gaeilge) is the predominant language and works with IDA Ireland and other Irish government economic development agencies to promote FDI and job creation in these regions.
Bord Bia (Irish Food Board)	Promotes the production, safety, consumption and export of Irish food and horticultural products, including seafood. This agency reports to Ireland's Minister for Agriculture, Food and the Marine, and has an international network of offices located in Europe, Asia, The Netherlands, the Middle East and in Russia.
Shannon Group (formerly the Shannon Free Airport Development Company)	Promotes FDI in the Shannon Free Zone and owns properties in the Shannon region as potential greenfield investment sites. In 2006, responsibility for investment by Irish firms in the Shannon region was transferred from the Shannon Group to Enterprise Ireland. IDA Ireland remains responsible for FDI in the Shannon region outside the Shannon Free Zone.

Source: Government of Ireland Website, April 2016.

The development finance role comes into play when the NewERA signals approval of these projects to the Irish Treasurer (Exchequer) and government funding is appropriated for these critical infrastructure projects.[630]

Structurally, NewERA has a dedicated full-time staff of accounting, finance, actuarial, economic, engineering and project management expertise, and is led by a member of its "parent agency" - the NMTA's - senior executive team to ensure that there is complete alignment with Irish laws and expectations as well as policies and performance standards for the NMTA.[631]

Ireland Strategic Investment Fund

Established in December 2014, the Ireland Strategic Investment Fund (ISIF) has as its statutory mandate to invest on a commercial basis in projects that support economic and employment growth in Ireland. According to the Irish government, the ISIF's dual mandate – investment return and Irish economic impact – represents a new "double bottom line" approach to investing and requires all transactions to generate both risk adjusted commercial returns and measurable economic impact in Ireland. The ISIF is controlled and managed by the National Treasury Management Agency.[632]

To fund the ISIF, half of the assets of the National Pensions Reserve Fund (which has since been dissolved) were transferred to the ISIF. A total of €7.2 billion (USD$8.1 billion) became available for these purposes.[633]

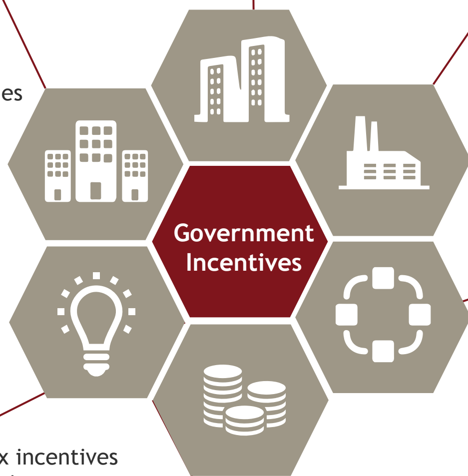
A fundamental tenet of the ISIF is that investments will be made with a long-term horizon. There will be no withdrawals made by the Irish government prior to 2025, and after that, an annual dividend payment of up to 4% will be made to Ireland's treasury (Exchequer).[634]

In its first year of operations, the ISIF committed €2.0 billion to investments in Ireland, comprised of €613 million to Irish projects between January and November 2015 and previous commitments of approximately €1.4 billion by its predecessor, the National Pensions Reserve Fund, before 2015. When combined with third-party capital, Ireland Strategic Investment Fund-backed companies, projects and funds have attracted total investment commitments amounting to €4.9 billion.[635]

With the establishment of the Ireland Strategic Investment Fund, the Irish government – through the National Treasury Management Agency – significantly extended its reach in terms of supporting both public and private projects that will advance Ireland's economic development. The ISIF focuses on investment in projects, companies and funds with Irish activities that have the potential for significant expansion, innovation, value improvement and "economic development additionality" (increase in Ireland's GPD). These investments entail creating and/or investing in new funds, investing in established funds, or investing in projects or firms that can demonstrate (1) above average growth rates in earnings or sales; (2) high or improving returns on capital, or (3) the ability to capture/ penetrate significant market opportunities.[636] In addition, the ISIF can invest in infrastructure projects, such as water, energy, telecommunications, transportation and others that provide essential infrastructure to support Ireland's economic growth and competitiveness.[637]

As part of its mandate, the ISIF can participate in all levels of a project or company's capital structure including senior debt, mezzanine debt, traditional private equity (either directly or through another investor fund), venture capital, preferred equity and "special situations", e.g., acquisitions, turnarounds or disposals. When directly investing, the ISIF seeks to take a substantial minority position in either debt or equity, and as part of its risk-management strategy, prefers to participate as a member of a syndicate or co-investment group that takes the lead on due diligence, validating the feasibility of the project.[638]

FIGURE 29: OVERVIEW OF GOVERNMENT INCENTIVES IN IRELAND



SMEs

- Ireland Strategic Investment Fund
  - » Equity investments – fund to fund
  - » Equity investments – banks
  - » Equity investments - companies
  - » Strategic infrastructure investments
- Strategic Banking Corporation of Ireland
  - » Loan Guarantees
  - » Credit Guarantee Scheme
- Enterprise Ireland
  - » Grants
  - » Mentorship, training

Business & Technology Parks

IDA Ireland

Manufacturing & Internationally Traded Goods

- IDA Ireland – inward bound
  - » Cash grants; tax incentives
- Enterprise Ireland – outward bound
  - » Cash grants; tax incentives
- Department of Foreign Affairs and Trade

Infrastructure

- NewERA
- National Development Finance Authority
- Science Foundation Ireland
- Ireland Strategic Investment Fund

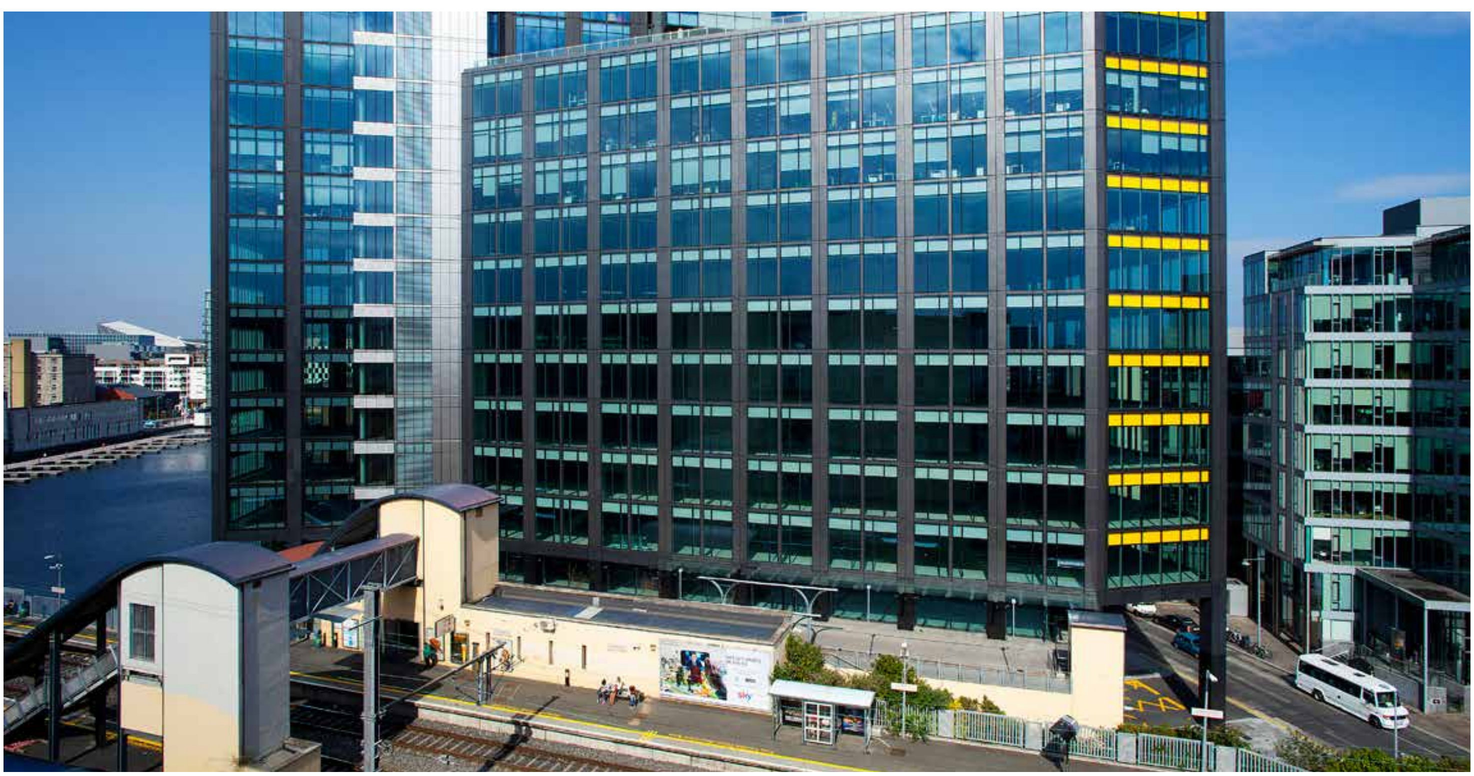
Research & Development

- Enterprise Ireland – grants and tax incentives
- IDA Ireland – grants and tax incentives
- Science Foundation Ireland – grants and tax incentives

P3s

- NewERA
  - » Project Procurement, Management and Evaluation
  - » Science Foundation Arizona
- Science Foundation Ireland
  - » Grants for industry and academia

Source: IDA Ireland, Facts About Ireland, Autumn, 2015.

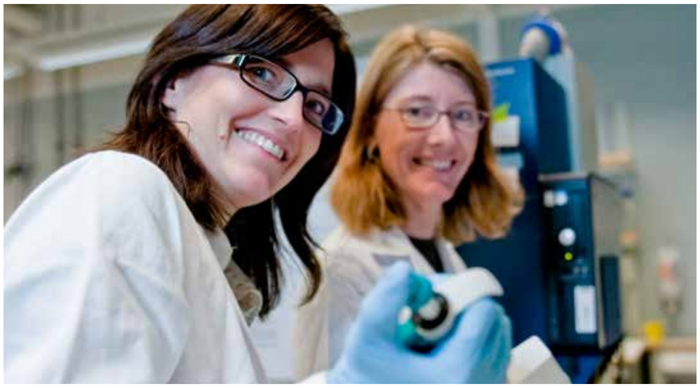


The framework for the ISIF's investing includes:

TABLE 59: GUIDING PRINCIPLES FOR THE IRELAND STRATEGIC INVESTMENT FUND
Develop a broad-based portfolio across sectors, regional locations, asset classes and abilities to achieve "transformative" impact.
Capitalize on its distinctive abilities of breadth and flexibility of types of projects/assets, its long-term investment horizon and status as a sovereign investment partner to fill investment gaps and enable transactions that otherwise may not be completed.
Seek co-investors where possible to ensure the commerciality of its investments and leverage the economic impact that can be obtained from ISIF resources.
Realize a portfolio return over the medium term in excess of the average cost of Irish Government debt.
Strive to realize individual transaction returns that are appropriate relative to the risk involved.
Target 80% allocation to "High Economic Impact" investment opportunities that will generate value-added economic activity (increases in Ireland's GDP) over time and have low levels of "displacement and deadweight".
Pursue a diverse range of value-added economic activity (increases in Ireland's GDP) based on measures such as increased output (annual revenues/turnover); profits (operating surplus); net exports and capital expenditure and employment; an increase in any of these activities is expected to increase overall economic activity in Ireland's economy.
Provide transparency and reporting on a regular basis relative to economic impact (including employment, turnover, exports, profits etc.) and regional distribution of investments.
Deploy capital over a 3 to 5 year period, subject to commercial investment opportunities being

Source: Ireland Strategic Investment Fund Investment Strategy, July 2015.

Although the ISIF operates with few restrictions relative to the type or duration of investment other than ensuring the project will bring value-added activity to Ireland's economy and meets internal risk-management parameters, there is an emphasis on certain sectors. They include food and agriculture; real estate; energy, including renewables, storage, and emerging technologies. The ISIF's investment strategy provides an illustrative allocation that establishes a framework for how its investments will support national economic development priorities.



National Development Finance Agency

Another economic development and development finance-related activity of the National Treasury Management Agency is the National Development Finance Agency (NDFA). As the statutory financial advisor to the Irish government relative to all public investment projects with a capital value of over €20 million, the NDFA provides oversight, risk assessment, evaluation and counsel on these capital investments. In addition, the NTMA has total responsibility for the procurement and oversight of Public Private Partnership (PPP) projects in sectors other than for transportation and those financed or controlled by local governments. The NDFA serves as a fully-integrated finance, procurement and project delivery model that brings a unified "commercial approach" to the procurement and project management of new public sector projects, including Public Private Partnerships. The NDFA provides financial advice, project management and contract management services to public sector education, health, housing, justice and transportation projects that involve public-private partnerships.[639]

Strategic Banking Corporation of Ireland

The Strategic Banking Corporation (SBCI) was established in 2014 to capitalize on both Irish and international capital to deliver low-or-lower-cost loans to Ireland's small and medium-sized enterprises (SMEs). The Strategic Banking Corporation of Ireland obtained funding from KfW (the German State Development Bank), the European Investment Bank and the Ireland Strategic Investment Fund for its initial capitalization. The Strategic Banking Corporation of Ireland provides loan guarantees and other credit facilities to co-lending institutions that in turn provide direct loans to SMEs. Staff and business support services and systems are provided by the "parent" agency – the National Treasury Management Agency; however, there is an independent board of directors that is responsible for the operations and oversight of the Strategic Banking Corporation of Ireland.

TABLE 60: IRELAND STRATEGIC INVESTMENT FUND: STRATEGIC INVESTMENT OBJECTIVES

Strategic Objectives	Goals	Specific Targets
Deployment	◆ Accelerate as much as possible ◆ Likely to take 3 to 5 years (2018 to 2020)	◆ €500m - €1bn (total €2bn - €2.5bn) capital committed in 2015 ◆ 100% committed/reserved by end 2019 ◆ Commitments are key - ISIF acknowledges that actual drawdowns can take significantly longer
Diversification	◆ Diversified across asset classes, drivers of economic impact, sectors & duration and number of investments	◆ 50% Equity/50% Debt (+/- 10%) ◆ 50% Direct/50% Indirect (+/- 10%) ◆ Min of €250 million per "investment bucket"
Return	◆ Each individual investment must be "commercial" ◆ Portfolio expected return to be 4% (rolling 5 yr.) ◆ Long-term outlook	◆ Achieve commercial risk adjusted return on each individual investment across entire portfolio (co-investment is a prime validation of commerciality) ◆ Target medium term portfolio return of 4% p.a. (gross)
Economic Impact Objective	◆ Focus on high economic impact sectors (80% of assets) ◆ Short-term/accelerator role in lower impact sectors (20% of assets) ◆ Identify key metrics on ex-ante basis to monitor on ex-post basis	◆ Achieve 80%:20% allocation by end yr. 4 (+/-5%) » 60%:40% allocation by end yr. 1 (+/-5%) » 70%:30% allocation by end yr. 2 (+/-5%) » 75%:25% allocation by end yr. 3 (+/-5%) ◆ Report key metrics in the areas of output and employment to assess the economic benefits of investments. Economic targets to be defined as experience is gained
Multiply Investment Impact	◆ Co-investors (2.5x multiple to date) ◆ Recycle and re-use	◆ Total investment size/ISIF investment > 2.0x across entire portfolio ◆ 10% of investment commitments available for recycling by end 2019

Source: Ireland National Treasury Management Agency, Irish Strategic Investment Fund Investment Strategy, July 2015.

The Strategic Banking Corporation of Ireland utilizes the European Commission's definition of SMEs:

"Enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding €50m and/or an annual balance sheet total not exceeding €43m."[640]

Using its government backed, long-term funds as well as those of "on-lenders", or participating banks, the SBCI offers a portfolio of several financial products to SMEs. Additionally, the SBCI has enlisted the participation of other types of lenders, including equipment and automobile finance firms, fleet management firms, etc. Through this entity, Ireland's SMEs are able to obtain more flexible financial products with longer maturity and capital repayment terms, all subject to credit approval by the on-lender. SBCI's participation and backing also provides for lower-cost funding to financial institutions, the benefits of which must be passed on to the SME borrowers, and enables market access to new entrants into the SME lending market. The goal is to increase competition and as a result, expand access to capital for SMEs.[641]

Through the SBCI, borrowers are able to obtain capital for the following:

TABLE 61: STRATEGIC BANKING CORPORATION OF IRELAND LOAN PROGRAMS

Loans Available	What it offers
Investment and Working Capital Loans (with Participating Banks and Financial Institutions)	◆ Loan amounts of up to €5 million ◆ Minimum loan term of 2 years ◆ Lower interest rates ◆ Available for both investment and working capital
Refinance of Exiting Bank Loans (with Participating Banks and Financial Institutions)	For refinancing of existing loans with specific banks that are exiting the Irish market (several major banks are exiting Ireland). ◆ Loan amounts of up to €5 million ◆ Minimum loan term of 2 years ◆ Lower interest rates ◆ Available for both investment and working capital
Agriculture Investment Loans (with Participating Banks and Financial Institutions)	Available for investment by SMEs in the agriculture sector, e.g., agricultural production, and processing or marketing of agricultural products. There are several restrictions, consistent with EU laws and regulations. ◆ Loan amounts of up to €5 million ◆ Minimum loan term of 2 years and up to 10 years ◆ Lower interest rates ◆ Available for both investment and working capital
Leasing and Hire Purchase (with Participating Banks and Financial Institutions)	Flexible asset financial programs, including leasing and hiring purchase that allows SMEs to finance such assets as plant, machinery, commercial vehicles and automobiles. Lease terms are typically between 2 and 5 years.
SME Credit Guarantee Scheme (with Participating Banks and Financial Institutions)	Established to address barriers to lending for commercially viable SMEs when they are unable to obtain new or additional loans from their bank. SBIC provides up to a 75% loan guarantee to participating banks. ◆ Loans of €10,000 to €1 million ◆ Terms of up to 7 years ◆ Terms loans, demand loans and performance bonds are required ◆ Qualified SMEs can obtain both an SBIC loan and a credit guarantee

Source: Ireland Strategic Investment Fund Investment Strategy Executive Summary, July 2015.

Department of Jobs, Enterprise, and Innovation

The Department of Jobs, Enterprise and Innovation (DJEI) is charged with supporting the creation of "good jobs" by deploying programs and resources that contribute to a competitive business environment that fosters the startup and growth of firms that will "operate with high standards and grow in sustainable markets".[642] This agency reports directly to the Minister of Jobs, Enterprise and Innovation; a Secretary General is responsible for running the agency.

The DJEI's scope of responsibility encompasses a broad range of functions and programs, including:

TABLE 62: IRELAND DEPARTMENT OF JOBS, ENTERPRISE AND INNOVATION RESPONSIBILITIES
Facilitating the start-up and growth of indigenous enterprises
Attracting foreign direct investment
Increasing exports
Improving competitiveness
Promoting innovation and growth through investment in research and development
Promoting fair competition for businesses and consumers
Upholding company law
Safeguarding the rights of workers, including their entitlement to occupational safety and health,
Making evidence-based policy, informed by research, analysis and a robust evaluations culture
Identifying the future skills needs of enterprise (enhancing the product offering to attract FDI, facilitate investment and job creation by indigenous businesses and improving Ireland's competitiveness, innovation and productivity)
Representing Ireland's interests in relevant EU and other international venues

Source: Governance Framework Department of Jobs, Enterprise and Innovation April 2016.

