

2/21/12

Presentations

Southeast

Integrated

Resource Plan

&

International

Trade Update

<TARGET><BILL></BILL><SUBJECT>2-21-12 Presentations
Southeast Integrated Resource Plan and International Trade
Update</SUBJECT><COMM>HEDT27</COMM></TARGET>

EDT QUESTIONS

For Devany or Strandberg (or possibly Deerfield) (First two presentations)

Conceivably, what percentage of all SE's space heating needs could be supplied by wood pellets, and still be a sustainable resource? How much loggable land would be needed?

What do you consider the level of maturity of the technology? Are advances coming that might in some sense make it worthwhile to wait before large investments?

Right now communities in SE are importing pellets from Canada, right? Does it make sense for the state to fund pellet plants to get the industry started?

Regarding the pellet plant in FBX: Where do they send their pellets? Do they export any pellets, and if not, do you think they will in future?

Tell us about possible pellet plants in Thorne Bay and Ketchikan.

Are pellets themselves the same for residential and commercial?

Is SE wood better for pellets than interior wood?

How mature do trees need to be to work for pellets?

If you are worried about too many people converting space heat to electricity and overloading hydro in the short term, Might it make more sense in the long run to just build more hydro? How more viable hydro capacity do we have in SE? Will SE hydro ever be exported to Canada?



Southeast Integrated Resource Plan – SEIRP

Economic Drivers for Biomass in SE Alaska

The SEIRP is a draft report presently out for public comment and under review by the AEA.

House Economic Development,
Trade, and Tourism Committee
Alaska State Legislature
February 21, 2012

Current Situation

- High cost of heating oil is driving conversions to electric space heating
- Stable price of hydro-based electricity makes it attractive to convert to electric space heating
- Conversions have eaten into reserve hydro power to the point that utilities need to supplement hydro with diesel-fired generation
- Costs to ALL customers increase as a result

SEIRP Recommendations

- Preserve hydro power for higher use needs
 - Lighting, appliances
 - “Electricity runs motors that make jobs”
- Space Heating equates to 75% of energy footprint
 - Alternatives to electricity are available
- Biomass for space heating has a compelling economic benefit
 - Payback of recent pellet heating projects - 4-7 years
 - Imported pellets similar to the cost of hydro and up to ½ the cost of diesel
 - Maintenance and operation of pellet boilers similar to oil boilers
 - Economic Development opportunities for pellet manufacture in Southeast

Angoon Home Budget

2016 Full Implementation

2011 Base Case

2016 No Implementation

Input

Location:	Angoon	
Building Size:	1200	sq feet
Space Heating Type:	Biomass, Pellets	
Space Heating Cost:	\$350.00	per TON
Residential Electricity Rate:	\$0.61	per kWh
PCE Eligible:	YES	
PCE Rate:	\$0.41	per kWh
Gasoline Price:	\$4.53	per gallon

Note: If Space Heating Type is Electricity, Space Heating Costs should equal Residential Electricity Rate

Input

Location:	Angoon	
Building Size:	1200	sq feet
Space Heating Type:	Heating Fuel #1	
Space Heating Cost:	\$4.60	per gallon
Residential Electricity Rate:	\$0.61	per kWh
PCE Eligible:	YES	
PCE Rate:	\$0.41	per kWh
Gasoline Price:	\$4.53	per gallon

Note: If Space Heating Type is Electricity, Space Heating Costs should equal Residential Electricity Rate

Input

Location:	Angoon	
Building Size:	1200	sq feet
Space Heating Type:	Heating Fuel #1	
Space Heating Cost:	\$5.60	per gallon
Residential Electricity Rate:	\$0.61	per kWh
PCE Eligible:	YES	
PCE Rate:	\$0.41	per kWh
Gasoline Price:	\$4.53	per gallon

Note: If Space Heating Type is Electricity, Space Heating Costs should equal Residential Electricity Rate