Particular areas of emphasis for economic development include:

Innovation, Research & Development: Develops, promotes and coordinates Ireland's innovation and research and development policy. The DJEI also participates in and influences the research agendas of the EU and other international bodies to ensure opportunities for Ireland's participation in R&D and opportunities. As well, DJEI funds Enterprise Ireland and Science Foundation Ireland. The agency also is responsible for developing intellectual property policy, drafting/proposing legislation and providing an "intellectual property regime" that aligns with the international law environment and best practice.

Trade and Investment: Drives the development and delivery of the enterprise development programs of IDA Ireland. Promotes Ireland's exports to global markets and works with Enterprise Ireland to assist its clients to expand their international markets as well. The department also issues export and import licenses.

Supports for SMEs: Provides grants and loan programs, largely through its divisions, to support all business in Ireland. Enterprise Ireland is the DJEI's flagship program for SMEs. These "supports" including providing access to financial resources, markets and trade promotion. They also include management development, marketing and business development, and mentoring programs.

Business and Sectoral Initiatives: Engages with key stakeholders to address issues that impact their competitiveness. These business and sectoral initiatives entail a broad array of areas that deal with internationally traded goods and services as well as with the domestically traded sector. Through this stakeholder engagement, the DJEI develops and implements policy to support business growth across all sectors and for enterprises of all sizes.

Jobs, Workplace and Skills: In addition to workplace safety and employment rights, the DJEI works closely with business and industry to identify skills and training needs and aligns education and training institutions and programs to address the workforce needs of Ireland's employers.

IDA Ireland (Industrial Development Agency Ireland)

Operating under the auspices of the DJEI, IDA Ireland is responsible for attracting foreign direct investment (FDI) into Ireland. The agency has overall responsibility for promoting and facilitating FDI in all areas of the country, except the Shannon Free Zone. Additionally, IDA Ireland also is responsible for attracting foreign companies to Dublin's International Financial Services Center. IDA Ireland has 20 international offices, including seven U.S. offices located in the cities of New York, Boston, Chicago, Mountain View, Irvine, Atlanta and Austin. A range of services and incentives, including grants, are available to qualified foreign firms that create quality jobs and invest capital to support those jobs in Ireland. The grants and incentives are offered to both existing firms that undertake expansion plans as well as those that are new locates.[643]

The Minister for Jobs, Enterprise & Innovation appoints the IDA Ireland Board Members, and works closely with both Enterprise

TABLE 63: ECONOMIC IMPACT OF FDI FOR IRELAND - 2009-2013						
€bn	**2009**	**2010**	**2011**	**2012**	**2013**	**% change 2009/2013**
Exports	100.9	105.3	116.1	122.0	124.5	23%
Irish Economy Expenditure	17.8	17.8	19.8	20.7	22.4	26%
Payroll	7.4	7.4	7.8	8.0	8.5	15%
Irish Materials	1.6	1.7	2.0	2.4	2.6	58%
Irish Services	8.7	8.7	10.0	10.4	11.3	30%
No. Employed in R&D	8,533	8,848	9,993	10,604	11,522	35%

Source: IDA Ireland Annual Report & Accounts 2014; in 000s

Ireland and Science Foundation Ireland, each of which has its distinct role but all of which support the growth of indigenous and foreign firms that have invested and created jobs in Ireland.[644] IDA Ireland's statutory mission is to "partner with multinational companies to win and develop foreign direct investment, providing jobs for the economic and social benefit of Ireland".[645]

In 2015, IDA Ireland completed a new "winning strategy" to guide its work. Entitled IDA Ireland: Winning 2015-2019, the strategy underscores the need to continue to work to attract firms in Ireland's existing economic sectors but also to expand the agency's horizon to include other sectors that are burgeoning in the global economy.[646]

IDA Ireland offers both tax incentive packages as well as non-tax incentive "supports" (grants) to its client firms. These supports range from capital grants, interest subsidies and loan guarantees to grants for rent reduction to grants for employment, training, R&D and technology acquisition. The awarding of incentives is chiefly determined by the location of the project and the quality of employment created. Cash grants are available and the level of grant support awarded is determined by a scoring model that includes a strategic, commercial and technical assessment. In 2014, IDA Ireland awarded €130mn (USD$148 million) in grants to its client firms. The Irish parliament grants provided to IDA Ireland from 1994 through 2014 was €2.276bn.[647]

In addition to these grants and tax incentives, IDA Ireland also provides for:

TABLE 64: IDA IRELAND'S TARGETED SECTORS	
Existing Targeted Sectors:	◆ Technology ◆ Medical Devices ◆ Media & Content ◆ Engineering ◆ Manufacturing ◆ Business Services ◆ Ingredients ◆ Bio Pharmaceuticals ◆ Financial Services
Convergence Opportunities:	◆ Internet of Things ◆ Big Data ◆ Security Biometrics ◆ Smart Aging ◆ Portable Services ◆ Sharing Economy ◆ Financial Technology
New Investment Sectors:	◆ Marine Economy ◆ Investments linked to Infrastructure ◆ Property FDI ◆ Arts and Culture ◆ Energy Services

Source: IDA Ireland February 25, 2015 and January 6, 2015.

Intellectual Property Regime: A tax deduction for capital expenditure incurred by a company that conducts trade in Ireland on the acquisition of qualifying IP assets. Effective January 1, 2015, restrictions to the annual tax deduction for Intellectual Property was expanded to 100% of the profits generated from the qualifying IP, which previously had been capped at 80%. According

TABLE 65: IDA IRELAND GRANTS AND INCENTIVES	
Grants/ Incentives Available	**What it offers**
Employment/ Capital Grants	Available only in specific regions of Ireland as part of the government's goal to distribute economic activity and jobs throughout the nation. Cash grants may be available for capital expenditures on machinery and equipment and industrial premises, training of employees, creation of employment, rent subsidies, R&D, manufacturing and exporting products, providing services to customers overseas, etc. The level of grant aid depends on a number of factors and is specific to each project. Rates depend on the location of the new industry. Grants are determined on a case-by-case basis based on: ◆ Overall level of capital investment ◆ The number and skill levels of jobs to be generated ◆ Location of investment ◆ Disbursements are made following the relevant expenditure being made by the company and verified by internal IDA review and verification process ◆ Clawback provisions exist for each grant made[648] ◆ R&D training grants are capped at €2 million over the life of the project
Training Grants	Available throughout all regions of Ireland. A maximum grant rate of 25% of the costs is available for specific training and a maximum grant rate of 60% is available to pay for the costs of training that is "general" in nature.
Research and Development Grants	Available throughout all regions of Ireland. Financial assistance is provided for: ◆ Feasibility studies to determine the potential feasibility of conducting specific R&D activities in Ireland (up to €250,000) ◆ Establishment of new R&D facilities ◆ Expansion of existing R&D facilities ◆ R&D into new products or processes » Industrial research – funding available up to a maximum level of 40% of total cost of project » Experimental development – up to 25% ◆ Collaboration with a university The rate of R&D grant assistance can reach up to 35% of the total cost of the project, depending on the type of R&D being conducted and the level of collaboration. This 35% grant is in addition to the 25% in tax credits available for expenditures on qualifying R&D projects. Grant approvals: ◆ Up to €5m – approval from IDA Board ◆ €5m - €7.49m – requires IDA and Cabinet approval ◆ Above €7.5m – EU approval required
Research and Development Tax Credits	In addition to the new low R&D corporate tax rate of 6.5%, qualifying companies can receive a tax credit wherein the first €200,000 in R&D expenditure incurred will receive a 25% R&D tax credit. Thereafter, a tax credit of 25% will apply to incremental R&D expenditures in excess of €200,000. The tax credit is available together with a deduction for the expenditure, resulting in an overall cumulative benefit of up to 37.5%.[649]
Business and Technology Parks	IDA Ireland owns and manages eight business and technology parks throughout Ireland as part of the Irish Government's policy to encourage and promote economic development in all regions of the nation. IDA Ireland offers greenfield sites and/or existing space to firms that meet certain employment and capital investment thresholds on a case-by-case basis. Each park has been designated for certain types of employers/uses to create a clustering effect.
Strategic Sites	IDA Ireland also has a portfolio of strategic sites located throughout Ireland. All sites are shovel-ready and are used as an incentive to successfully locate firms that meet certain thresholds of employment and capital investment. Each site has been specifically designated to accommodate certain types of uses consistent with the targeted sectors and basic employment needs of the regions in which they are located.

Sources: IDA Ireland May 2016, PriceWaterhouseCoopers 2014.

to Irish regulations, the definition of IP assets encompasses many business activities, including the acquisition of or the license to use the following:

- Patents and registered designs
- Trademarks and brand names
- Know-how (broadly in line with the OECD model tax treaty definition of know-how)
- Domain names, copyrights, service marks, and publishing titles
- Authorization to sell medicines, a product of any design, formula, process, or invention (and rights derived from research into same)
- Applications for legal protection (for example, applications for the grant or registration of brands, trademarks, patents, copyright, etc.)
- Expenditure on computer software acquired for commercial exploitation
- Customer Lists acquired other than 'directly or indirectly in connection with the transfer of a business as a going concern.
- Goodwill, to the extent that it relates directly to the assets outlined above.[650]

Exemptions for New Start-Up Companies: Ireland extends a "tax holiday" to certain start-up companies that commence trade between 2009 and 2015; legislation passed in 2015 extended this tax relief for an addition three years to include startup enterprises that commence trading in 2016, 2017 and 2018. The tax holiday applies for three years where the total amount of corporation tax payable does not exceed €40,000 in each year. Marginal relief is available where corporation tax payable is between €40,000 and €60,000. The relief available is now linked to the amount of employer's PRSI (Pay Related Social Insurance) paid by a company in the accounting period, as it is intended to incentivize firms that generate employment.[651]

Advanced Building Solutions: A new initiative designed to meet the Irish Government's mandate to attract FDI throughout Ireland, accelerate the recovery of jobs for all Irish and achieve full employment by 2018. A five-year appropriation of €150 million was enacted to support this IDA Ireland initiative. IDA Ireland already has an expansive portfolio of 30 business and technology parks in major cities and most regions throughout Ireland. With this new Advanced Building Solutions initiative and funding, IDA will concentrate on ensuring that new business and technology parks currently under construction will be completed, and that infrastructure needed for its "utility intensive strategic sites" (for datacenters, etc.) will be built. For all of these projects, IDA Ireland is focusing on creating new greenfield sites to support job creation in all regions of the nation.

Enterprise Ireland

Enterprise Ireland is Ireland's export agency, responsible for helping Irish enterprises – large and small – compete and succeed in world markets. The agency operates under the auspices of the DJEI. Among its primary responsibilities are the promotion of products and services created in Ireland; arranging joint ventures and strategic alliances between indigenous and foreign companies, and assisting foreign firms to establish food and drink manufacturing operations in Ireland. Enterprise Ireland has a network of nine regional offices throughout Ireland and more than 30 international offices, with four in the United States: New York; Austin; Boston; and Mountain View, CA.[652]

As with Ireland's other economic development agencies, Enterprise Ireland offers a broad range of services and supports to Ireland's exporters. Qualified firms can avail themselves of more than 80 grants/incentives programs, many of which are available from IDA Ireland and other government agencies; many of these programs are in partnership with Ireland's Local Enterprise Offices.[653] Enterprise Ireland's programs address a broad range of needs for firms at all stages growth – from startup through maturity – offering specific supports and other resources for startups, established SMEs and large firms as well.[654] The firms that Enterprise Ireland assists must be "client" firms.

HIGH POTENTIAL START-UPS FUNDING	ESTABLISHED SMES FUNDING	LARGE COMPANY FUNDING
High potential start-ups are projects or enterprises that are likely to achieve employment levels of at least 10 or more employees and annual revenues of at least €1 million.	An established SME is a company that is not a High Potential Start-Up, having an established trading record, employing between 10 and 250 employees, with either annual revenue of less than €50 million or an annual balance sheet of less than €43 million.	A large company is a company that employs 250 or more employees, with either annual revenue greater that €50 million or an annual balance sheet of greater than €43 million.

High Potential Start-Ups Funding: Aspiring entrepreneurs or fledgling firms that can demonstrate a high propensity to achieve employment levels of at least 10 or more employees and annual revenues of at least €1 million are viewed as high potential start-ups. Enterprise Ireland offers a broad array of supports, principally through grants, to these individuals and firms. Distinct grants and other incentives are offered to address the needs of these firms depending on their state of development: feasibility state supports; investor ready supports, post investment supports.

Investor Ready Supports: Companies that have a well-developed business plan and need to raise investment for their business are generally eligible for the following supports.

TABLE 66: ENTERPRISE IRELAND'S HIGH POTENTIAL START-UPS FUNDING – FEASIBILITY STAGE

Grants/ Incentives Available	What it offers
Feasibility Grant	Assists a startup with determining the feasibility of its business concept. A High Potential Start-Up firm is one that will engage in manufacturing or traded international business and can demonstrate that it will achieve employment of 10 and annual revenues of €1 million in 3 to 4 years. These grants are up to 50% of the cost of a study; there is no ceiling. Other eligible expenses include salaries and operating costs; foreign travel and subsistence; consulting fees; trade fair costs; prototype/materials costs.
Innovation Vouchers	Up to €5,000 to assist early stage firms to work with a registered college or knowledge provider in Ireland (or Northern Ireland). A standard voucher is €5,000 and a co-funded fast-track voucher requires a 50:50 match from the enterprise for a total of up to €10,000. Vouchers can be used for: ◆ Development of new processes/products; business models; service delivery and customer engagement, and service development. ◆ Customized training in innovation management. ◆ Innovation/technology feasibility audit
New Frontiers Entrepreneur Development Program	Considered Ireland's national entrepreneurship development program. Designed to support entrepreneurs with a range of supports including mentoring (up to €1,700 per year); incubation space (free) and a €15,000 tax free grant. No equity is taken in any of the enterprises that participate in this program.
Competitive Feasibility Fund	These are competitive grants, arranged through "open calls" from Enterprise Ireland throughout the year. Successful awardees receive grant funding to support a maximum 50% of the cost of the feasibility study, which must validate a project's viability and establish investor-ready plans and financials that support the ability to manufacture and/or trade internationally.
Mentor Grant	Pays for up to 10 sessions with a technical/expert mentor fees to provide guidance and stewardship to the entrepreneur/enterprise. Maximum of €1,750 per project.

Source: Enterprise Ireland, July 10, 2015.

TABLE 67: ENTERPRISE IRELAND'S ENTERPRISE IRELAND'S HIGH POTENTIAL START-UPS FUNDING – INVESTOR READY SUPPORTS	
Grants/Incentives Available	**What it offers**
Competitive Start Fund	Focused on accelerating the growth of start-up companies that have the ability to be success in international trade. Up to a €50,000 equity investment is provided through this competitive process, many rounds of which take place throughout the year.
Innovative HPSU Fund (Equity)	Focused on supporting start-ups that are innovation-oriented. Up to a 50% equity stake in firms that receive this equity funding. A minimum of 15% of these firms' operating costs must relate to R&D expenses – yet another way in which Ireland is promoting R&D. Firms receiving an equity investment from Enterprise Ireland through this fund must have a business plan that advances innovation in the development of products, services or processes that are "technologically new or substantially improved compared to the state-of-the-art in its industry in the EU". There is no limit in terms of the actual amount of investment.

Source: Enterprise Ireland, July 10, 2015.

Post Investment Supports: Companies that are in growth stage; these supports are designed to assist in exploring new international opportunities and continued development of the management team.

TABLE 68: ENTERPRISE IRELAND'S ENTERPRISE IRELAND'S HIGH POTENTIAL START-UPS FUNDING – POST INVESTMENT SUPPORTS	
Grants/Incentives Available	**What it offers**
Skills Voucher (Software Development)	Supports the costs of Peer-to-Peer training, i.e., software development. Intended for firms in all sectors and not just for software companies. Goal is to encourage continuous improvement among Ireland's companies (and Enterprise Ireland's clients) to elevate and advance the knowledge-based economy. Firms in the manufacturing, food and internationally traded sectors can obtain €6,250 from other Irish voucher programs; Enterprise Ireland will pay a maximum of €5,000, with the company contributing 20% of the total cost on an in-kind basis.
Mentor Grant	Supports the cost of a mentor assignment, similar to other such programs. Maximum paid is a total of €1,750 for up to 10 mentoring sessions.
Business Links Grant	Supports research to identify potential customers/partners for those firms that are seeking to enter new international markets. Up to 50% of eligible expenditures will be paid for a maximum grant of €20,000.
Innovation Voucher	Supports early-stage firms to work with a registered college or knowledge provider to explore a business opportunity or to solve a technical problem. A standard voucher is €5,000 and a co-funded Fast Track voucher requires a 50% match of Enterprise Ireland's €5,000 voucher.
Excel at Export Selling	Series of workshops to assist Irish exporters adapt best practices in selling overseas. Enterprise Ireland commits to utilize its development advisors to work with participating firms on a one-on-one basis to assist them with implementation of these learnings.

Source: Enterprise Ireland, July 10, 2015.

Established SMEs Funding: In addition to the several programs offered for High Potential Start-Ups, Enterprise Ireland offers a broad range of supports for established small and medium-sized enterprises in the manufacturing and internationally traded services sectors. Funding decisions are determined on the basis of the firm's need for financial support; potential growth of employment and sales; previous funding provided to the firm (if any), and location of the firm within Ireland.