Output

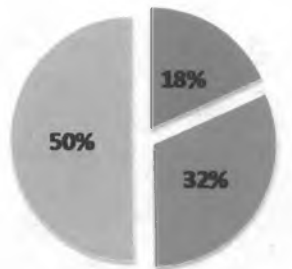
	Annual Costs	Monthly Costs
Electricity Costs	\$1,267	\$106
Heating Costs	\$2,192	\$183
Transportation Costs	\$3,499	\$292
TOTAL	\$6,958	\$580

Output

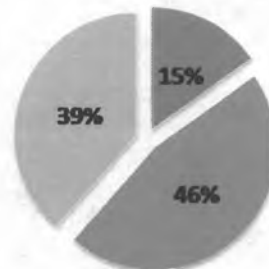
	Annual Costs	Monthly Costs
Electricity Costs	\$1,370	\$114
Heating Costs	\$4,198	\$350
Transportation Costs	\$3,499	\$292
TOTAL	\$9,067	\$756

Output

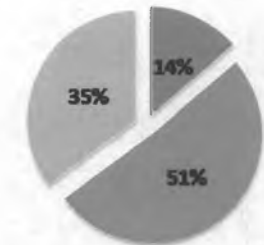
	Annual Costs	Monthly Costs
Electricity Costs	\$1,370	\$114
Heating Costs	\$5,111	\$426
Transportation Costs	\$3,499	\$292
TOTAL	\$9,980	\$832



■ Electricity ■ Space Heating ■ Transportation



■ Electricity ■ Space Heating ■ Transportation



■ Electricity ■ Space Heating ■ Transportation

2/9/2012

30.3% realized savings over "No Implementation"



SEIRP - draft plan analysis

10.1% increase from 2011

POW Island (Craig) Home Budget

2016 Full Implementation

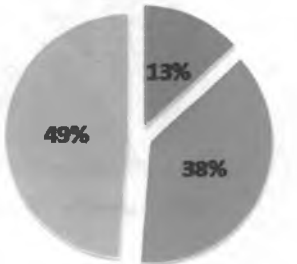
Input

Location:	Prince of Wales (Craig)	
Building Size:	1200	sq feet
Space Heating Type:	Biomass, Pellets	
Space Heating Cost:	\$350.00	per TON
Residential Electricity Rate:	\$0.22	per kWh
PCE Eligible:	YES	
PCE Rate:	\$0.07	per kWh
Gasoline Price:	\$3.64	per gallon

Note: If Space Heating Type is Electricity, Space Heating Costs should equal Residential Electricity Rate

Output

	Annual Costs	Monthly Costs
Electricity Costs	\$759	\$63
Heating Costs	\$2,192	\$183
Transportation Costs	\$2,811	\$234
TOTAL	\$5,762	\$480



34.4% realized savings over "No Implementation"

2/9/2012

2011 Base Case

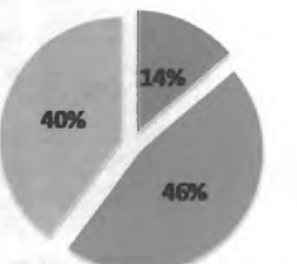
Input

Location:	Prince of Wales (Craig)	
Building Size:	1200	sq feet
Space Heating Type:	Heating Fuel #1	
Space Heating Cost:	\$3.59	per gallon
Residential Electricity Rate:	\$0.22	per kWh
PCE Eligible:	YES	
PCE Rate:	\$0.07	per kWh
Gasoline Price:	\$3.64	per gallon

Note: If Space Heating Type is Electricity, Space Heating Costs should equal Residential Electricity Rate

Output

	Annual Costs	Monthly Costs
Electricity Costs	\$970	\$81
Heating Costs	\$3,277	\$273
Transportation Costs	\$2,811	\$234
TOTAL	\$7,057	\$588



SEIRP - draft plan analysis

2016 No Implementation

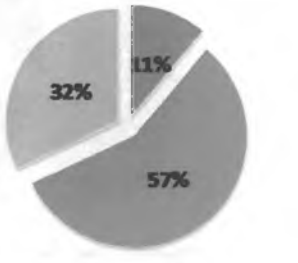
Input

Location:	Prince of Wales (Craig)	
Building Size:	1200	sq feet
Space Heating Type:	Heating Fuel #1	
Space Heating Cost:	\$5.48	per gallon
Residential Electricity Rate:	\$0.22	per kWh
PCE Eligible:	YES	
PCE Rate:	\$0.07	per kWh
Gasoline Price:	\$3.64	per gallon

Note: If Space Heating Type is Electricity, Space Heating Costs should equal Residential Electricity Rate

Output

	Annual Costs	Monthly Costs
Electricity Costs	\$970	\$81
Heating Costs	\$5,002	\$417
Transportation Costs	\$2,811	\$234
TOTAL	\$8,782	\$732



24.5% increase from 2011

5

Juneau Home Budget

2016 Full Implementation

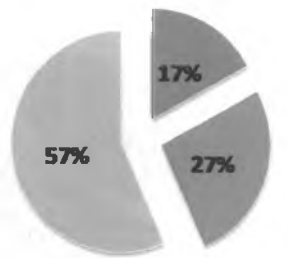
Input

Location:	Juneau	
Building Size:	1600	sq feet
Space Heating Type:	Biomass, Pellets	
Space Heating Cost:	\$310.00	per TON
Residential Electricity Rate:	\$0.11	per kWh
PCE Eligible:	NO	
PCE Rate:	\$0.00	per kWh
Gasoline Price:	\$3.43	per gallon

Note: If Space Heating Type is Electricity, Space Heating Costs should equal Residential Electricity Rate

Output

	Annual Costs	Monthly Costs
Electricity Costs	\$994	\$83
Heating Costs	\$1,553	\$129
Transportation Costs	\$3,311	\$276
TOTAL	\$5,858	\$488



27.9% realized savings over "No Implementation"

2011 Base Case

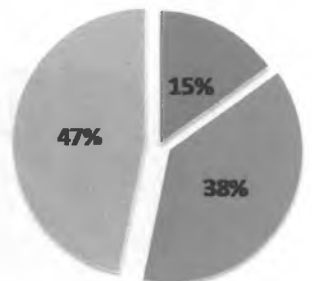
Input

Location:	Juneau	
Building Size:	1600	sq feet
Space Heating Type:	Heating Fuel #1	
Space Heating Cost:	\$3.69	per gallon
Residential Electricity Rate:	\$0.11	per kWh
PCE Eligible:	NO	
PCE Rate:	\$0.00	per kWh
Gasoline Price:	\$3.43	per gallon

Note: If Space Heating Type is Electricity, Space Heating Costs should equal Residential Electricity Rate

Output

	Annual Costs	Monthly Costs
Electricity Costs	\$1,067	\$89
Heating Costs	\$2,694	\$225
Transportation Costs	\$3,311	\$276
TOTAL	\$7,073	\$589



2016 No Implementation

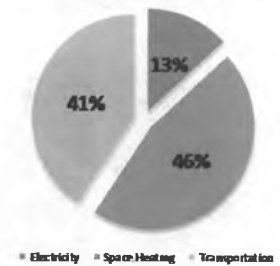
Input

Location:	Juneau	
Building Size:	1600	sq feet
Space Heating Type:	Heating Fuel #1	
Space Heating Cost:	\$5.13	per gallon
Residential Electricity Rate:	\$0.11	per kWh
PCE Eligible:	NO	
PCE Rate:	\$0.07	per kWh
Gasoline Price:	\$3.43	per gallon

Note: If Space Heating Type is Electricity, Space Heating Costs should equal Residential Electricity Rate

Output

	Annual Costs	Monthly Costs
Electricity Costs	\$1,067	\$89
Heating Costs	\$3,746	\$312
Transportation Costs	\$3,311	\$276
TOTAL	\$8,124	\$677



14.9% increase from 2011

Frequently Asked Questions

- How do the emissions of pellet boilers compare to other fuels?
 - Lower sulfur dioxide and net greenhouse gases than both oil and propane.
 - Higher particulate matter and carbon dioxide.
 - Advanced 2-stage combustion has greatly improved emission levels
- Are pellet boilers more complex to operate and maintain than oil boilers?
 - Require periodic ash removal and an annual inspection and cleaning.
- What is the source of pellets?
 - Initially pellets would be imported from the Pacific Northwest or Canada.
 - Pellet manufacture could be developed in Alaska.