There are many programs available for different aspects of helping established SMEs improve their ability to succeed in international markets. They include:

TABLE 69: ENTERPRISE IRELAND'S ESTABLISHED SMES FUNDING	
Grants/Incentives Available	**What it offers**
Market Research and Internationalization Supports	◆ Strategic Marketing Review – up to €5,000 paid to a consultant to assist in reviewing marketing plans. ◆ Market Access Grant – 50% of the cost up to €150,000 for the development of viable marketing plans in targeted markets/sectors. ◆ Internationalization Grant – 50% of the cost up to €35,000 for employee salaries, foreign travel, consulting fees and trade fair costs for helping client firms research and explore international trade opportunities in foreign markets. ◆ Other grants are similar to those offered to High Potential Start-Ups including mentoring, business links, training, etc.
In-Company and Collaborative R&D Supports	◆ Technical Feasibility Study Grant – 50% of the cost of the project up to €35,000 for better planning for R&D – both in innovation and international trade. Eligible expenses include employee salaries, foreign travel, consulting fees and prototype/materials development. ◆ R&D Fund – Small Projects - up to 50% of the total cost of the project up to €150,000 generally to establish or increase R&D; the grant also depends on the size of the firm. ◆ R&D Fund – Standard Projects – up to 50% of the project up to €650,000 to support projects that have the potential to develop innovative, "novel" products and services that can clearly demonstrate a competitive advantage in targeted markets. ◆ Innovation Voucher - Up to €5,000 to assist early stage firms to work with a registered college or knowledge provider in Ireland (or Northern Ireland). A standard voucher is €5,000 and a co-funded fast-track voucher requires a 50:50 match from the enterprise for a total of up to €10,000. ◆ Innovation Partnership Program – Up to 80% for a maximum of €200,000 to encourage Irish firms to work with Irish research institutes; funds costs of proposal development and feasibility studies. ◆ Several other grant programs are available to support R&D, including Horizon 2020, many EU programs, training programs and incubation programs.
Supports to Enhance/ Development Management	Many of these programs are similar to other Irish government and Enterprise Ireland programs designed to elevate the knowledge and capability of firms and their key management, professional and technical personnel. Among them are mentor grants, consultants' grants, and assistance with hiring key managers (up to 50% of eligible costs).
Productivity and Business Process Improvement	Many of these grants reflect other similar programs from Enterprise Ireland and IDA Ireland, encompassing skills vouchers, lean and green start up grants (up to €3,150 or half of the cost for a trainer or consultant in lean and green operations), business process improvement (up to 50% up to €35,000), and building information modeling.
Company Expansion Packages	Job Expansion Fund – Designed to assist Enterprise Ireland's client firms to grow their employment over and above their existing employee count. Provides a grant of up to €150,000 toward the recruitment of new employees. Applicants are required to hire at least 3 new employees. The grant is calculated on the basis of a percentage of eligible salary of the new employee. Tailored Expansion Packages - Funding is awarded on a case-by-case basis to support new or incremental investment in: ◆ Capital assets and job creation – funding is awarded in the form of redeemable preference shares, which have no ownership or voting rights, but Enterprise Ireland is entitled to receive dividends and seek repayment (redemption) of its investments on the fifth anniversary of its investment. ◆ R&D – funding is awarded in the form of redeemable preference shares as noted above. ◆ Training – funding is awarded through a grant. ◆ Management Development – funding is awarded through a grant. ◆ Consultants – funding is awarded through a grant.

Source: Enterprise Ireland, July 10, 2015.

Large Company Funding: Enterprise Ireland also offers substantial supports to large firms, again, on a case-by-case basis. These supports mirror those that are available to established SMEs, with the exception that grant amounts, especially for company expansion plans, tend to be much larger. For example, in a recent high technology business location that took place in one of Ireland's targeted regions for high tech, the firm received the equivalent of USD$20,000 for each of the nearly 1,000 new jobs that were created.[655]

De Minimis Aid

All nations in the European Union (EU) are governed by rules pertaining to the provision of state supports to private business. Many of Ireland's economic development agencies work with their respective clients to monitor and evaluate their eligibility for Irish supports to ensure that they do not exceed the limit allowed under the EU.[656]

De Minimis Aid cannot exceed €200,000 over any three fiscal years to any company regardless of size or location. De Minimis Aid can come be obtained from any State body, agency or department. If a firm is part of a group of firms, then the €200,000 limit applies to the entire group, impacting their eligibility for additional supports within the three-year time horizon.[657]

De Minimis Aid can be in the form of a grant or equity investment. Sources of De Minimis Aid include almost all of the supports and other programs that are offered through Ireland's constellation of economic development organizations. Training is for the most part excluded from counting as De Minimis Aid.[658]

Science Foundation Ireland

Science Foundation Ireland (SFI) was created in 2003 to serve as Ireland's national foundation for investment in scientific and engineering research. This entity operates under the auspices of the DJEI. Working in collaboration with IDA Ireland and Enterprise Ireland, Science Foundation Ireland coordinates research and development ventures and some supports that are provided to their respective clients. However, Science Foundation Ireland invests in academic partnerships and researchers as well as in its own distinct industry research partnerships. SFI's budget in 2014 was €163 million; of this amount, €153.9 million was invested in research across 22 disciplines and sectors. The foundation is charged with the responsibility of generating and advancing new knowledge, cutting-edge technologies and globally competitive enterprises in science, technology, engineering and math (STEM) disciplines. To fulfill its mission, SFI also advances co-operative efforts among education, government, and industry that support its fields of emphasis and promotes Ireland's scientific and technological achievements internationally.[659]

Science Foundation Ireland Programs with Industry

SFI fosters research collaboration between the academic scientists and engineers that it directly funds and industry. Recognizing that some of the most breakthrough discoveries and advances in STEM fields typically result from collaboration and knowledge-sharing, SFI's programs with industry are designed to encourage this type of interaction so that academia and industry can become better and more informed about the priorities and research needs of each other. Among Science Foundation's programs with industry are:

Science Foundation Ireland Research Centers: Since its inception, Science Foundation has established 12 research centers in Ireland, seven in 2013 and five in 2015. These centers are considered "world leading, large scale" centers that have a significant economic impact for Ireland. The Irish Government has appropriated €355 million to the SFI for these research centers. SFI's annual funding to each center ranges from €1 million to €5 million to cover direct costs. Reflecting its strong ties with industry, 30% of the annual operating budget for each center is derived from the private sector and since the inception of these centers, industry has contributed a total of €190 million to support their research and operations.[660] These 12 SFI Research Centers are focused on strategic areas of importance to Ireland, again geared toward realizing Ireland's overarching economic development goals and elevating Ireland's ability to generate new knowledge, technologies and science in the world community. Major areas of emphasis are on pharmaceuticals; Big Data; medical devices; nanotechnology/material; marine renewable energy; food for health; software, digital content and communications, as well as other disciplines.[661] SFI has several direct research partnerships with some of the world's leading firms in technology, pharmaceuticals and other sectors. These partnerships entail a 70-30 match between SFI and the private sector entity. Among the many firms with which SFI has research partnerships are Intel, Microsoft, eBay, Johnson & Johnson and scores of others.

Science Foundation Ireland Research Center Spokes: Launched in 2015, the Research Center Spokes program provides a platform to facilitate new industrial and academic partners to become part of a research center. The "spokes" provide the link to resources and enable the SFI to expand and distribute its impact throughout all of Ireland. The spokes also enable different research centers to connect and collaborate, and equally important, expand educational and career opportunities in Ireland in the STEM disciplines.[662]

Science Foundation Ireland Industry Fellowships: This program is designed to develop and strengthen academic/ industry partnerships. SFI can award a grant of up to €100,000 to cover the direct costs of this type of fellowship, which can be awarded to both staff and postdoctoral academic researchers based in Ireland who seek to spend time in industry worldwide ("Academia to Industry" Fellowships), or to individuals from industry anywhere in the world (including Ireland) who seek to spend time in an eligible Irish academic or research institution ("Industry to Academia" Fellowships). The Industry Fellowships can run from one to 12 months if the fellow is committed to pursue these opportunities full-time, or for up to 24 months if on a part-time basis.[663]

Science Foundation Ireland Partnership Program: SFI offers two partnership programs to build strategic collaborations with industry, government and philanthropic partners. The goal of this initiative is to support "excellent science". Through these partnerships, SFI provides up to 50% of the program budget; in 2014, SFI contributed €250,000 to these partnerships. Through its Partnership Program, SFI has established research collaborations with Pfizer, Johnson & Johnson as well as the U.S. government.

Microfinance Ireland (MFI)

Established in 2012, Microfinance Ireland (MFI) is Ireland's microenterprise loan fund, providing unsecured loans to sole proprietors, partnerships and Limited Companies having less than 10 employees and annual revenues less than €2 million. Loans can be used to fund business startups; the purchase of equipment, machinery, inventory and business vehicles. The organization is nonprofit, and is registered in Ireland as a private company limited by shares, the members of which have limited liability. Microfinance Ireland's funding is guaranteed by the European Union under its Employment and Social Innovation Program. Working in partnership with Ireland's Local Enterprise Offices, Microfinance Ireland provides unsecured loans from €2,000 up to €25,000 for terms from 3 to 5 years at reduced interest rates (7.5%).[664]

In 2015, Microfinance Ireland reported a 50% increase in applications over 2014. The organization's approvals for start-ups, sole traders and small businesses reached an all-time high; €5.4 million in loans to 357 businesses across every county in Ireland was awarded in 2015.[665]

Summary

In contrast to the State of Alaska and specifically, the Alaska Industrial Development and Export Authority (AIDEA), Ireland provides many similar types of financing, but through multiple government departments. Some of these similar services include project development and ownership of assets; issuance of conduit bonds; government owned/company operated infrastructure projects, and loan guarantee programs. Some areas of divergence include direct equity investments in qualified firms, real estate development through business and technology parks designed to accommodate certain types of business and industry throughout Ireland, and other "supports" (grants) and incentives (primarily through taxation policy) to support the nation's goals of full-employment, the creation of high-value-added jobs and increasing research and development activity, especially in STEM-related sectors and occupations.

Ireland serves as an important benchmark for the State of Alaska and AIDEA in many respects, most notably for the clear distinction of its single-purpose economic development agencies as well as their expansive programs of leveraging their supports and other resources to advance the development of targeted sectors.

SECTION 2.3: SINGAPORE

Globally heralded as an exemplar of 21st century economic success, Singapore has engineered an astounding economic and transformation in the past 50 years. Since this tiny island-state gained its independence from Malaysia in 1965, Singapore's social and economic advancement has been one of the most chronicled such stories in the world, and the nation enjoys universal acclaim for it economic growth and stability.

Much of this economic success is attributed to the late Lee Kuan Yew, Singapore's first and sole prime minister up until his death in 2014. With the benefit of a single national leader and consistent, long-term policies, Singapore's "economic miracle" evolved and accelerated dramatically over the past 50 years. Today, Singapore is considered as one of the most open, corruption-free markets in the developed world, according to the U.S. Central Intelligence Agency.[666]

Singapore has achieved a per capita GDP rate that is higher than that of most developed countries. With a trade-dependent economy, Singapore's primary exports are in the consumer electronics, information technology, medical and optical device and pharmaceutical sectors. The nation's economic diversity also is reflected in its transportation, business and financial services sectors.[667] Three-fourths of Singapore's economy is comprised of services (76.2%) and one-fourth is industrial (23.8%).[668]

Singapore has experienced very little economic disruption over the past several decades. During the Great Recession of 2007-2009, its economy contracted by 0.6% in 2009; however, since 2010, the nation again experienced a resurgence in its growth, largely due to its export-based economy. The recent sluggishness of the global economy has impacted Singapore, but the nation's total economic output has continued to experience growth, albeit at a slower rate (just under 3%) in the last few years.[669] Singapore's GDP (purchasing power parity) in 2015 was USD$468.9 billion.[670]

Singapore is considered as Southeast Asia's leading center for high technology and financial services. In 2015, Singapore strengthened its economic standing by leading efforts to forge the ASEAN Economic Community (Association of Southeast Asian Nations), comprised of The Philippines, Malaysia, Thailand, Vietnam, Cambodia, Myanmar, Indonesia and Brunei.[671]

Singapore ranks #1 in the World Bank's Doing Business rankings for 2016 and is considered one of the most stable nations in which to do business.[672] Foreign Direct Investment has been a significant driver in Singapore's economic transformation and growth, and continues relatively unabated. The nation's government-linked corporations, wholly owned by a subsidiary of the Singapore government, are key drivers in attracting targeted, desirable FDI projects into their country.[673] Likewise, these government-linked corporations (GLCs) are active in many sectors of Singapore's economy, especially in such strategically important sectors as defense, telecommunications/media, and transportation, including seaport and airport operations.[674]

TABLE 70: SNAPSHOT OF SINGAPORE'S GLOBAL RANKINGS

Measure	Year	Index or Rank
TI Corruption Perceptions index	2015	8 of 168 [675]
Heritage Foundation's Economic Freedom index	2015	2 of 178 [676]
World Bank's Doing Business Report "Ease of Doing Business"	2015	1 of 189 [677]
Global Innovation Index	2015	7 of 71 [678]
World Bank GNI per capita	2014	$55,150 [679]
IMD World Competitiveness Ranking	2015	3 of 61 [680]

Singapore's government-linked corporations, which operate on a commercial basis and do not necessarily "compete with the private sector", also are present in other sectors of the nation's economy largely through its Economic Development Board Investment Corporation.[681] However, it is important to note that Singapore's Ministry of Finance is an omnipotent force in managing and directing that nation's investments, both through its government-linked corporations as well as through the public funds it makes available to finance the expansive incentives that are available for business startups, attraction and expansion activities in the nation's key targeted sectors. The Singapore Ministry of Finance is the sole owner of Temasek, which either wholly or partially owns Singapore's government-linked corporations.[682]

While the Singapore Ministry of Finance controls the flow of money for most of the nation's sovereign wealth funds, the Ministry of Trade and Industry has a central role in Singapore's economic growth agenda. The Ministry of Trade and Industry drives the nation's economic development strategic planning, and has two primary agencies that handle almost all of Singapore's economic development activity: Economic Development Board and Spring Singapore.[683]

In 2013, the Ministry of Trade and Industry published its new strategic vision for Singapore. By 2018, Singapore will be:

- "A globalized economy where Singapore is the key node in the global network, linked to all the major economies;
- A creative and entrepreneurial nation willing to take risks to create fresh businesses and blaze new paths to success; and

- A diversified economy powered by the twin engines of manufacturing and services, where vibrant Singapore companies complement MNCs, and new startups co-exist with traditional businesses exploiting new and innovative ideas".[684]

Singapore's Economic Development Board

Singapore's economic development strategy, programming, incentives and investments are largely managed by the Economic Development Board of Singapore and its investment arm, the Economic Development Board Investments, Pte, Ltd. Serving as a "one-stop" agency, the Economic Development Board works with local and foreign investors primarily in the manufacturing and services sectors. The agency also is closely linked to other Singapore government branches to ensure that the government is planning for and providing the types of infrastructure and public services that are needed to support business investment and growth.[685] The Economic Development Board is a statutory board under the aegis of the Singapore Ministry of Trade and Industry, and members are appointed by the minister. The Economic Development Board serves as a key player in helping Singapore and the Ministry of Trade and Industry realize the government's economic vision for 2018.[686]

As Singapore's one-stop agency for both indigenous and foreign businesses - existing as well as new - the Economic Development Board plays a dominant role in economic development. Virtually all programs available through Singapore for business and industry, with the exception of a few sector-specific authorities and SPRING Singapore, are administered by the Economic Development Board.[687]

The Economic Development Board tracks its progress against its strategic plan for Singapore, which is in alignment with the policies of the national government. In addition to tracking total investments by industry sector, the standard metrics utilized include:[688]

- Total value added to the economy: Measures the direct contribution to Singapore's GDP excluding multiplier effects; major components include wages and profits.
- Capex (Fixed Asset Investments): Total private and public capital invested.
- Skilled jobs created: Defined as occupations in the professional, managerial, executive, technical and skilled production craftsman categories.
- Rolling 20 year real rate of return.[689]

Singapore Economic Development Board Investments, Pte, Ltd.

Through its separate investment entity, the Economic Development Board Investments Pte, Ltd. (EDBI) actually makes investments in companies through business expansion and attraction activities of the Economic Development Board. (Note: Pte, Ltd. is the most common form of firm registration in Singapore. It means private limited company, locally incorporated in Singapore and with no more than 50 shareholders). In the case of the EDBI, it is a private limited firm and was created for the sole purpose of conducting business transactions on behalf of the Economic Development Board of Singapore, which is a subdivision of the Singapore government.[690] In 2014, a total of S$11.8 billion was invested in fixed assets by Economic Development Board Investments, Pte, Ltd. to support firms in its 11 targeted sectors. This public sector investment yielded an additional S$7 billion in private sector investment and generated more than 16,000 new jobs in skilled employment occupations.[691] Combined, these public and private sector investments are projected to add an additional S$12.5 billion to Singapore's GDP.[692]

In recent years, a significant emphasis has been placed on investing in knowledge and innovation sectors, including the Biosciences, Information & Communication Technology, Smart & Sustainable Technology and other targeted sectors that are integral to the Economic Development Board's strategic plan.[693] The bottom line for the EDBI: grow strategic sectors and globally competitive industries in Singapore that will ensure sustained economic success. Accordingly, the organization takes a long term view toward its investments.[694] The EDBI has identified the following "Future Industries" as targets for its investments:

- Biomedical Sciences: medical and optical devices; R&D.
- Information and Community Technology (ICT): Enterprise IT, Software as a Service, Cloud and Cyber Security.
- Smart and Sustainable Technology: Energy-efficient applications; remote-sensing technologies; robotics and water conservation technologies.
- Strategic Growth Program: Oil, chemicals, marine, industrial, logistics. Portfolio companies in this sector include Chevron Phillips; CWT (domestic firm); Ezion (provider of jack-up rigs).[695]

The Economic Development Board Investments Pte, Ltd. offers a broad range of incentives for business attraction and retention/ expansion, largely through tax reductions but also through actual liquid investments in specific firms.[696]

EDBI utilizes several criteria in the consideration of its investments; the firms that this agency invests in must demonstrate that they offer the following abilities and characteristics:[697]

Exceptional Management: A talented and experienced management team that can bring a company to commercial success.

Differentiated Products & Exemplary Services: Companies offering products or services that meet market needs or overcome market inefficiencies.

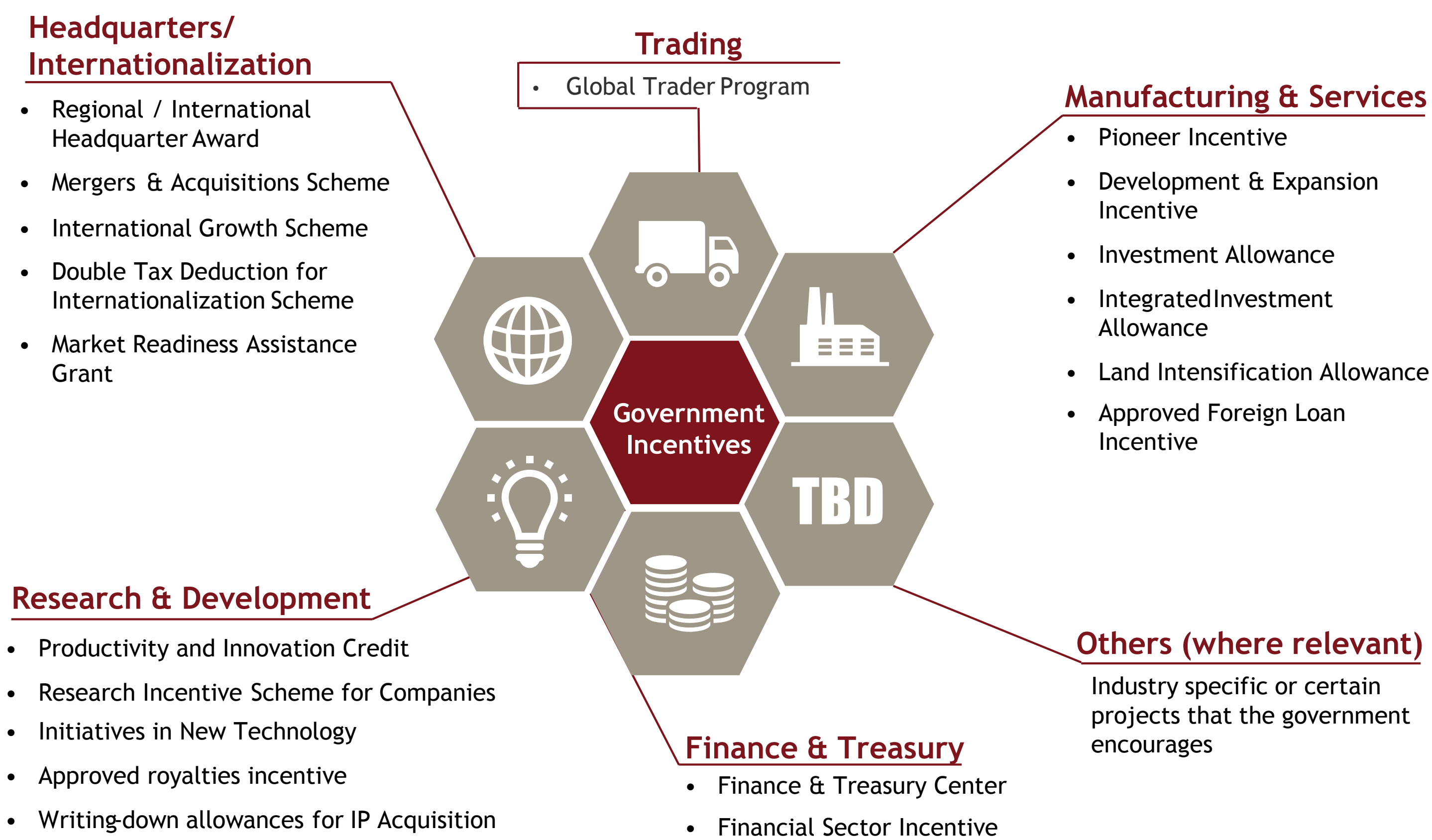
Commercially Attractive Business Model: Companies with commercially viable and scalable business models that can sustain a competitive advantage in the global market.