Biomass Energy Fundamentals

Thomas Deerfield

Dalson Energy, Inc

Biomass Consulting Firm

Anchorage, AK



Dalson Energy

Klondike Energy Group

Biomass Project Firm

Anchorage, AK

Florence, AL



Alaska Legislative Briefing – February 2012

Status Quo

- 10,000 years of wood, 60 years of fossil fuel
- Fossil fuel systems require very few rural jobs
- Fossil fuel systems maintain dependencies
- Fuel Oil systems increasingly unsustainable
- The “thermostat culture” is killing rural Alaska

Biomass is about jobs

- Local fuels = local jobs
 - Local jobs, job training, sustainable economy
- The infrastructure is being rebuilt
- Wildfire risk reduction
 - \$10-20K/acre fire cost vs \$1200/acre thinning cost
- Harvest, Processing, Transport
- Economic Localization

Scale

- Residential & Community Buildings
 - Up to 500,000BTU/hr
 - Cordwood systems
- Commercial –Offices and Businesses
 - 100,000 to 1MMBtu/hr
 - Pellet systems
- Industrial –larger schools and facilities
 - 1MMBtu/hr to 100MBtu/hr
 - Woodchip systems

Trends

- Other 48
 - Vermont & Montana “Fuels for Schools”
 - Other State’s support for biomass thermal = projects
- Canada
 - NWT -12,000 tons/yr of pellet consumption, for a population base of 35,000, in just 4 years
 - YT –just starting to follow NWT model, possible customer for AK pellets
 - BC -1.3M tons produced, most shipped to EU
- EU
 - 10M tons/year pellet
 - Growing to est. 100M tons/year

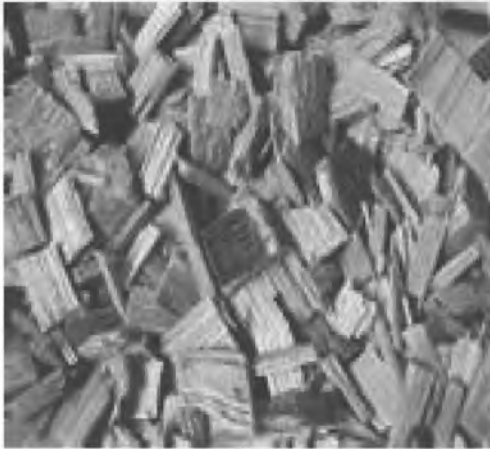
Lessons Learned

- Wind-intermittent and hard to integrate
- Solar-intermittent and seasonal
- Hydrokinetic –pre-commercial
- Small Hydro –expensive and seasonal
- Biomass –here and now
 - Creates more local jobs than alternatives
 - Low tech
 - Sustainable

Biomass Costs

- Pre-Feasibility Studies \$25K
- Feasibility Studies \$50K to \$500K
- Cordwood Systems (HELE) \$250K
- Pellet Systems \$20K to \$100K+
- Woodchip Systems \$2.5M to \$4M
- Lower cap cost per delivered BTU
- Lower costs per delivered BTU

Biomass Boiler Heating Systems



Pellet Boilers
Chip Boilers
Cord Wood Boilers



Tony SlatonBarker, PE
Program Manager, Alternative Energy
Coffman Engineers, Anchorage AK

February 21, 2012

Types of Systems

- Residential / Commercial Systems
- Individual Facilities, Central Boilers with Distribution System
- Cord Wood, Hog, Pellet, or Wood Chip