International Competitiveness: Companies with strong foundations and broad vision to compete globally through Singapore.

Growth Potential of New Strategic Economic Pillars: Innovative and emerging technology leaders in new sectors with unique solutions and technologies that can participate in Singapore's economic transformation.

Strengthen Existing Engines of Singapore's Economy: Companies that can strengthen our existing industry ecosystems or deepen capabilities.[698]

FIGURE 30: OVERVIEW OF GOVERNMENT INCENTIVES IN SINGAPORE



Sources: Economic Development Board of Singapore 2016; Deloitte August 2015.

TABLE 71: SUMMARY OF GOVERNMENT INCENTIVES IN SINGAPORE	
Incentives available	**What it offers**
Headquarters and Internationalization Activities	
Regional Headquarters Award	Reduced tax rate of 15% on incremental income from qualifying HQ activities.
International Headquarters Award	For companies that commit to exceed the minimum requirements of the RHQ Award, customized incentive packages with lower concessionary tax rates (0%, 5% or 10%) on qualifying income may be available on a case-by-case basis.
Mergers & Acquisitions Scheme	The acquiring company is granted an M&A allowance of 25% (capped at S$10 million) of the qualifying acquisition value capped at S$40 million per Year of Assessment, and stamp duty relief on the transfer of ordinary shares (capped at S$80,000).
International Growth Scheme	Qualifying Singapore companies receive a concessionary tax rate of 10% for a period not exceeding 5 years on their incremental income from approved qualifying activities.
Double Tax Deduction for Internationalization Scheme	Up to a 200% tax deduction on qualifying expenditure incurred on a range of qualifying market expansion and investment development activities.
Market Readiness Assistance Grant	Up to 70% funding support of eligible cost for pre-determined activities such as overseas market set-up, business matching and market promotion, capped at S$20,000 per company per fiscal year.
Manufacturing and Services Activities	
Pioneer Incentive	Tax exemption on income from qualifying activities, granted on a case-by-case basis.
Development & Expansion Incentive	Reduced tax rate from 5% to 15% on incremental income from qualifying activities.
Investment Allowance	Allowance (on top of normal capital allowance) on a percentage of approved fixed capital expenditure.
Integrated Investment Allowance	Allowance (on top of normal capital allowance) on a percentage of approved fixed capital expenditure to be incurred on productive equipment that is placed outside Singapore for an approved project.
Land Intensification Allowance	Initial allowance of 25% and annual allowance of 5% on qualifying capital expenditure incurred for the construction or renovation/extension of a qualifying building or structure.
Approved Foreign Loan Incentive	Reduced withholding tax of 0%, 5% or 10% on interest payments on loans taken to purchase productive equipment.
Automation Support Package	a) Support under SPRING's Capability Development Grant (CDG): Up to S$1 million grant support for the roll-out or scaling-up of automation projects at up to 50% of the qualifying cost. (b) IA: Qualifying projects may be eligible for an IA of 100% on the amount of approved capital expenditure, net of grants. The approved capital expenditure is capped at S$10 million per project. (c) Enhanced financing support: Under SPRING's Local Enterprise Finance Scheme (LEFS), the government's risk-share with participating financial institutions will be increased from 50% to 70% for qualifying projects undertaken by SMEs. The LEFS will also be expanded to cover equipment loan for non-SMEs at 50% risk-share with participating financial institutions. (d) IE Singapore will work with SPRING where relevant to help businesses to access overseas markets.

TABLE 71: SUMMARY OF GOVERNMENT INCENTIVES IN SINGAPORE

Incentives available	What it offers
Trading Activities	
Global Trader Program	Reduced tax rates of 5% or 10% on qualifying transactions/trades in qualifying commodities, futures and derivatives (including structured commodity financing).
Financial Services Activities	
Finance & Treasury Center	Reduced tax rate of 8% on fees, interest, dividends and gains from qualifying services/activities. Withholding tax exemption on interest payments on loans from banks and approved network companies for FTC activities.
Financial Sector Incentive	Reduced tax rate of 5% for qualifying Enhanced Tier financial activities and 12% or 10% for Standard Tier financial activities.
Research and Development (R&D) Activities and Intellectual Property Management	
Productivity and Innovation Credit and PIC+ schemes	Allowance of 400% up to S$400,000 for qualifying expenditure incurred per year in each of the following six activities: • Acquisition and leasing of PIC information technology and automation equipment • Acquisition and in-licensing of intellectual property rights • Registration of patents, trademarks, designs and plant varieties • R&D activities • Training of employees • Investment in approved design projects Eligible companies may opt to convert 60% or 40% (from 1 August 2016 onwards) of qualifying expenditure of up to S$100,000 into cash. PIC+ scheme is available to qualifying SMEs* and provides an allowance of 400% on up to S$600,000 of qualifying expenditure incurred per year for each qualifying activity. Applicable from YAs 2015 to 2018, the combined expenditure cap is up to S$1.8 million for YAs 2016 to 2018. **An entity is a qualifying SME if its annual revenues are not more than S$100 million or employment size is not more than 200 workers.*
Research Incentive Scheme for Companies	Co-funding to support the development of strategic technologies, capabilities and the establishment of centers of competence in Singapore. Supportable project costs include expenditure in the following: • Manpower cost (30% to 50% support) • Equipment, materials, consumables and software (30% support) • Singapore-based professional services (30% to 50% support) • IPRs, e.g. licensing, royalties, technology acquisition (30% support)
Initiatives in New Technology	Co-funding to support manpower development in the application of new technologies, industrial R&D and professional know-how. 30% support for qualifying items for either trainee OR training cost, subjected to various sub-caps.
Approved Royalties Incentive	Reduced or nil withholding tax rate on royalty payments to access advanced technology and know-how.
Writing-down Allowances for IP Acquisition	Automatic 5/10/15-year write-down if legal and economic ownership of IP are acquired. EDB's approval is required if only economic ownership of IP rights is acquired.

Sources: Economic Development Board of Singapore 2016; Deloitte August 2015.

Singapore's Development Authorities

Maritime and Port Authority of Singapore

Established in 1996, the Maritime and Port Authority of Singapore (MPA) was created to advance the development of Singapore as a leading global hub port and international maritime center and to protect Singapore's strategic maritime interests. As Singapore's caretaker of maritime and port assets, MPA serves as the nation's port authority, regulator and planner, as well as the premier advocate for its international maritime interests. Partnering with industry and other Singapore governmental entities, the MPA also is a direct and active participant in the nation's economic development initiatives.[699]

Through the Singapore Economic Development Board and other governmental entities, firms seeking to avail themselves of incentives for maritime, shipping and logistics activities can obtain the following incentives:

TABLE 72: SINGAPORE INCENTIVES FOR MARITIME, SHIPPING AND LOGISTICS ACTIVITIES

Grants/Incentives Available	What it offers
Maritime Sector Incentive – Singapore Registry of Ships and Approved International Shipping	Tax exemption on qualifying shipping income from operating Singapore and foreign-flagged ships, provision of specified ship management services, and income from foreign exchange and risk management activities which are carried out in connection with or incidental to the operations of ships for 5 or 10 years.[700]
MSI - Shipping Related Support Services Award	Concessionary tax rate of 10% for 5 years on incremental income derived from the provision of qualifying approved shipping-related support services, such as ship broking, forward freight agreement (FFA) trading, ship management, ship agency, freight forwarding and logistics services; and corporate services rendered to qualifying approved related parties carrying on the business of shipping-related activities.[701]
MSI - Maritime Leasing Award	Tax concessions for up to 5 years on qualifying leasing or management income for ship or container leasing companies, funds, business trusts or partnership. An approved manager of the asset-owning entity will be awarded a concessionary tax rate of 10% on its qualifying management income. Operating and qualifying finance leases both are eligible under this program to allow asset-owning flexibility in leasing and chartering options.[702]
Withholding Tax Exemptions - Ships and Containers	There are two withholding tax exemption programs available through the Maritime and Port Authority to promote both ship-building as well as elevating Singapore's global port status and business. Withholding tax exemptions are granted on interest and related payments associated with loans that are being used to finance the purchase or construction of ship, or for the purchase of containers and intermodal equipment.[703]
Maritime Innovation & Technology Fund	Co-funding to support R&D or test-bedding of new or better products, processes and applications relevant to the maritime industry in Singapore. Areas of focus include maritime companies with engineering design capabilities, engineering companies, system integrators, software / hardware developers, shipyards, and overseas technology companies. Grants of up to 50% are awarded for total project costs consisting of manpower, equipment, material, professional services, IP and other ancillary costs.[704]
Maritime Cluster Fund	A series of grants are available to maritime related industries and institutions to pay for the development of maritime talent, training programs and other initiatives to develop Singapore's maritime industry. Grants also are available to Singapore-based maritime industries to encourage them to expand their global reach. Some of the eligible programs available under this initiative are productivity grants for maritime firms, which are provided on a case-by-case basis (no information was provided).[705]

Sources: Economic Development Board of Singapore June 2015; Maritime and Port Authority of Singapore June 2015.

Media Development Authority of Singapore

Created in 2003 as a result of a merger of the Singapore Broadcasting Authority, the Singapore Film Commission and the Films and Publications Department of the Singapore government, the Media Development Authority of Singapore is a statutory board under the Ministry of Communications and Information. It was established to regulate the media sector but also to provide essential infrastructure and services to advance Singapore's goal of sustaining its globally competitive position. The Media Development Authority also has a broad range of grants and assistance programs to enable Singapore media businesses to development quality content; identify and capitalize on new opportunities in digital media, and in general to help firms in this sector advance in their business nationally and globally.[706]

The media sector is one of Singapore's most important strategic economic sectors that the country has targeted for growth - not just domestically, but also internationally. The importance of this sector to Singapore is comparable to the importance of Alaska's seafood industry. Because the island nation lacks natural resources, much of its economic development strategy has been focused on cultivating a knowledge workforce as a primary "natural resource".[707]

The Singapore Media Fusion Plan, published in 2009, reflects these national priorities and drives these grants and "schemes" (incentives and assistance programs), which are focused on six media subsectors: broadcast, film, publishing, animation, interactive media and games. These programs are designed to assist Singapore's media industry develop intellectual property and create high quality content, as well as to cultivate talent in this sector. In FY 2014-15, the Media Development Authority supported 1,304 projects with S$21.38 in funding through several programs. Those that impact business and industry directly are described below.[708]

Infocomm Development Authority of Singapore

While the Infocomm Development Authority of Singapore does not provide incentives per se, this government agency oversees the regulation of and investment in Singapore's information technology and telecommunications systems and infrastructure. This authority works in very close collaboration with other public agencies, and most importantly, with enterprises and large firms as well. Like virtually every other Singapore government agency, this authority's work is guided by a strategic plan, Intelligent Nation 2015, which has as its primary goal to "transform Singapore into 'An Intelligent Nation, A Global City, Powered by

TABLE 73: SINGAPORE MEDIA DEVELOPMENT AUTHORITY INCENTIVE AND GRANTS PROGRAMS

Grants/Incentives Available	What it offers
Development Assistance Grant	Assists companies to develop commercially viable concepts/ideas into a script, game design, manuscript or storyboard. Firms also can acquire the rights to an existing creative property for the purposes of adaptation. This program uses the Inland Authority's Productivity and Innovation Credit. Grants range from S$40,000 up to S$200,000 depending on the project. Only Singapore citizens or permanent Singapore residents are eligible for this program.[709]
Production Assistance Grant	Supports a broad range of production activities in animation, broadcast, film, games, interactive media and publishing. The Media Development Authority will support up to 40% of the qualifying expenses that are directly linked to the project and that "significantly contributes to the development of Singapore". The total value of these funds is capped at no more than 20 times the amount of paid-up capital (cash on hand and reserves) that the qualifying firm has. Funds will support human capital, equipment, intellectual property licensing, location and equipment rental, transportation, etc. Fixed overhead expenses and operating capital do not qualify for these grants.[710]
Marketing Assistance Grant	This program assists Singapore media firms market their productions to their target audience and grow international demand for content produced in Singapore. Funds can be used to defray expenses related to travel as well as expenses incurred for marketing and promotion of content at approved international events, e.g., airfare, booth rentals, registrations, etc.[711]
Talent Assistance	Provides scholarships (100%) and grants to education and training institutions as part of the Media Development Authority's commitment to cultivate and grow Singapore's creative talent and sector.[712]
New Talent Feature Grant	Administered by the Singapore Film Commission, which is under the auspices of the Media Development Authority, the New Talent Feature Grant supports both first and second-time directors to launch their careers in feature filmmaking. Grants of up to S$250,000 or 100% of the cost of producing films are provided.[713]

Source: Singapore Media Development Authority, 2016.

Infocomm'". The Infocomm Development Authority's primary work is centered in ensuring an ultra-high speed, reliable information communication and technology infrastructure, as well as working with Singapore's education and training ecosystem to ensure that the nation's talent pool has the best and smartest ICT workers.[714] Equally important, the Infocomm Development Authority has developed a program to encourage innovation among its local enterprises, matching them with Singapore's multinational corporations – both domestic and foreign – to advance new technologies including cloud computing, the Internet of Things and other areas of knowledge development and technology.[715]

The Media Development Authority of Singapore has tied many of its initiatives to the Infocomm Development Authority's Infocomm Media 2025 strategic plan. The goal for both authorities is in alignment with the Singapore government's goal of positioning the nation as one of the world's preeminent media and creative arts centers in the world.[716]

SPRING Singapore (Standards, Productivity and Innovation Board)

Operating under the auspices of the Singapore Ministry of Trade and Industry, SPRING Singapore is charged with helping Singapore enterprises grow and engendering trust in Singapore products and services. Of all of Singapore's business-oriented incentive and financing programs, SPRING Singapore most closely mirrors AIDEA in that it has a plethora of loan programs. However, SPRING Singapore's programs are focused on small and medium-sized enterprises (SMEs), as well as startups.[717]

In Singapore, SMEs are defined as firms registered and operating in Singapore; have a minimum 30% local (Singaporean) ownership; have annual revenues of not more than S$100 million OR total employment of 200 employees or less.[718]

Functioning as the nation's enterprise development agency, SPRING Singapore works closely with financial institutions and other partners to help SMEs gain access to financing and markets, as well as to develop the capacity to grow and sustain their enterprises. Additionally, SPRING Singapore helps to advance technology innovation and development through a broad range of programs. As well, SPRING Singapore serves as the nation's standards and accreditation body, developing and promoting internationally-recognized standards and quality assurance measures. The agency also serves as the consumer protection watchdog for Singapore.[719]

SPRING Singapore's Grants and Incentive Programs

SPRING Singapore has designed its portfolio of programs and services to assist SMEs at all stages of growth, from startup

TABLE 74: SPRING SINGAPORE'S PROGRAMS

Grants/ Incentives Available	What it offers
Business Angel Scheme for Startups	Matching investment grants from qualified angel investors for up to S$2 million. Both SPRING SEEDS and angel investors take equity stakes in the enterprise in proportion to their investments. Funds are available to enterprises that are: ◆ Based in Singapore ◆ Incorporated as a Private Limited company (Pte) and for less than 5 years ◆ Have paid-up capital of at least S$50,000 ◆ Able to demonstrate substantial innovative and intellectual content for products/services ◆ Able to demonstrate high-growth potential[720]
Productivity and Innovation Tax Credit	Administered under the Inland Revenue Authority of Singapore. Provides up to a 400% tax decision up to S$400,000 or 60% cash pay-out up to S$100,000 for investments in innovation and productivity improvements up to S$1.2 million. Six business activities qualify for this tax credit (set to sunset in 2018): ◆ Research & Development ◆ Intellectual property registration, e.g., patents, trademarks, etc. ◆ Acquisition and in-licensing of Intellectual Property Rights, e.g., buying a patented technology or copyright ◆ Acquisition or leasing of automation equipment ◆ Training of employees ◆ Approved design projects[721]
Capability Development Grant	Provides grants of up to S$30,000 for qualified firms to defray up to 70% of the costs for service excellence consultants, training, certification and equipment costs. All of these activities must drive toward increasing productivity, improving processes, developing products or accessing markets. The goal is to help SMEs increase their competitiveness (set to sunset in 2018). Eligible projects include those that: ◆ Involve the introduction of new service standards or lead to improvements in specified areas of service ◆ Drive toward quantifiable outcomes that help to elevate the industry to be among the best-in-class internationally ◆ Deliver a plan for service excellence and indicate the current status ◆ Have not yet been initiated at the time of application[722]

Source: SPRING Singapore Website, April 2016.

to helping mezzanine-stage firms become viable competitors in the global economy. Among SPRING Singapore's programs:

SPRING Singapore's Loan Programs

Through SPRING Singapore, a broad range of government-backed loans are available to SMEs for working capital and for financing trade activities and the acquisition of equipment. These government-backed loans are offered through scores of participating financial institutions in Singapore. There are several loan "schemes" available to SMEs in Singapore:

Loan Insurance Scheme (LIS) and LIS+

The Loan Insurance Scheme insures against default risks for loans that support trade finance, including financing of inventories, working capital for overseas operations, factoring and accounts receivable discounting. The SME and the Singapore government co-share the insurance premiums. As a complementary program to the Loan Insurance Scheme, in the LIS+, the government co-shares in the risk of new loans which are beyond the capacity of current LIS insurers for a one-year period.[723] SPRING Singapore provides its borrowers/clients with a list of financial institutions, each of which has made a commitment to participate in these loan guarantee programs.[724]

TABLE 75: SPRING SINGAPORE LOAN INSURANCE SCHEME AND LOAN INSURANCE SCHEME+ PROGRAMS

	LIS	LIS+
Scope	Secured working capital (e.g. against receivables)	Secured working capital (e.g. against receivables)
Maximum Loan	No maximum	S$5 million per borrower group
Premium Rate and Interest Rate (and loan tenure)	To be determined by the insurer based on the risk profile of borrower (The government provides premium support of 50%)	1.5% p.a. (on the amount insured by the government)
	The interest rate charged throughout the tenure of loans will be either fixed or floating, depending on the option that best meets the need of the business.	The interest rate charged throughout the tenure of loans will be either fixed or floating, depending on the option that best meets the need of the business.[725]

Source: SPRING Singapore, March 31, 2016.

Eligibility Criteria for LIS and LIS+

Eligibility criteria for the LIS and LIS+ programs are rigorous. For SMEs seeking loans for their domestic (Singapore) business, they must be registered and operating in Singapore; have a minimum of 30% local shareholders; annual sales of S$100 million or less or a group employment size 200 or fewer employees. For those SMEs seeking loans to finance their international business, they must be based in Singapore with a minimum of three strategic business functions operating in Singapore; have annual gross revenues of less than S$300 million for non-trading companies and less than S$500 million for trading companies.[726] In Singapore, an enterprise is classified as a trading entity if more than half of its annual revenue is derived from the buying and selling of goods.[727]

Loans Facilities Available through the Loan Insurance Scheme

Through its Loan Insurance Scheme, SPRING Singapore's loan guarantee program supports both domestic and international trade for Singapore's SMEs. More than 20 financial institutions participate in this program with the Singapore government.

TABLE 76: SPRING SINGAPORE LOAN INSURANCE SCHEME AND LOAN INSURANCE SCHEME+ FACILITIES

Types of Loan Facilities	Domestic Trade Facilities	Overseas Trade Facilities
Inventory/Stock Financing	Yes	Yes
Structured Pre-delivery Working Capital (including Revolving Working Capital)	Yes	Yes
Factoring/Bill or Invoice or accounts receivable discounting with recourse	Yes	Yes
Overseas Working Capital Loans Support Facilities via Standby Letter of Credit or credit facilities made by Lender through its inter-branch cover letter (Only for above listed facilities)	No	Yes
Banker's Guarantee (Tied to Project Financing)	Yes	Yes[728]

Source: SPRING Singapore, March 31, 2016.

Local Enterprise Finance Scheme - Equipment and Factory Loans

SPRING Singapore also supports domestic, locally-owned SMEs through its Local Enterprise Finance Scheme (LEFS), which provides loans of up to S$15 million for equipment and factory loans. The government shares in the risk with participating financial institutions in the event of a default.[729]

TABLE 77: SPRING SINGAPORE LOCAL ENTERPRISE FINANCE SCHEME

Scope	◆ Automating and upgrading factory and equipment ◆ Purchasing JTC Corporation or Housing & Development Board factory and business premises
Maximum Loan	◆ Up to S$15 million
Repayment Period	◆ Up to 8 years for Equipment Loans ◆ Up to 10 years for Factory Loans
Interest Rate	◆ Subject to Participating Financial Institutions' assessments of risks involved[730]

Source: SPRING Singapore, March 31, 2016.

Micro Loan Program

Through its Micro Loan Program, SPRING Singapore offers loans of up to S$100,000 for local SMEs with 10 or less employees. The risk calculations have been enhanced for those enterprises that are less than three years old.[731]

TABLE 78: SPRING SINGAPORE MICRO LOAN PROGRAM

Scope	For daily operations or for automating and upgrading factory and equipment
Maximum Loan	S$100,000
Interest Rate	*Minimum 5.50% interest rate for loan tenure of 4 years and below *Subject to Participating Financial Institutions' assessments of risks involved[732]

Source: SPRING Singapore, March 31, 2016.

Working Capital Loan Program

Scheduled for launch in June 2016, SPRING Singapore's Working Capital Loan Program provides loans up to S$300,000 to domestic, locally-owned firms. SPRING Singapore shares in the risk with participating financial institutions in the event of a default.[733]

TABLE 79: SPRING SINGAPORE WORKING CAPITAL LOAN PROGRAM	
Scope	Working Capital (e.g. daily operations)
Loan Amount	Up to S$300,000
Repayment Period	Up to 5 years
Interest Rate	Subject to Participating Financial Institutions' assessments of risks involved[734]

Source: SPRING Singapore, March 31, 2016.

SPRING Singapore Business Assistance Programs and Services

In addition to the financial, grant and incentives tools in its portfolio, SPRING Singapore offers a plethora of other programs, all of which are focused on driving domestic enterprise and helping these firms to attain international stature and global competitiveness. Other SPRING Singapore programs include:

Incubator Development Program: Provides funding to underwrite operating expenses, marketing and other costs of incubators/ accelerators that foster and cultivate startups, with an emphasis on helping these enterprises innovate new products and services; access capital and markets. In addition SPRING Singapore will fund mentorship programs that are managed by these facilities.[735]

Toolkit for Startups: SPRING Singapore's primary focus is to assist startups and SMEs with upgrading their productivity, innovation and capabilities so that they can compete on the global state. Additionally, several programs are available to help these enterprises identify and capture growth opportunities as well as enhance their outreach domestically and internationally, accessing capital, technical assistance and new markets.[736] SPRING Singapore offers a comprehensive tool-kit of self-help guides in customer service, financial management, marketing and human resource management and talent development.[737]

Collaborative Industry Projects: Another program that undergirds SPRING Singapore's focus on elevating the competitiveness of its SMEs is the Collaborative Industry Projects program, which entails supporting the scalability of enterprises in six of the nation's priority targeted sectors: Food Manufacturing, Food & Beverage Services, Furniture, Printing & Packaging, Retail and Textile & Fashion.[738] This program focuses on forging collaboration between enterprises and industry partners, e.g., professional and trade associations, chambers of commerce and other service providers to address commonly-shared, industry-specific opportunities and challenges. Firms are encouraged to create consortia and SPRING Singapore will fund up to 70% of the cost of qualifying projects. The projects need to focus on such business innovations/solutions as process improvement; elevate capabilities along the value-chain; co-innovating new product/ service offerings, and co-exploring and capitalizing on new market opportunities. Projects funded under this program must lead to measurable outcomes, e.g., increases in revenue and productivity gains.[739]

Customer-Centric Initiative: As with all of its other programs, SPRING Singapore is keen on elevating standards of excellence for its entrepreneurship sector. The Customer-Centric Initiative is yet another program designed to encourage enterprises to commit to service excellence and exceeding international standards for operations, quality and business in general. As a multi-agency effort by led by SPRING Singapore, involving several other government entities including the Singapore Tourism Board, Singapore Workforce Development Agency, and the Institute of Service Excellence at Singapore Management University, the Customer-Centric program will pay up to 70% of eligible costs for SMEs in such key targeted sectors as Food & Beverage Services, Healthcare, Hospitality, Retail, Transport and Travel Services.[740]

Local Enterprise and Association Development Program: This program is designed to elevate and enhance industry and entrepreneurial competitiveness through business-industry partnerships. There is a broad range of projects that SPRING Singapore will help to underwrite through this program, including technology and infrastructure; business intelligence and research; training and other initiatives that serve to improve the global competitiveness of Singapore's SMEs. As with other programs, SPRING Singapore offers grants to industry organizations to help underwrite the costs associated with these endeavors. Funding is provided on a case-by-case basis and was not disclosed.[741]

Partnerships for Capability Transformation: This program promotes collaborations between Singapore's SMEs and larger firms (with S$100 million or more in annual revenues) to foster the transfer of knowledge as well as innovating, testing and launching of new products and services. Through this initiative, SPRING Singapore works with large firms to match them with SMEs, as well as identify potential new vendors for these firms.[742] Up to 70% of project costs are provided by SPRING Singapore on a case-by-case basis; the funding limit was not disclosed.[743]

Summary

Singapore provides an important comparison for the State of Alaska and the Alaska Industrial Development and Export Authority for several salient reasons. While Singapore lacks the richness of natural resources that Alaska enjoys, the nation has had to be as creative in identifying strategic opportunities to grow its economy. Singapore has exemplified ingenuity in terms of articulating these strategic opportunities for each of its major economic pillars, and ensuring that government policy supports the achievement of the goals that have been set forth. The various sovereign wealth entities and authorities of the Singapore government focus their investments, lending and other programs to support the growth of specific firms within these targeted sectors. Public policy is aligned with the national economic development vision.

Among best practices globally, Singapore's entrepreneurship programs (including its immigration policies) are considered among the best-of-the-best. There are many programs that Singapore has developed and launched within the entrepreneurship realm that have and continue to generate positive results. These programs include seed and venture capital.

SECTION 2.4: IFC ASSET MANAGEMENT COMPANY

As a wholly-owned subsidiary of the World Bank Group International Finance Corporation (WBG-IFC), the IFC Asset Management Company manages both its parent's and third party funds on behalf of institutional investors in emerging markets. The IFC Asset Management Company is a fund-to-fund investor, and partners and invests with sovereign funds, pension funds, development finance institutions and other multi-and-bilateral institutions on behalf of the WBG-IFC to support economic development in developing nations.[744]

The IFC Asset Management Company benefits from both a support services agreement as well as a co-investment agreement, using the expertise of the WGB-IFC's portfolio managers as well as its relationships and access to sources of funding.[745]

The IFC Asset Management Company structures its investments into two primary tranches:

- Private Equity Funds: Focused on both regional funds and sector funds with the goal toward providing a portfolio of funds that support the largest industry sectors and emerging market regions targeted by the WGB-IFC;
- Fund of Funds: Focused on supporting private equity fund managers in their investments that support the WGB-IFC's targeted emerging market regions.[746]

The IFC Asset Management Company (IFC-AMC) has grown rapidly since its creation in 2009. In 2015, the IFC-AMC raised USD$8.7 billion in funds, partnering with 42 investors across 11 funds. Thirty-seven percent of the IFC-AMC's investors were pension funds/financial institutions; 19 percent were sovereign wealth funds and 18 percent were government agencies. One-third of IFC-AMC's investors are from Asia, 30 percent are from Europe, and 21 percent are from the Middle East and North Africa (MENA).[747]

The World Bank Group International Finance Corporation

Full appreciation of the IFC Asset Management Company and its role comes with an understanding of the breadth, complexity and goals of the World Bank Group's International Finance Corporation, which is central to how the World Bank promotes and achieves economic development in developing market economies.

The World Bank Group

Established in 1944, the World Bank Group serves as one of the most important sources for access to financial resources and technical assistance for the world's developing nations. The World Bank Group has two fundamental goals: "to end extreme poverty and to boost shared prosperity".[748] For each of these goals, there are specific metrics as well as operating principles, including sustainability requirements, which accompany all programs – including lending – that are administered under the auspices of the World Bank Group.[749] Its governance is constituted by a Board of Governors that represents the World Bank's 188 member nations as well as by a Board of Directors. Each country appoints a governor and an alternate; these representatives typically are a nation's finance minister or treasury secretary. The Board of Governors appoint 5 Executive Directors and 20 are elected; the Executive Directors elect the World Bank Group's President.[750]

FIGURE 31: THE WORLD BANK GROUP

Source: The World Bank Group, January 2016.

There are five separate organizations that comprise the World Bank Group, each with a distinct role:

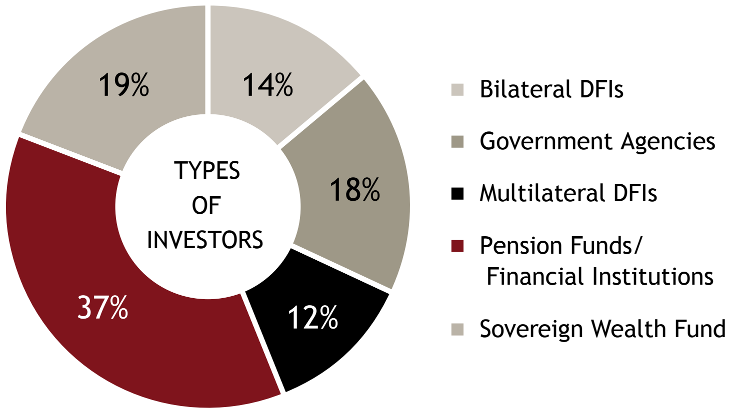
International Bank for Reconstruction and Development (IBRD): Created in 1944 to help rebuild Europe after World War II, the International Bank for Reconstruction and Development provides loans and other assistance primarily to middle income and credit-worthy impoverished countries. The IBRD is the original World Bank lending institution, and works with the other WBG organizations in developing nations to "reduce poverty, promote economic growth and build prosperity".[751] The IBRD was created to function as a self-sustaining business; however, it is authorized to lend only to the governments of member nations. The IBRD's membership is comprised of 188 countries; the organization has a 25-member board of directors, five of whom are appointed and 20 of whom are elected as Executive Directors. The IBRD provides financial resources and technical assistance to support human and social development programs and projects that private creditors do not finance. As well, the IBRD provides access to capital markets that these countries' governments otherwise could not access on their own.[752]

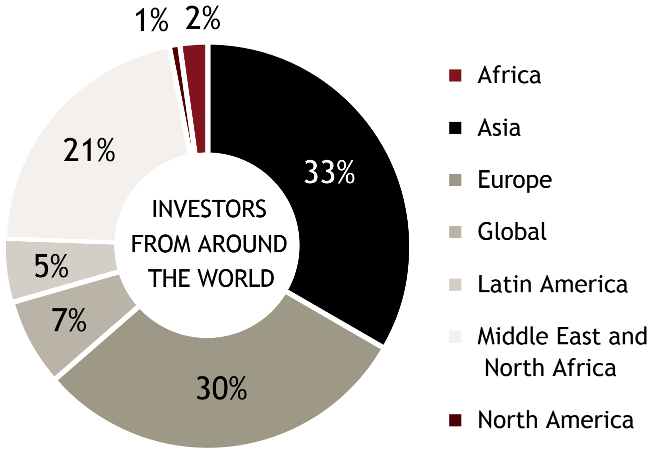
International Development Association (IDA): Established in 1960, and focused solely on assisting the world's most impoverished nations, the International Development Association is overseen by 173 shareholder nations. The IDA provides loans and grants for programs that support the advancement of reducing poverty, increasing prosperity and improving the basic conditions of peoples' lives. The IDA is one of the world's largest sources of financial assistance to the world's 77 poorest nations, and is the single largest source of donor funds for fundamental human and social services in those countries. IDA strives to reduce poverty by providing loans and grants only to the governments of member nations for programs that boost economic growth, reduce inequalities, and improve people's living conditions. Loans are "credits" and are made on a zero or very low interest rate basis with repayment terms of 25 to 40 years, including a 5 to 10 year grace period.[753]

Multilateral Investment Guarantee Agency (MIGA): Created in 1988, the MIGA's mission is to promote foreign direct investment (FDI) into developing nations, including serving those nation-clients of the World Bank Group's International Development Association. A major area of focus for MIGA is attracting private/public financing and guarantees for projects considered as "transformational" – large scale investments that have a high propensity to effectuate significant and positive change in a country – as well as energy, climate change-related and transportation infrastructure projects. The MIGA provides political risk insurance guarantees to private sector investors and lenders to protect against non-commercial risks, e.g., political upheavals, economic failures, etc. The MIGA is governed by a Council of Governors and Board of Directors who represent its 156 member nations.[754]

International Center for Settlement of Investment Disputes (ICSID): Established in 1966, the ICSID was created to arbitrate and settle international investment disputes. Its creation was grounded in a multilateral treaty that was originated by the World Bank's Executive Directors. It has no role in financing of projects on behalf of the World Bank Group.[755]

FIGURE 32: IFC ASSET MANAGEMENT COMPANY – INVESTOR SNAPSHOT - 2015





Source: World Bank Group International Finance Corporation April 27, 2016.

International Finance Corporation

Presided over by the President of the World Bank Group, the International Finance Corporation (WBG-IFC) is a separate legal entity with its own Articles of Agreement, financial structure, managed capital, management and staff. Only those nations that are members of the World Bank can be members of the WBG-IFC.[756]

Recognizing the changing worldscape of economic growth – most especially projections of slower economic growth globally as well as rising inequality across the world – the WBG-IFC's mandate is to pursue growth for both greater impact as well as financial sustainability in emerging market economies. A cornerstone for the WGB-IFC's strategy is its core focus on private sector development to attract private financing and also to provide efficient solutions to development and financing needs in these nations. The WBG-IFC's goal for the growth of its long-term finance capital position is 8 to 10 percent per year. Achieving this underscores the institution's commitment to forging strong partnerships with private sector partners and clients.[757]

In contrast to the World Bank Group's IBRG and IDA organizations, the WBG-IFC works directly with the private sector. In fact, its establishment in 1956 was spurred in large measure to address this gap in the World Bank's financial program portfolio. The WBG-IFC is "owned" by 184 member nations, and has a presence in 120 of those nations. The organization is the world's largest development institution that focuses on the private sector. Under the Articles of Agreement that constitute its legal mandate, the WBG-IFC's role is to "serve as a catalyst to increase the flow of capital into productive private investments in members' countries".[758] Mobilizing capital is central to the WBG-IFC's business model, and in addition to raising capital through bond issuances, the organization leverages its own capital with a broad range of partners to increase the level of funding that is available for the benefit of its member countries.[759]

The WBG-IFC promotes economic development by lending directly to sustainable private sector firms in developing nations when government guarantees are not necessary. In addition, and increasingly viewed as a source of revenue growth, the WBG-IFC also provides advisory services to governments and firms to support the growth of business and private sector development projects. As of 2015, the WBG-IFC reported that it was working with more than 2,000 private sector clients.[760]

The WBG-IFC also offers advisory services to support private sector development. Most of these activities are funded in partnership with donor countries, and several entail close collaboration with the World Bank.[761]

WBG-IFC Funding

Funding for the organization in FY 2016 is USD$17 billion, and with its AAA/Aaa bond rating, the WBG-IFC is well-positioned

to deploy its capital to advance the eradication of poverty and increase prosperity in the world's developing nations. Since its initial rating in 1989, the WBG-IFC has been rated AAA each year by Standard and Poor's and Moody's. Under its Articles of Agreement, the organization must be self-sustaining and operate profitably.[762]

The institution does not pay dividends or taxes. The WGB-IFC's capital growth is funded primarily from retained earnings; profits from its investments are re-invested back into projects of its member nations.[763]

Capital is raised primarily through the issuance of debt obligations in international capital markets. The WBG-IFC's borrowings are highly diverse: different nations, currencies, sources and maturity dates comprise the organization's bond issuances. The organization issues bonds across a broad range of markets and structures, including: U.S. dollar benchmarks bonds; themed bonds that support specific programs such as green bonds and banking on women bonds; private placements, and discount notes. In addition, the WBG-IFC issues local-currency bonds consistent with its mandate to develop domestic capital markets and facilitate local-currency lending.[764]

TABLE 80: WORLD BANK GROUP INTERNATIONAL FINANCE CORPORATION BALANCE SHEET

Assets		Liabilities and Capital	
Liquid Assets (gross)	43.8	Borrowings	51.3
Loans and Equity Investments (net of $1.7 in reserves)	37.6	Other Liabilities	11.9
Net Loans	21.3	Net Worth	24.4
Equity Investments	13.5	Paid-in Capital	2.6
Debt Securities	2.7	Retained Earnings and Other	21.9
Other Assets	6.2		
Total Assets	87.5	Total Liabilities and Capital	87.5

Source: World Bank Group International Finance Corporation Annual Report 2015, April 27, 2016. (In USD billions as of 30 June 2015)

TABLE 81: WBG-IFC PRIMARY SERVICES AND PROGRAMS

Client Solutions		Asset Management
Investment Services	**Advisory Services**	**IFC Asset Management Company**
◆ Loans ◆ Equity products ◆ Syndicated loans ◆ Trade finance ◆ Guarantees and securitized products ◆ Risk management products ◆ Local currency financing	◆ Financial sector ◆ Investment climate ◆ Public-private partnerships ◆ Agribusiness ◆ Energy and resource efficiency	◆ Wholly-owned subsidiary of IFC founded in 2009 ◆ Invests third-party capital in a private equity format ◆ Allows outside equity investors to benefit from IFC's expertise in achieving strong equity returns as well as development impact
$17.7 billion committed in FY15 $50.4 billion committed portfolio	over $200 million in fee income annually	$8.5 billion under management

Source: International Finance Corporation, World Bank Group, January 2016.