Key Components and System Considerations



ENR SOURCE

Fuel Source

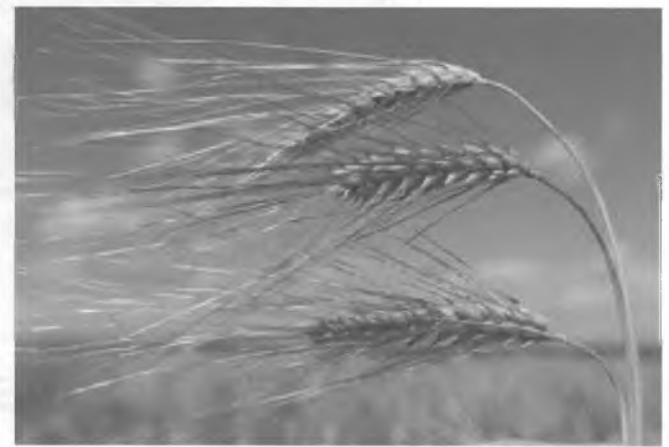


Fuel Source

Fuel Source

Wood Chip /Pellet Quality and Delivery

- Verify the quality of available fuel (different wood has different BTU)
- Verify available quantity of fuel (for individual users and community)
- Fuel quality and moisture content is directly related to boiler efficiency
- Assess the availability of fuel for long term
- Local wood supply creates local jobs
- Barley grown in Delta Junction / Fort Greely area



Pellet Specifications - Pellet Fuels Institute



PFI Pellet Quality Standards

	Super Premium	Premium	Standard	Utility
Bulk Density (lbs/ft ²)	40.0 - 46.0	40.0 - 46.0	38.0 - 46.0	38.0 - 46.0
Durability Index	>97.5	>97.5	>95.0	>95.0
Fines (% at mill gate)	<0.50	<0.50	<0.50	<0.50
Inorganic Ash Content (%)	<0.50	<1.0	<2.0	<6.0
Moisture	<6.0	<8.0	<8.0	<10.0
Chloride (PPM)	<300	<300	<300	<300
Heating Value (Btu/lb)	>8,000	>8,000	>8,000	>8,000

Source: <http://www.woodpellets.com/Pellet-Fuel-Standards.aspx>

Wood Chip Delivery & Storage



Tree Delivery, Chip Maker - Tok



Wood Chip Delivery

- Determine type of trucks that will be used to deliver chips
 - Walking floor, conveyor floor, dump style, heated, larger semi trailers, or standard dump trucks
- The truck type impacts the approach to the storage building and bulk delivery to the boiler
- Chip storage
- Onsite drying with perforated floor inside storage area