Private Sector Clients, Products and Services

The range of private enterprises in which the WBG-IFC invests encompasses companies, financial institutions, and other businesses that are majority-owned by the private sector and that operate in the organization's member countries. While the WBG-IFC does not lend directly to microenterprises or SMEs, it does work directly with its investment clients, many of which are financial intermediaries that do provide lending to these types of firms.[765]

To qualify for WBG-IFC financing, a project or firm must be in the private sector and located in a developing nation that is a member of the organization; demonstrate that it is "technically sound" and has reasonable prospects of achieving profitability. To meet the World Bank Group's overall goals of eradicating poverty and advancing prosperity, the firm must also comply with the stringent sustainability goals that have been established.[766]

TABLE 82: WORLD BANK GROUP INTERNATIONAL FINANCE CORPORATION PRODUCTS	
Product/ Service	**What it offers**
Direct and Intermediary Loans	◆ Lends directly to projects and companies » Loan terms of 7 to 10 years » Typically $1 million to $10 million » Limited amount of loans $100,000 to $1 million » Finances 25% of total project estimated costs ◆ Invests in intermediary banks, leasing companies and on-lenders that finance projects, microenterprises and SMEs. ◆ Loans held directly by WBG-IFC are "A Loans".
Equity Investments	◆ Invests directly in companies' equity and also through private-equity funds. ◆ Invests between 5 and 20 percent of a firm's equity. ◆ Encourages equity investment clients to expand ownership through public offerings. ◆ Invest through profit-participating loans, convertible loans, and preferred shares.
Trade & Supply Chain Finance	◆ Guarantees trade-related payment obligations of approved financial institutions. ◆ Provides risk mitigation on a per-transaction basis directly to banks.
Parallel Loans	Established during the global financial crisis in 2007; syndicates parallel loans to global financial institutions and other ineligible B Loan participants. ◆ WBG-IFC uses its existing syndication platform, deal-structuring expertise, and global presence to identify investments, perform due diligence, and negotiate loan documents in cooperation with parallel lenders. ◆ Lenders under this structure benefit from cost and time savings through by having WBG-IFC act as administrative agent. ◆ Borrowers benefit from increased access to expanded financial resources and also from time and cost savings throughout the life of the loan.
Syndications	In its developmental role, raises capital from foreign and domestic sources- in private and public markets – to finance private sector projects in its member nations. ◆ Uses "B Loans": » WBG-IFC IFC retains a portion of the loan for its own account (the "A Loan"), and sells participations in the remaining portion to participants (the "B Loan"); » Borrower signs a single Loan Agreement with WBG-IFC; » WBG-IFC signs a Participation Agreement with the participants (co-funders); » WBG-IFC is the sole contractual lender for the borrower. While WBG-IFC is the lender of record, the participants' involvement is known to the borrower, and is included in any transaction and publicity. » This "A/B" Loan structure allows co-funders to fully benefit from WBG-IFC's Preferred Creditor Status (this means that member governments grant IFC loans preferential access to foreign currency in the event of a foreign exchange crisis). » WBG-IFC commits to the participants (co-funders) to allocate payments pro-rata between the A and B Loan; WBG-IFC cannot be paid in full until all participants are paid in full. ◆ Managed Co-Lending Portfolio Program: Allows lenders to participate in WBG-IFC's projects that otherwise may be unable to invest on a project-by-project basis. » Investors approve participation in projects at or pre-mandate and then delegate all aspects of project structuring and supervision to WBG-IFC; » Investments match A Loan terms, providing an additional source of long-term capital for IFC clients in emerging markets; » WBG-IFC acts on behalf of investors and is the only interface with the borrower.

TABLE 82: WORLD BANK GROUP INTERNATIONAL FINANCE CORPORATION PRODUCTS	
Product/ Service	**What it offers**
Venture Capital	Provides early-stage and late-stage venture capital financing through direct investments and funds, extending development capability to high-impact business opportunities. WBG-IFC maintains a long-term investment horizon. Each investment is made on a case-by-case basis, depending on the host country and the project; some initial venture investments have ranged from $25 million (Microvast) to $45 million (Netshoes). ◆ Investments are made in ventures and early-growth companies that offer: » Innovative technologies or business models geared at emerging markets. » Targeted sectors include: healthcare, edu-tech, consumer Internet—including ecommerce—and clean technology. » Companies must be committed to cross-border technology transfers.

Source: World Bank Group International Finance Corporation April 7, 2015.

Sustainability

Sustainability is a core value of the WBG-IFC's mission. Each project that is funded must comply with rigorous environment and social performance standards, and reporting on each of these standards is mandatory.[767]

TABLE 83: WBG-IFC SUSTAINABILITY PERFORMANCE STANDARDS
Assessment and management of environmental and social risks and impacts
Labor and working conditions
Resource efficiency and pollution prevention
Community, health, safety and security
Land acquisition and involuntary resettlement
Biodiversity conservation and sustainable management of living natural resources
Cultural heritage
Indigenous peoples

Source: International Finance Corporation, World Bank Group, January 2016.

Partnerships

Partnerships and collaboration are foundational to the WBG-IFC'S work, reflecting its core business of working with the private sector. The organization works with all sectors of society: government, education, business, philanthropic organizations and multilateral organizations across the world.[768]

Partner governments include:

WBG-IFC'S PARTNER GOVERNMENTS

Australia	Department of Foreign Affairs and Trade
Austria	Federal Ministry of Finance Development Bank of Austria
Canada	Global Affairs Canada
European Commission	European Commission
Finland	Ministry for Foreign Affairs of Finland Ministry of Employment and the Economy
Hungary	Hungarian Export-Import Bank
Japan	Ministry of Finance Japan
Korea	Ministry of Strategy & Finance
Luxembourg	Ministry of Finance
The Netherlands	Ministry of Foreign Affairs
New Zealand	Ministry of Foreign Affairs & Trade
Sweden	Swedish International Development Cooperation
Switzerland	State Secretariat for Economic Affairs SECO
U.K.	Department for International Development
U.S.	U.S. Agency for International Development

Partner foundations include:

WBG-IFC'S PARTNER FOUNDATIONS

Bill & Melinda Gates Foundation
eBay Foundation
Ford Foundation
Goldman Sachs Foundation
Hindustan Unilever Foundation
Kauffman Foundation
MasterCard Foundation
Omidyar Network Fund, Inc.
PepsiCo Foundation
Rockefeller Foundation

International Finance Corporation Asset Management Company

Established in 2009, the International Finance Corporation's Asset Management Company (IFC-AMC) manages third-party capital on behalf of the World Bank Group International Finance Corporation. As the WBG-IFC's fund manager, in 2015, the IFC-AMC managed third-party capital across 11 funds that invest in WBG-IFC transactions in developing nations. The IFC-AMC represents a new model of capital development for its parent organization.[769]

While the IFC-AMC contributes a relatively small but growing revenue stream to the WBG-IFC's investment income, it serves an important role, as it enables outside investors to benefit from its parent company's expertise in realizing strong equity returns. The IFC-AMC's revenue covers the cost of its operations and also reimburses the WBG-IFC for the staff, technology and other expenses associated with its work. Like the WBG-IFC, the IFC-AMC is mandated to operate profitably.[770]

For the WBG-IFC, the IFC-AMC serves as an important vehicle to advance and increase the organization's development impact by mobilizing third-party capital to expand the supply of long-term financing in developing countries. The IFC-AMC also enables the broad range of investors to access the WBG-IFC's global reach in terms of investment pipeline and portfolio of relationships.[771]

As set forth in its strategy, the WBG-IFC defines the IFC-AMC's value proposition from four perspectives: the developing countries that constitute the organization; companies that receive investments; investors and the organization itself.[772]

TABLE 84: INTERNATIONAL FINANCE CORPORATION ASSET MANAGEMENT COMPANY VALUE PROPOSITIONS

Beneficiary	Benefits
For Developing Countries:	Helps to fund private sector development and growth in developing markets by channeling capital into these markets; Enhances the "demonstration effect" of WBG-IFC's projects to other capital providers; Boosts the number and size of projects financed by the WBG-IFC; Supports the realization of the WBG-IFC's development goals.
For Investee Companies:	Facilitates access to larger investments from the WBG-IFC through both the funds under management as well as through direct co-investment by fund investors. Enables firms to diversify and expand their shareholder base with prime investors. Positions the companies for exposure to potential new investors.
For Investors:	Offers investors a secure, unique platform for investing in emerging and frontier markets. Delivers the WBG-IFC's investment expertise, market access and organizational infrastructure in these markets.
For IFC:	Contributes to WBG-IFC's financial sustainability by preserving the organization's own capital and increasing its net income. Expands WBG-IFC's equity base and ability to invest more capital. Facilitates more transactions, diversifying WBG-IFC's equity portfolio, with greater risk diversification. Increases focus on equity business development by generating fee income to the WBG-IFC.

Source: World Bank Group International Finance Corporation, June 4, 2015.

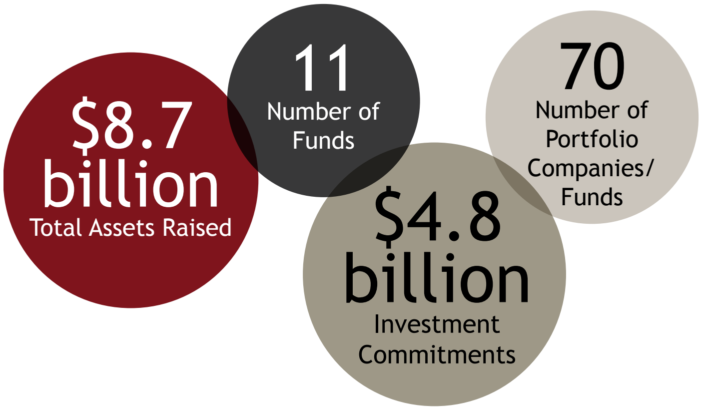
TABLE 85: IFC ASSET MANAGEMENT COMPANY - FUNDS UNDER MANAGEMENT - 2015

REGIONAL FUNDS	
FC African, Latin American and Caribbean Fund	
Fund Size	US$1.0bn
Total Investments	25
Total Committed	US$795mn
IFC Middle East and North Africa Fund	
Fund Size	US$125mn
Total Investments	1
Total Committed	US$12mn
China-Mexico Fund	
Fund Size	US$1.2bn
Total Investments	n/a
Total Committed	n/a
SECTOR FUNDS	
Africa Capitalization Fund	
Fund Size	US$182mn
Total Investments	7
Total Committed	US$125mn
IFC Capitalization [Equity] Fund	
Fund Size	US$1.2bn
Total Investments	14
Total Committed	US$1.2bn
IFC Capitalization [Sub Debt] Fund	
Fund Size	US$1.6bn
Total Investments	19
Total Committed	US$1.6bn
IFC Global Infrastructure Fund	
Fund Size	US$1.2bn
Total Investments	8
Total Committed	US$443mn
IFC Russian Bank Capitalization Fund	
Fund Size	US$550mn
Total Investments	2
Total Committed	US$82mn
FUND OF FUNDS	
IFC Catalyst Fund	
Fund Size	US$418mn
Total Investments	8
Total Committed	US$200mn

Footer: Source: World Bank Group International Finance Corporation April 27, 2016.

As of December 2015, the IFC-AMC had approximately USD$8.7 billion of total assets raised in eleven funds and had committed approximately USD$4.8 billion in 63 emerging market companies and seven private equity funds. The IFC-AMC's investors include

FIGURE 33: INTERNATIONAL FINANCE CORPORATION ASSET MANAGEMENT COMPANY BY THE NUMBERS



Source: World Bank Group International Finance Corporation April 27, 2016.

sovereign wealth funds, pension funds, bilateral and multilateral development finance institutions and other investors.[773]

Equity Capital

The IFC-AMC is central to the WBG-IFC's equity capital platform. As one of the world's largest investors in private equity funds in emerging markets, the WBG-IFC has more than $5 billion invested in 280 funds. Each year, the organization invests about $500 million in private equity. As part of its capital mobilization mandate, the WBG-IFC expands its financial resources through the IFC-AMC model.[774]

Funds Managed by the IFC-AMC

IFC Capitalization Fund: The IFC Capitalization Fund is comprised of two funds: an Equity Fund and a Subordinated Debt Fund. This fund makes equity and equity related investments in and subordinated loans to important commercial banks in emerging markets globally.[775] The funds are deployed across all of the WBG-IFC's targeted markets: Asia, Middle East and North Africa, Europe and Central Asia, and Latin America & the Caribbean.[776]

TABLE 86: IFC AFRICA CAPITALIZATION FUND

Fund Facts
Size **US$3 billion**
Vintage Year **2009**
Sector **Banks**
Region **Global Emerging Markets**

Source: IFC Asset Management Company Website 2016.

The Africa Capitalization Fund: The Africa Capitalization Fund makes equity and equity-related investments in banking institutions in continental Africa. This fund invests in partnership with the IFC Capitalization Fund or, in cases where the investments do not qualify for the IFC Capitalization Fund, alongside the IFC.[777]

TABLE 87: AFRICA CAPITALIZATION FUND

Fund Facts
Size **US$182 million**
Vintage Year **2010**
Sector **Banks**
Region **Africa**

Source: IFC Asset Management Company Website 2016.

IFC African, Latin American & Caribbean Fund: The IFC African, Latin American and Caribbean Fund is a multi-sector fund which makes equity and equity-related investments in companies in Sub-Saharan Africa, Latin America and the Caribbean.[778]

TABLE 88: IFC AFRICAN, LATIN AMERICAN & CARIBBEAN FUND

Fund Facts
Size **US$1 billion**
Vintage Year **2010**
Sector **All IFC Sectors**
Region **Sub-Saharan Africa, Latin America & Caribbean**

Source: IFC Asset Management Company Website 2016.

The IFC Catalyst Fund: The IFC Catalyst Fund makes investments in private equity funds focused on providing capital for companies that enable resource efficiency and develop low-carbon products and services in emerging markets.[779]

TABLE 89: IFC CATALYST FUND
Fund Facts
Size **US$418 million**
Vintage Year **2012**
Sector **Resource Efficiency**
Region **Global Emerging Markets**

Source: IFC Asset Management Company Website 2016.

The IFC Global Infrastructure Fund: The IFC Global Infrastructure Fund makes equity and equity-related investments in greenfield and brownfield assets in infrastructure sectors such as power, transportation, utilities, telecoms, urban infrastructure and infrastructure service companies.[780]

TABLE 90: IFC GLOBAL INFRASTRUCTURE FUND
Fund Facts
Size **US$1.2 billion**
Vintage Year **2013**
Sector **Infrastructure**
Region **Global Emerging Markets**

Source: IFC Asset Management Company Website 2016.

Summary

The IFC-AMC is actively marketing several of the WBG-IFC's funds, including its Financial Institutions Growth Fund; MENA Fund and Emerging Asia Growth Fund. Additionally, the IFC-AMC is developing other fund ideas including a Global Fund-of-Funds, Women Entrepreneurs Opportunity Fund and follow-on fund to the IFC African, Latin American & Caribbean Fund.[781]

For the WBG-IFC and its member nations, the IFC-AMC presents an important portal to the organization's 55+ years of experience and expertise in developing countries. With its track record in investing, as well as its global pipeline of investors, the WBG-IFC extends its strong governance, transparency and accountability to its IFC-AMC subsidiary. The IFC-AMC figures prominently as an important source of future revenue for the WBG-IFC.[782]

For the State of Alaska and Alaska Industrial Development and Export Authority, the IFC Asset Management Company provides a model for revenue generation through the management of funds that may be owned by the state. More importantly, it provides a model for investing with significant risk mitigation in equity funds, in partnership with other AAA/Aaa rated institutional investors.

SECTION 2.5: OVERSEAS PRIVATE INVESTMENT CORPORATION

The Overseas Private Investment Corporation (OPIC) promotes economic development in developing and emerging economies by mobilizing American private sector investment to support U.S. foreign policy goals.[782] OPIC essentially serves as the U.S. government's development finance institution. Authorized in 1961 under the Foreign Assistance Act of 1961 (P.L. 87-195), as amended, OPIC is mandated to "mobilize and facilitate the participation of United States private capital and skills in the economic and social development of less developed countries and areas, and countries in transition from nonmarket to market economies... under the policy guidance of the Secretary of State."[783]

OPIC fulfills its charge by providing financing (direct loans and loan guarantees), support for private equity investment funds, political risk insurance and other services to facilitate U.S. private sector investment that will have a development impact in developing and emerging economies throughout the world.[784]

When OPIC was formally established in 1971, it was organized as a government-owned corporation to operate like a business on a self-sustaining basis. It is an independent agency, pays for its operations and generates a surplus, which it returns to the U.S. Treasury each year. OPIC's revenues are derived from the market-based fees and premiums it charges for its loans and insurance.[785]

With the completion of the 2015 fiscal year, OPIC marked its 38th consecutive year of generating a surplus – or what the agency labels as "profits" - for the U.S. government. That year, OPIC's financial and insurance transactions totaled $4.39 billion in 41 countries and regions across the world, and contributed a net $434 million to the U.S. Treasury.[786] OPIC's Congressionally-authorized exposure limit is $29 billion, and as of September 30, 2015, the agency reported a combined total exposure of $19.93 billion or, 69% of its limit.[787]

Although OPIC is self-sustaining, the U.S. Congress maintains authorization, appropriations and oversight related to the agency and its activities. While the U.S. Congress does not approve individual OPIC transactions, it has promulgated statutory requirements that govern the agency's activities related to its operations, financial limits, reporting and the economic and environmental impacts of projects.[788]

Statutory and Policy Requirements for OPIC-Supported Projects

Projects supported by OPIC are not only governed by Congressionally-mandated statutory requirements, they also must comply with OPIC policies. All OPIC projects must adhere to high environmental and social standards and respect human rights, including worker's rights. OPIC's statutory mandates include the following.[789]

TABLE 91: RULES GOVERNING OPIC'S INVESTMENTS	
Self-sustaining operations	Statutorily required to conduct operations on a self-sustaining basis, taking into account the "economic and financial soundness of projects."
U.S. connection	Projects are statutorily required to have U.S. ownership to qualify for OPIC programs and resources. For a project to be eligible for OPIC financing, it must include "meaningful involvement of the U.S. private sector"; at least 25 percent of the equity/share capital of a project's company or borrower much be owned by a U.S. firm (or nonprofit), or a subsidiary of a U.S. firm (or nonprofit).
Environmental and social impact	Statutorily required to "be guided by the economic and social impact and benefits" of the project in evaluation and approving projects; Board of Directors statutorily mandated to not vote affirmatively for any project that is likely to have "significant adverse environmental impacts that are sensitive, diverse, or unprecedented" unless for at least 60 days before the vote, an environmental impact assessment of the project is conducted and is made available to the public. OPIC generally is prohibited from participating in projects that pose an "unreasonable or major environmental health, or safety, hazard."
Worker rights	Statutorily required to support projects "only in countries that currently have, or are taking steps to adopt and implement, laws that uphold internationally recognized worker rights".
U.S. economic impact	Statutorily required to focus on projects that have "positive trade benefits for the United States". The agency will not consider financing projects that may have a detrimental impact on employment in the U.S. that may result from (1) a U.S. firm offshoring jobs or (2) importing products/services produced overseas back into the U.S. and therefore "reduce substantially the positive trade benefits" of the investment.
Development effects on the host country	Statutorily required to "mobilize and facilitate the participation of United States private capital and skills in the economic and social development of less developed countries and areas, and countries in transition from nonmarket to market economies... under the policy guidance of the Secretary of State." Through rule-making and agency policies, the agency evaluates such factors as human capacity building and job creation, "social policies and corporate social responsibility initiatives, infrastructure improvements, and technology and knowledge transfer".[790]

Source: Congressional Research Service, September 23, 2013.

OPIC's Impact

For the last 13 years (through fiscal year 2015), OPIC has consistently generated a surplus with zero defaults. This is especially noteworthy because OPIC has funded projects and firms that operate in some of the most volatile countries in the world.[791]

In recent years, OPIC has been a target of certain Congressional members as well as liberal and conservative advocacy groups. Because of the ongoing political opposition and controversy that OPIC has dealt with for several years, the agency's reauthorization and funding has been handled through continuing resolutions of the U.S. Congress. The agency also is frequently called upon by members of the State, Foreign Operations and Related Programs Subcommittee of the U.S. Senate Committee on Appropriations to justify its existence and explain its programs and investments.[792] OPIC also is required by law to provide a full accounting of its activities, investments and financial performance to both the White House and Congress each year. Management reports are provided each year, as are budget requests.[793] As with most Federal government agencies, OPIC is reviewed by the U.S. Government Accountability Office, often at the request of "Congressional requesters".[794]

As part of its budget justification to Congress for the Fiscal Year 2016, OPIC reported that from 1974 to 2014, $2.46 in external capital was "mobilized" for each $1 of insurance and financial commitments the agency generated, or a 2.5:1 leverage ratio. During this 40 year period, OPIC has approved over $70 billion in insurance and finance commitments, which has leveraged an additional $185 million in capital commitments and investments from private sector partners. For each dollar that OPIC invests, $175 of private capital is invested in the economic development projects it supports globally.[795]

As of September 30, 2015, OPIC's portfolio included 500+ projects spanning 102 countries. With a full-time staff of 230, OPIC reported that on a per capita basis, each of its employees generated an average of $16.3 million in new commitments and more than $1.5 million in "deficit reducing receipts" for the Federal government.[796]

OPIC's Programs

OPIC is organized comparably to a corporation; it is governed by a 15-member Board of Directors and led by a President and CEO. OPIC's board members, its President and CEO, and its Executive Vice President are nominated by the President of the United States and approved by the U.S. Senate.[797]

Eight of OPIC's board members must represent the private sector. Seven members of the agency's current board members represent various U.S. government agencies. OPIC is required to have at least two of the eight private sector members experienced in small business. Additionally, "one of OPIC's board members must represent organized labor and another must have experience in cooperatives".[796]

As authorized by Congress, OPIC executes its development finance responsibilities through three primary vehicles: finance, investment funds and insurance. OPIC's authority to guarantee and insure U.S. investments abroad is backed by the full faith and credit of the U.S. government and OPIC's own financial resources. OPIC provides financing and insurance coverage of up to $250 million per project.[799]

OPIC's financial products are intended to assist and facilitate the expansion of U.S. businesses overseas. Industries across a broad spectrum of sectors are supported by OPIC investments, including energy, housing, agriculture and financial services. OPIC's lending and guarantee programs are focused on global regions where the need for FDI – especially from the U.S. – is needed the most, and where American firms in these sectors can create the greatest development impact.

Development Impact

Development impact is central to how OPIC assesses and evaluates projects and investment proposals, and also is factored heavily into how the agency is evaluated by the White House, U.S. Department of State and the U.S. Congress. Typically, projects are selected on the basis of how foundational they will be toward the social and economic advancement of the host country. Most projects are assessed for their impact on the provision of fundamental human necessities (shelter, food, water and health care); improving infrastructure, and increasing access to finance. Projects seeking OPIC financing are required to score a minimum of 25 out of 100 possible points to be considered developmental in nature; projects also must meet all other OPIC statutorily-mandated requirements and agency policies.

TABLE 92: DEFINING AND ASSESSING DEVELOPMENT IMPACT

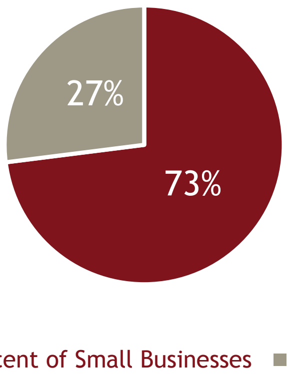
Impact Area	Evaluation Criteria
Jobs & Human Capacity Building	Measures a project's ability to create direct, permanent jobs; to create temporary and construction jobs, and its impact on employee training and employee benefits.
Demonstration Effects	Measures a project's impact on "technology and knowledge transfer; technical assistance to suppliers or borrowers; the introduction of new products (including financial products), regulatory and legal reform, and the adoption of internationally-recognized quality or performance standards".[800]
Host Country Impact	Measures a project's "downstream impact through the procurement of local goods and services (both initial and operational), as well as a project's fiscal and foreign exchange impacts". For projects involving financial services, this factor measures the amount of funds to be disbursed, as well as the impact on "micro, small, and medium-sized enterprises, entrepreneurship, and home ownership".[801]
Environmental and Community Benefits	Assesses a project's "environmental benefits, such as renewable energy, remediation of brownfield sites, or use of energy-efficient equipment", as well as a project's efforts to help the community in which it operates.[802]
Developmental Reach	Measures the extent to which a project "improves the host country's infrastructure or provides specific benefits to the lower-income or underserved segments of the population such as women, or is located in a low-income country". For projects involving financial services, this factor measures the extent to which the financial intermediary will target "underdeveloped areas or underserved, poor populations".[803]

Source: Overseas Private Investment Corporation, March 9, 2015.

Small Business Emphasis

OPIC is mandated by Congress to focus on supporting U.S. small business enterprises. Annually, more than 80 percent of OPIC projects entail small businesses.[804] Eligible small business enterprises (firms with less than 500 employees with annual revenues less than $250 million) must own at least 25 percent of the project, but OPIC is able to finance up to 65 percent of the total project costs. OPIC can extend direct loans to qualified small businesses ranging from $350,000 up to $10 million for terms from three to 15 years.[805] Between 2010 and 2015, OPIC committed $5.6 billion in finance and insurance to more than 348 new projects that entail significant participation by U.S. small businesses.[806]

FIGURE 34: PERCENT OF OPIC PROJECTS INVOLVING U.S. SMALL BUSINESSES



Source: Overseas Private Investment Corporation, March 9, 2015.

As part of its small business emphasis, OPIC has instituted three additional programs to increase the participation of these firms in OPIC-financed projects:

- **Enterprise Development Network:** OPIC has established relationships with scores of participating financial intermediaries that extend financial resources to small businesses in OPIC-supported projects, products and services. These intermediaries also serve as one of OPIC's deal-generating pipelines, referring small business clients to the agency.
- **Expanding Horizons Workshops:** Held throughout the U.S., these workshops present information about investing overseas, as well as information about OPIC's projects and financial and insurance products.
- **Delegating Deal Origination:** Through its agreements with major banks and other financial intermediaries, OPIC depends on these institutions to assist in on-lending (loan participation) to small and medium sized businesses (SME's), as well as to microenterprises.[807]

OPIC Financing Programs

During the course of its 40+ years of operations, OPIC's financing programs have evolved into the agency's primary activity. When OPIC was first established, the majority of its activity entailed the provision of political risk insurance. Today, the agency's operations mirror those of an investment bank, involving the structuring of financial packages for specific projects in countries where conventional financing institutions may be unwilling or unable to lend to the private sector on advantageous terms.[808]

To obtain OPIC financing, in accordance with the strict requirements of its enabling legislation, the project must be "commercially and financially sound", have some measure of U.S. ownership, e.g., wholly-owned by a U.S. firm(s); a foreign subsidiary of a U.S. firm, or a joint venture involving both indigenous companies and U.S.-sponsored firms – either existing or new. For those projects that entail a joint venture with existing firms, the U.S. investor entity must have a minimum 25 percent equity ownership position in the project. For projects involving new enterprises, OPIC financing can go up to 50 percent of the total project cost, with the other 50 percent coming from private and non-U.S. government sources. OPIC's participation in project financing generally will not exceed 75 percent of the total investment required.[809]

OPIC's finance programs are carried out through two departments:

Structured Finance Department: Handles large-scale capital projects involving large U.S. firms (having more than 500 employees and annual revenues of under $250 million); types of projects financed typically are those that require significant amounts of capital investment, including infrastructure, telecommunications, power, water, housing, airports, hotels, high-technology, financial services, and natural resource extraction industries.[810]

Small and Medium Enterprise Finance Department: Handles projects that involve both new and established small-and medium-sized enterprises (SMEs), defined as firms with less than 500 employees and annual revenues of under $250 million.

Financing is provided for a broad range of projects spanning renewable energy, housing, agriculture and consumer goods.[811]

Financing is provided through two major avenues: direct loans and loan guarantees.

- **Direct loans:** Generally range between $350,000 and $50 million, although the amount of the loan can be higher in certain cases. Direct loans are available only for ventures sponsored by, or significantly involving, U.S. SMEs or cooperatives, e.g., joint ventures.[812]
- **Loan guarantees:** Typically used for larger projects ranging up to $250 million (in some cases and depending on the type of project, OPIC loan guarantees can exceed that cap). Loan guarantees are issued directly to financial institutions that are more than 50 percent-owned by U.S. citizens, corporations, or partnerships.[813]

Debt Financing: Direct Loans and Loan Guarantees

Through its direct loans and loan guarantees, OPIC provides debt financing to qualified projects located in developing and emerging market nations. As an agency of the U.S. government, with a well-funded basis, OPIC is able to provide longer term loans and guarantees at rates that generally are more favorable than those offered by conventional lenders. OPIC's loans and guarantees range from a minimum amount of $350,000 to a maximum of $250 million. If a project requires more than the agency's loan or guaranty maximum, OPIC partners with co-lenders to provide the financial resources necessary, depending on the project.[814]

Most of OPIC's funding is used to pay for capital costs, e.g., design/engineering services, facility construction or leasehold improvements and equipment, that are associated with either establishing or expanding a project in a non-financial sector. As well, OPIC also funds other financial institutions to enable them to expand their own lending capacity. In those instances, the financial institutions must commit to making loans available to SMEs, microenterprises or to groups and/or individuals who need mortgage loans.[815]

The types of projects that OPIC funds are wide-ranging. A review of their major financing deals in 2015 include the funding of such projects as off-grid solar lighting systems; the manufacturing and distribution of clean "cookstoves" for underserved people in low income and impoverished nations, and supporting a "nanocredit" firm that works with unbanked populations to help them access mobile banking products. Additionally, in 2015, OPIC extended a $10 million loan to a foundation that has a fair trade fund that extends long-term capital to firms that operate in "various phases of the agricultural production and distribution value chain" in developing and emerging countries.[816]

OPIC structures its loans and guarantees into two basic categories:

Project Finance: Referred to as "limited recourse project finance", these loans support a "stand-alone project company" that has the ability to repay the loan with limited recourse to external sources of financial support. The project's owners or sponsors (including outside parties/investors) are required to ensure payment of debt service until they have met specific performance standards for the actual completion and operational implementation of the project. Another key requirement that the project owners must demonstrate is the "financial soundness" of the project. All obligations of outside parties - typically host country governments or non-governmental organizations (NGOs) – are fulfilled once the project is complete. Since OPIC relies on the projects it finances to be responsible for debt service, Project Finance works best for projects that can demonstrate sufficient cash flow with a high degree of certainty and where the assets of the project provide a suitable collateral base.[817]

Corporate Finance: This type of loan structure is best suited for projects that lack an acceptable collateral base or that lack predictable cash flows. For the Corporate Finance structure, OPIC will either make a direct loan or guaranty a loan to a credit-worthy corporate entity that will undertake the project in an OPIC-eligible country. While the viability of the project remains important, the corporate entity will be required to service the debt. This enables the financing of projects that have been deemed necessary but have proven to be more difficult to finance.[818]

TABLE 93: OPIC'S DIRECT LOAN AND LOAN GUARANTY PROGRAMS	
Debt Financing Program	**Loan Parameters**
Provision of Loans	Provided either as a direct loan or loan guarantee.
Use of loans/ guarantees	Funds used to finance new investments, expansions and modernizations of existing plants; also can be used for privatization of projects as well as acquisitions of existing operations so long as the project owner/investor contributes significantly to the expansion or modernization of the facility/asset.
Terms	Terms are a minimum of 5 years with a maximum of 15 years; typically, a 1 to 2 year grace period is allowed for principal repayment.
Leverage	50 percent debt to 50 percent equity ratio project capitalization.
Interest Rates	Always negotiated, depending upon cost of capital, market conditions and the development impact of the project.
Securitization/ Collateral	◆ Completion guarantee by the project owners/sponsors is required – must not only complete project but demonstrate it is operational and verify that all requisite permits, licenses, etc. have been obtained. ◆ Life of Loan guaranty may be required for the life of the loan rather than through project completion only. ◆ Pledge of shares of the project company is required for all projects. ◆ Debt service reserve account required for most projects. ◆ Liens/mortgages on assets typically required. ◆ Pledge of insurance proceeds required of all projects.
Financial Ratios and Reporting	◆ Borrower must maintain (1) maximum debt/worth ratio; (2) minimum current ratio; (3) minimum debt service coverage ratio – levels determined based on project. ◆ Quarterly unaudited and annual audited financial statements. ◆ Annual project plan and budget for the upcoming fiscal year.
Covenants	Covenants require compliance with all U.S. laws, and in particular, with: ◆ U.S. Foreign Corrupt Practices statutes. ◆ Environmental, health and safety laws and OPIC policy requirements. ◆ Workers rights requirements.
Project Eligibility Requirements	◆ Meaningful U.S. involvement. ◆ Minimum of 50% of shares ownership of project held by private sector. ◆ Minimum debt to equity ratio of the private sector is 50 percent debt to 50 percent equity. ◆ Management of the project will be retained by the private sector. ◆ Demonstrated competence in the industry. ◆ Project managed in compliance with International Labor Organization.
Fees	Consistent with private sector lending institutions, OPIC charges up-front, commitment and cancellation fees for the projects that come through its pipeline. ◆ Up-front retainer fee covers due diligence costs, including travel expenses to the project site. ◆ Facility/origination, representing a one-time flat fee on a negotiated basis, is paid by the borrower upon execution of the loan agreement or initial disbursement of funds. ◆ Commitment fee is an annual percentage of the undisbursed loan amount; fee amount is negotiated. ◆ Maintenance fee is charged annually; covers the cost of monitoring the loan. Fee amount is based on size and complexity of the project. ◆ Reimbursement for outside consultants that may be required to assist OPIC with the review of the project, as well as for any registrations, notarizing of documents, etc.

Source: Overseas Private Investment Corporation reports and Website, 2015 and 2016.

Investment Funds

In addition to providing direct loans and loan guarantees, OPIC also provides debt capital to support the creation of privately-owned and privately-managed equity investment funds. Through these funds, equity investments are made in new or expanding firms, as well as in firms that are privatizing a function that previously may have been operated by a government partner or by a non-governmental organization (NGO). The privately-owned-or-managed equity funds invest in firms operating in emerging market economies, many of which provide products, services and resources that address basic human needs. Equity funds supported by OPIC are geared toward helping these emerging market nations obtain access to long-term growth capital, management skills, and financial expertise, which are viewed as fundamental prerequisites to advancing economic development for these nations and their peoples.[819]

OPIC's investment funds activity is the "newest" of its financial products. Initiated in 1987, the agency's approach has evolved over the years based on experience and results. In 2002, OPIC revised its approach and now uses a "Call for Proposals" process to solicit funds from the private sector. OPIC invests in the selected funds, typically providing up to one-third of the fund's total capital, and receives debt returns on its investment. These privately-owned or privately-managed funds provide equity investment-based financial resources for U.S. firms that are unable to either allocate or raise sufficient capital to start or expand their businesses in OPIC-approved countries.[820]

The U.S. Congress has authorized OPIC to make these investments only in the form of a non-amortizing loan. The agency issues certificates of participation (COPs), which are guaranteed by the full faith and credit of the U.S. government, in U.S. debt capital markets, and the proceeds of these COPs are provided as a loan to the private equity fund. OPIC's loan amount may range from a $25 million to $150 million commitment, but is limited to 25 percent of a fund's total capitalization.[821]

In its competitive "Call for Proposals" process, OPIC solicits investment funds that are aligned with the agency's priorities, particularly in regions of the world and in specific sectors where investments have proven difficult to garner. Equity funds supported by OPIC are invested in new, expanding and privatizing firms across a broad spectrum of sectors, including financial services, insurance, information communications and technology, renewable energy, housing and agriculture.[822]

Since beginning its investment funds program in 1987, OPIC has invested/committed $4.1 billion to 62 private equity funds in emerging market economies. In turn, these private equity funds have invested $5.6 billion in 550+ privately-owned and managed companies across 65 OPIC-approved nations across the world.[823]

The Call for Proposals Process

OPIC's Call for Proposals process is based on publishing the opportunity on the agency's website and in private equity trade journals. A selection committee comprised of OPIC staff and an outside, independent private equity consultant reviews each proposal, as well undertaking an evaluation of the fund managers. One of the most important criteria used in the selection process is the ability of the fund manager to raise sufficient private equity capital to support OPIC's goals.[824]

In its most recent Call for Proposals (2015), OPIC specified the regions of the world and the type of equity capital facilities that were needed; they are presented below for illustrative purposes.[825]

TABLE 94: OPIC 2015 CALL FOR PROPOSALS - TYPES OF PRIVATE EQUITY NEEDED

Geographic Focus	Eligible Fund Investments
Asia	Direct Equity
Latin America	Convertible Debt
Central & Eastern Europe	Mezzanine Debt
Middle East	Debt Funds (e.g., asset restructuring, credit)
Africa	Fund of Funds
Global Emerging Markets	

Source: Overseas Private Investment Corporation Website May 2016.