Pellet Delivery

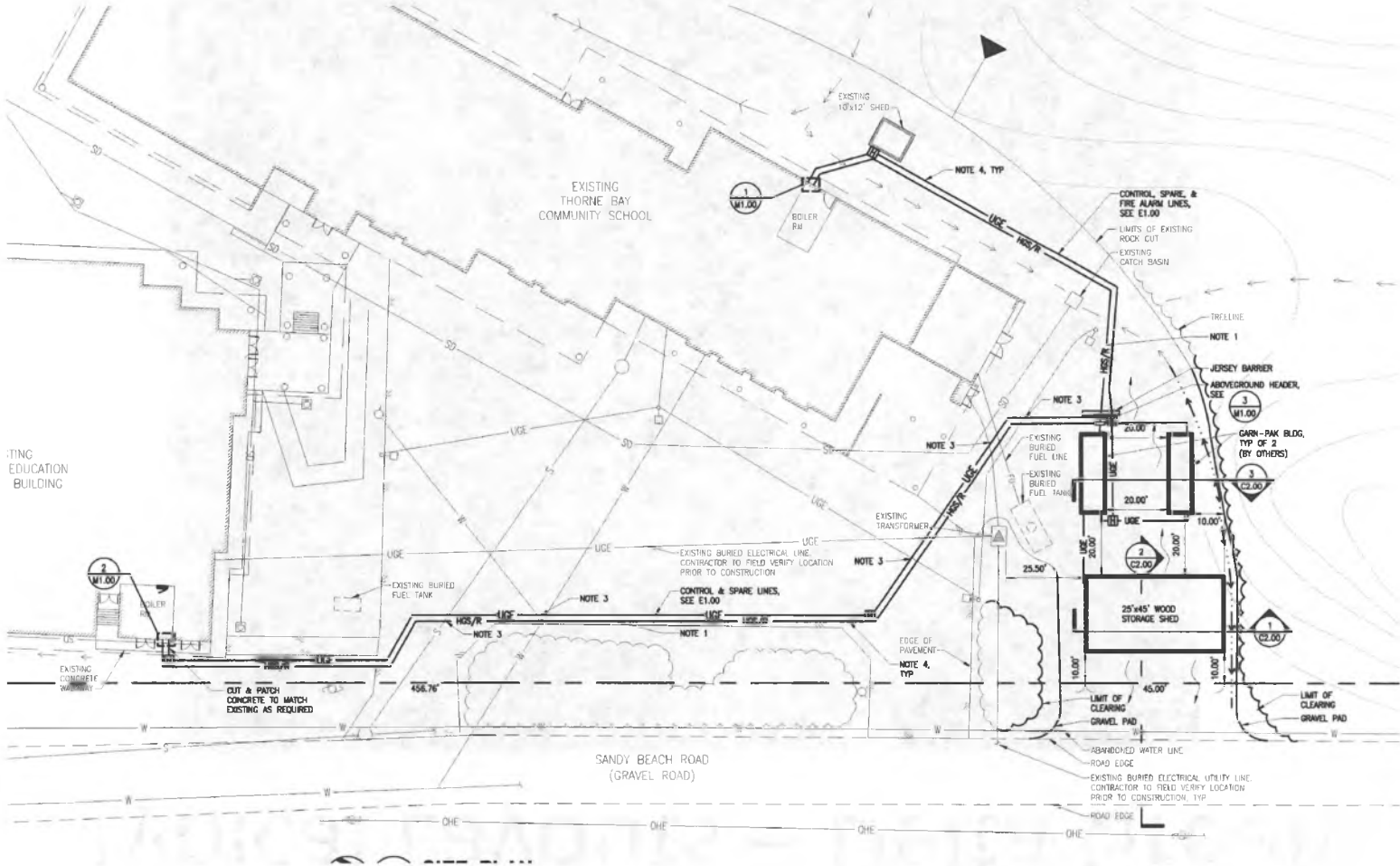


Bulk Delivery Advancements

- Use of pneumatic systems
- Reduced pellet breakage during delivery!!!
- Dust control systems for indoor storage bins are essential
- On-board scales = accurate measure of every delivery