Innovative Financial Intermediaries Program

In 2013, OPIC launched a new two-year, $500 million pilot program to mobilize funds to support smaller equity funds to address the need for "hybrid" financing structures.[826] This program was developed in response to an increase in projects that require both OPIC investment funds as well as debt financing. These "hybrid" financing structures were needed for SMEs in developing and emerging nations. The goal of the Innovative Financial Intermediaries Program is to provide support for projects that advance social and economic development in these nations.[827]

While the Innovative Financial Intermediaries Program (IFIP) can be utilized for all OPIC-authorized projects, the program is designed to support the startup and expansion of SMEs that meet the parameters of the agency's goals.[828]

TABLE 95: OPIC INNOVATIVE FINANCIAL INTERMEDIARIES PROGRAM PARAMETERS

IFIP-Eligible Structures	Maximum Total Fund Size	Maximum OPIC Commitment	Description
Small Equity Funds	$75M	$25M	Funds that make equity and equity-like investments, including mezzanine and subordinated debt, into portfolio companies.
Hybrid Funds and Debt Funds	$150M	$50M	Includes, inter alia, funds that make investments into portfolio companies in the form of: both debt and equity; solely senior debt; or both senior and subordinated debt.
Greenfield Non-Bank Financial Institutions	No Limit	$50M	Start-up non-bank financial institutions with characteristics similar to an operating company.
Hybrid Microfinance Investment Vehicles	No Limit	$50M	Microfinance Investment Vehicles investing 25% or more of their total portfolio as equity.[829]

Source: Overseas Private Investment Corporation Website May 2016.

Political Risk Insurance

Combined with OPIC's direct loans and loan guarantees, OPIC's political risk insurance enables U.S. firms to mitigate risks of competing and operating in emerging market economies.

OPIC's political risk insurance is available to U.S. citizens, U.S. firms, or to the foreign subsidiaries of U.S. firms as long as the foreign subsidiary is at least 95 percent-owned by a U.S. citizen. Coverage is extended to U.S. investors; new and expanding firms; lenders; contractors; exporters, and NGOs in developing nations. OPIC's political risk insurance also extends coverage for "equity investments; parent company and third party loans and loan guarantees; technical assistance agreements; cross-border leases; assigned inventory or equipment, and other forms of investment".[830]

OPIC's political risk insurance provides coverage for losses to tangible assets, investment value and earnings that can result from three major areas of political risk: currency inconvertibility, expropriation, and political violence.[834]

OPIC's political risk insurance is backed by the full faith and credit of the U.S. government, and can cover up to $250 million per project for up to 20 years. Premium rates are guaranteed for the life of the contract.[835] Typically, OPIC will issue insurance commitments equal to 270 percent of an equity fund's initial investment (90 percent to cover the original investment and 180 percent to cover future earnings). The agency's insurance policies for equity fund coverage are available for up to 20 year terms.

TABLE 96: POLITICAL RISKS COVERED BY OPIC POLITICAL RISK INSURANCE

Political Risk	Coverage
Currency Inconvertibility	Compensates investors if new currency restrictions are imposed which prevent the conversion and transfer of remittances from insured investments, but it does not protect against currency devaluation.[831]
Expropriation	Protects against the nationalization, confiscation, or expropriation of an enterprise, including actions by foreign governments that deprive an investor of fundamental rights or financial interests in a project for a period of at least six months. This coverage excludes losses that may arise from lawful regulatory or revenue actions by a foreign government and actions instigated or provoked by the investor or foreign firm.[832]
Political Violence	Compensates U.S. citizens and firms for property and income losses directly caused by various kinds of violence, including declared or undeclared wars, hostile actions by national or international forces, civil war, revolution, insurrection, and civil strife (including politically motivated terrorism and sabotage). Income loss insurance protects the investor's share of income from losses that result from damage to the insured property caused by political violence. Assets coverage compensates U.S. citizens and firms for losses of or damage to tangible property caused by political violence. Reduces risks for banks and other institutional investors, enabling them to play a more active role in financing projects in developing countries. Specialized types of insurance coverage also are available for U.S. investors involved with certain contracting, exporting, licensing, or leasing transactions that are undertaken in a developing country. [833]

Source: Overseas Private Investment Corporation March 9, 2015.

Partnerships

To fulfill its mission, OPIC collaborates and participates with partners to leverage and maximize opportunities for both U.S. businesses as well as developing nations across the world. Some of the agency's partners are global development finance institutions, while others are sister agencies of the U.S. government, private and public sector organizations at the state and regional levels, as well as professional and trade organizations.[836]

TABLE 97: OPIC PARTNERS
World Bank Group International Finance Corporation
U.S. Agency for International Development
Millennium Challenge Corporation
U.S. Trade and Development Agency
Bankers Association for Finance and Trade
Business Council for International Understanding
California's Centers for International Trade Development
Erie County Industrial Development Authority
The Export Assistance Center of Washington
Global Midwest Alliance, LLC
International Economic Development Council
National Association of Women Business Owners
Nevada World Trade Council
Ohio Minority Business Development Agency
Small Business Exporter's Association
U.S. Chamber of Commerce
U.S. Hispanic Chamber of Commerce
The Water Council
World Trade Center Kansas City
World Trade Center Utah
Maryland Department of Business and Economic Development

Source: Overseas Private Investment Corporation Website, May 2016.

In addition to the Innovative Finance Intermediaries Program that was described earlier in this section, OPIC's partnerships include:

- **Aligned Capital:** Introduced in 2015 as a pilot program, OPIC's Aligned Capital program is designed to advance the mobilization of funds by connecting projects that apply for OPIC financing with other U.S. investors and grant providers whose lending resources align with agency-approved nations. OPIC turns to these other institutions and resources to help provide gap financing that may be needed to support eligible projects. The agency has developed a database of projects that have applied to OPIC for support as well as institutions and NGOs that support these types of projects. The goal is to combine resources to support eligible projects for which full funding may not otherwise be available.[837]
- **Portfolio for Impact:** Launched in 2014, another pilot program designed to finance small or early stage projects that have significant promise for positive social impact. Many of these projects develop products and services that address basic human needs. These projects fall under OPIC's "impact investing" target.[838]
- **Development Partnerships Framework Agreements:** OPIC partners with conventional financial institutions and other intermediaries that have a presence in developing countries to identify borrowers that (1) meet OPIC's lending and development requirements; (2) provide local currency and (3) agree to share in the financial risk to the borrower. This program is used primarily to reach microfinance institutions, microfinance enterprises and SMES.[839]

Summary

As the U.S.'s development finance institution, OPIC serves a critically important role to advance the nation's foreign policy agenda as well as U.S. business interests. OPIC's debt financing, investment fund and political risk insurance programs are used to support business opportunities for U.S. businesses while at the same time, promote social and economic development in developing and emerging market economies.

The agency partners with global development finance institutions, private equity funds, private investors, host nation governments, NGOs and other public and private entities to identify, recruit/solicit projects and funds, and extend direct loans and loan guarantees to projects that will have significant development impact across the world.

For the State of Alaska and the Alaska Industrial Development and Export Authority (AIDEA), OPIC's partnerships with other development finance institutions, conventional financial institutions and private equity funds provide a template for how AIDEA can expand its portfolio of financial offerings to firms seeking to make investments in Alaska, especially to SMEs.

APPENDIX

APPENDIX 1: MATRIX OF INITIAL SCREENING OF U.S. STATES						
	Alaska	**California**	**Florida**	**Illinois**	**Minnesota**	**Nevada**
U.S CHAMBER OF COMMERCE - ENTERPRISING STATES: STATES INNOVATE						
Economic Performance						
Long-Term Job Growth	8	18	Not Ranked	Not Ranked	23	Not Ranked
Short-Term Job Growth	Not Ranked	6	4	Not Ranked	25	3
Gross State Product Growth	12	17	Not Ranked	Not Ranked	Not Ranked	Not Ranked
Economic Output per Job	3	6	Not Ranked	12	20	Not Ranked
Productivity Growth	14	17	Not Ranked	Not Ranked	Not Ranked	Not Ranked
Per Capita Income Growth	4	25	Not Ranked	Not Ranked	Not Ranked	Not Ranked
Adjusted Median Family Income Growth	14	Not Ranked	Not Ranked	23	5	Not Ranked
Transportation & Trade						
Export Intensity	Not Ranked	Not Ranked	Not Ranked	16	21	Not Ranked
Export Growth	Not Ranked	Not Ranked	Not Ranked	20	Not Ranked	12
Road Quality	Not Ranked	Not Ranked	7	Not Ranked	20	3
Bridge Quality	25	Not Ranked	9	6	1	3
Innovation & Entrepreneurship						
Academic R&D Intensity	Not Ranked	Not Ranked	Not Ranked	Not Ranked	Not Ranked	Not Ranked
Academic R&D Growth	Not Ranked	Not Ranked	12	23	9	Not Ranked
State R&D Investment	17	9	12	Not Ranked	Not Ranked	Not Ranked
New Startup Rate	2	10	4	18	Not Ranked	10
High Tech Share of All Businesses	Not Ranked	Not Ranked	Not Ranked	10	16	9
Kaufmann Entrepreneurship Index	7	13	9	Not Ranked	Not Ranked	10
Business Climate						
Small Business Lending	11	4	1	18	17	10
Legal Environment	7	Not Ranked	Not Ranked	Not Ranked	13	Not Ranked
State Fiscal Condition	1	Not Ranked	5	Not Ranked	Not Ranked	12
Business Tax Climate	4	Not Ranked	5	Not Ranked	Not Ranked	3
U.S. Business Policy Index	18	Not Ranked	5	Not Ranked	Not Ranked	2
Cost of Living	Not Ranked	Not Ranked	Not Ranked	Not Ranked	Not Ranked	Not Ranked
Talent Pipeline						
Higher-Ed Degree Output	Not Ranked	Not Ranked	24	Not Ranked	21	Not Ranked
Higher-Ed Efficiency	Not Ranked	Not Ranked	1	18	6	Not Ranked
College Affordability	3	Not Ranked	8	Not Ranked	Not Ranked	Not Ranked
Educational Attainment	Not Ranked	Not Ranked	Not Ranked	14	2	Not Ranked
H.S. Advanced Placement Scores	Not Ranked	10	6	11	17	Not Ranked
Labor Force Utilization	10	Not Ranked	Not Ranked	20	2	Not Ranked
High Tech Performance						
Broadband Speed Availability	Not Ranked	12	14	10	18	11
Broadband Provider Availability	Not Ranked	14	4	2	23	5
STEM Job Growth	7	15	Not Ranked	Not Ranked	21	Not Ranked
STEM Job Concentration	15	6	Not Ranked	Not Ranked	10	Not Ranked
High-Tech Job Growth	8	16	Not Ranked	Not Ranked	Not Ranked	Not Ranked
High-Tech Job Concentration	Not Ranked	5	25	24	15	Not Ranked

APPENDIX 1: MATRIX OF INITIAL SCREENING OF U.S. STATES

New Mexico	North Carolina	North Dakota	Oklahoma	South Carolina	Texas	Utah
U.S CHAMBER OF COMMERCE - ENTERPRISING STATES: STATES INNOVATE						
Economic Performance						
Not Ranked	12	1	10	16	2	3
Not Ranked	13	2	Not Ranked	12	10	1
Not Ranked	15	1	7	Not Ranked	2	5
Not Ranked	21	Not Ranked	Not Ranked	Not Ranked	9	Not Ranked
Not Ranked	25	1	6	Not Ranked	5	15
22	Not Ranked	1	5	Not Ranked	6	21
Not Ranked	Not Ranked	3	Not Ranked	Not Ranked	Not Ranked	Not Ranked
Transportation & Trade						
Not Ranked	23	Not Ranked	Not Ranked	3	4	13
Not Ranked	Not Ranked	5	22	6	11	9
Not Ranked	Not Ranked	2	Not Ranked	22	11	21
7	17	19	Not Ranked	17	14	5
Innovation & Entrepreneurship						
11	4	16	Not Ranked	Not Ranked	Not Ranked	8
Not Ranked	5	Not Ranked	Not Ranked	Not Ranked	Not Ranked	25
Not Ranked	Not Ranked	13	8	4	16	1
Not Ranked	19	7	Not Ranked	Not Ranked	Not Ranked	7
19	12	Not Ranked	Not Ranked	23	18	6
18	24	3	16	Not Ranked	17	15
Business Climate						
Not Ranked	24	14	Not Ranked	Not Ranked	Not Ranked	9
Not Ranked	6	1	Not Ranked	Not Ranked	Not Ranked	8
Not Ranked	Not Ranked	2	9	17	19	11
Not Ranked	16	24	Not Ranked	Not Ranked	10	9
Not Ranked	21	10	24	17	3	13
24	18	16	9	11	Not Ranked	Not Ranked
Talent Pipeline						
7		1	17	Not Ranked	Not Ranked	3
Not Ranked	Not Ranked	22	20	Not Ranked	Not Ranked	Not Ranked
16	21	2	5	Not Ranked	12	9
Not Ranked	Not Ranked	3	Not Ranked	Not Ranked	Not Ranked	22
Not Ranked	14	Not Ranked	Not Ranked	Not Ranked	18	23
Not Ranked	Not Ranked	1	Not Ranked	Not Ranked	21	7
High Tech Performance						
Not Ranked	17	20	Not Ranked	Not Ranked	Not Ranked	8
Not Ranked	Not Ranked	Not Ranked	Not Ranked	Not Ranked	8	17
Not Ranked	6	1	16	5	2	4
12	23	Not Ranked	Not Ranked	Not Ranked	16	13
20	4	5	Not Ranked	2	6	1
9	21	Not Ranked	Not Ranked		14	8

APPENDIX 1: MATRIX OF INITIAL SCREENING OF U.S. STATES						
	Alaska	**California**	**Florida**	**Illinois**	**Minnesota**	**Nevada**
COMPARATIVE STATE-TO-STATE OVERVIEW						
Targeted Sectors	Natural Resource Extraction & Processing; Federal Facilities & Installations; Transportation & Logistics; Retail; Tourism; Energy; Services, Infrastructure	Allied Health; Advanced Transportation; Energy Efficiency; Green Economy; Information and Communications Technologies (ICT); Solar Industry; Water Industries; Wind Energy	Aviation & Aeropspace; Life Sciences; Manufacturing; Defense & Homeland Security; Information Technology; Financial & Professional Services; Logistics & Distribution; Cleantech; Headquarters	Advanced Manufacturing; Agribusiness; Coal Technology; Energy & Recycling; Life Sciences; Logistics; Technology	Biosciences; Manufacturing; Data Centers; Clean & Renewable; Banking & Finance; Health Care Services	Aerospace & Defense; Agriculture; Information Technology; Energy; Health Care; Manufacturing; Logistics & Operations; Mining; Tourism/ Gaming/ Hospitality
Development Finance Authority (Y/N)	Yes	Yes	Yes	Yes	Yes	State is split into Regional Development Authorities
State GDP 2014 (chained, 2009 dollars)	$48.7 B	$2.1 TR	$769.7 B	$680.5 B	$288.1B	$120.8 B
State GDP Growth (2011-2014)	-2.2%	7.8%	7.1%	3.3%	4.8%	1.6%
State Population (2014 Census Estimate)	736,732	38,802,500	19,893,297	12,880,580	5,457,173	2,839,099
State Population Growth (2010-2014)	3.7%	4.2%	5.8%	0.4%	2.9%	5.1%
Unemployment Rate (Annual Average, 2015)	6.5%	6.2%	5.4%	5.9%	3.7%	6.7%
Educational Attainment % of population with at least a Bachelor's degree	36.5%	39.6%	38.6%	43.0%	48.1%	31.1%
Educational Attainment National Ranking	38	27	30	16	2	46
Higher Education Research & Development Annual Expenditure	$174,431,000	$8,400,442,000	$2,272,556,000	$2,327,098,000	$919,257,000	$153,571,000
Higher Education Research & Development National Ranking	44	1	9	8	23	45
Milken Institute 2014 State Tech and Science Index	38	3	37	21	12	50
Forbes 2015 Best States for Business	44	32	20	38	13	34
Site Selection Magazine State Business Climate 2015	Not Ranked	Not Ranked	2	25	20	17
Tax Foundation 2016 State Business Tax Climate Index	3	48	4	23	47	5
Chief Executive Magazine 2015 Best & Worst States for Business	34	50	2	48	31	8
Kauffman Index 2015: Start-up Activity By State Rankings	7	14	9	26	47	10

APPENDIX 1: MATRIX OF INITIAL SCREENING OF U.S. STATES						
New Mexico	North Carolina	North Dakota	Oklahoma	South Carolina	Texas	Utah
COMPARATIVE STATE-TO-STATE OVERVIEW						
Energy & Natural Resources; Aerospace & Defense; Value-Added Agriculture; Distribution, Logistics & Transportation; Advanced Manufacturing; Digital & Emerging Media; Back Office & Technical Support	Aerospace, Aviation & Defense; Automotive, Truck & Heavy Equipment; Biotechnology, Pharmaceuticals & Life Sciences; Energy; Information & Communications Technology	Manufacturing; Energy; Agriculture; Technology; Aviation; Life Sciences	Aerospace & Defense; Agriculture & Biosciences; Energy; Information & Finance; Transportation & Distribution	Aerospace; Alternative Energy; Automotive; Biotechnology & Pharmaceuticals; Distribution; Food Processing; Forestry & Wood Products; Plastics & Chemicals; Recreation	Advanced Technologies & Manufacturing; Aerospace & Defense; Biotechnology & Life Sciences; Information & Computer Technology; Petroleum Refining and Chemical Products; Energy	Aerospace & Defense; Energy & Natural Resources; Financial Services; Life Sciences; Outdoor Products; Software Development & Information Technology
Yes	Yes	Yes	Yes	Yes	Yes	Private Activity Bonding Authority is within the Utah Governor's Office of Economic Development
$83.6 B	$440.3 B	$48.2 B	$162.4 B	$174.6 B	$1.5 TR	$128.3 B
2.6%	4.3%	28.1%	8.3%	4.1%	17.8%	7.7%
2,085,572	9,943,964	739,482	3,878,051	4,832,482	26,956,958	2,942,902
1.3%	4.3%	9.9%	3.4%	4.5%	7.2%	6.5%
6.6%	5.7%	2.7%	4.2%	6.0%	4.5%	3.5%
34.9%	39.7%	45.8%	32.7%	36.8%	35.4%	41.6%
40	26	10	45	37	39	20
$412,428,000	$2,814,943,000	$222,032,000	$419,653,000	$656,195,000	$4,889,443,000	$689,083,000
35	7	40	34	29	3	27
24	15	29	43	40	20	5
47	2	4	16	25	6	1
Not Ranked	2	Not Ranked	12 (tie with Virginia)	10	6	8
35	15	26	33	36	10	9
36	3	19	16	10	1	15
18	24	3	16	29	17	15

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APPENDIX 3: ENDNOTES

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