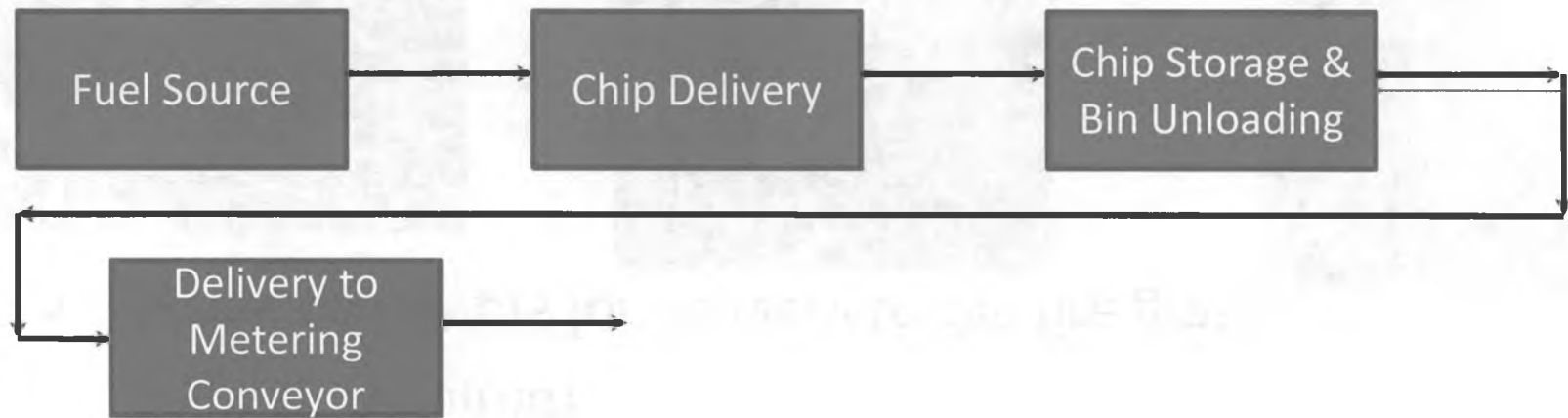
Typical Layout – Thorne Bay



Typical Layouts – Delta Greely



Chip/Pellet Handling



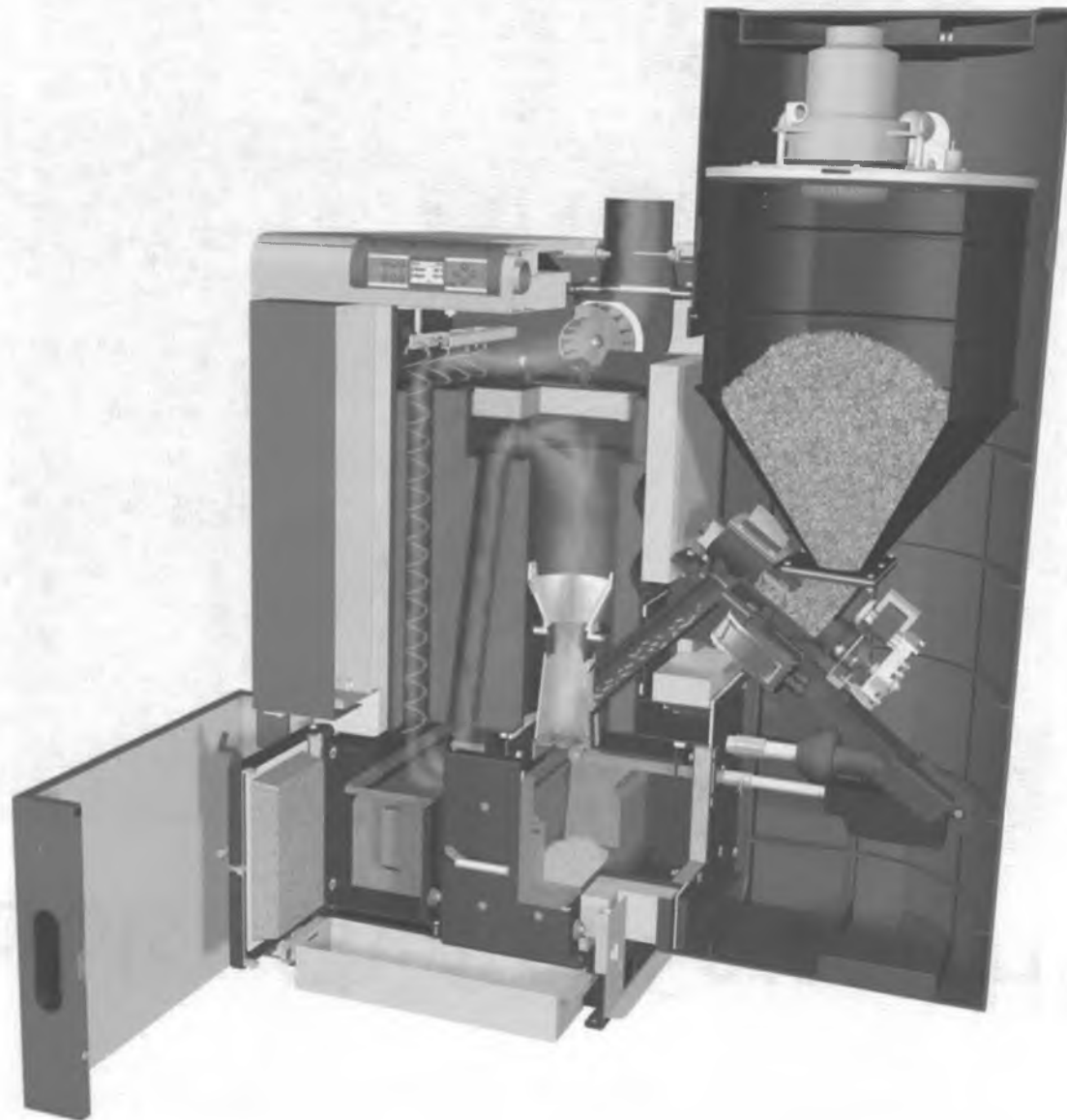
Conveyor Systems Bulk

Options:

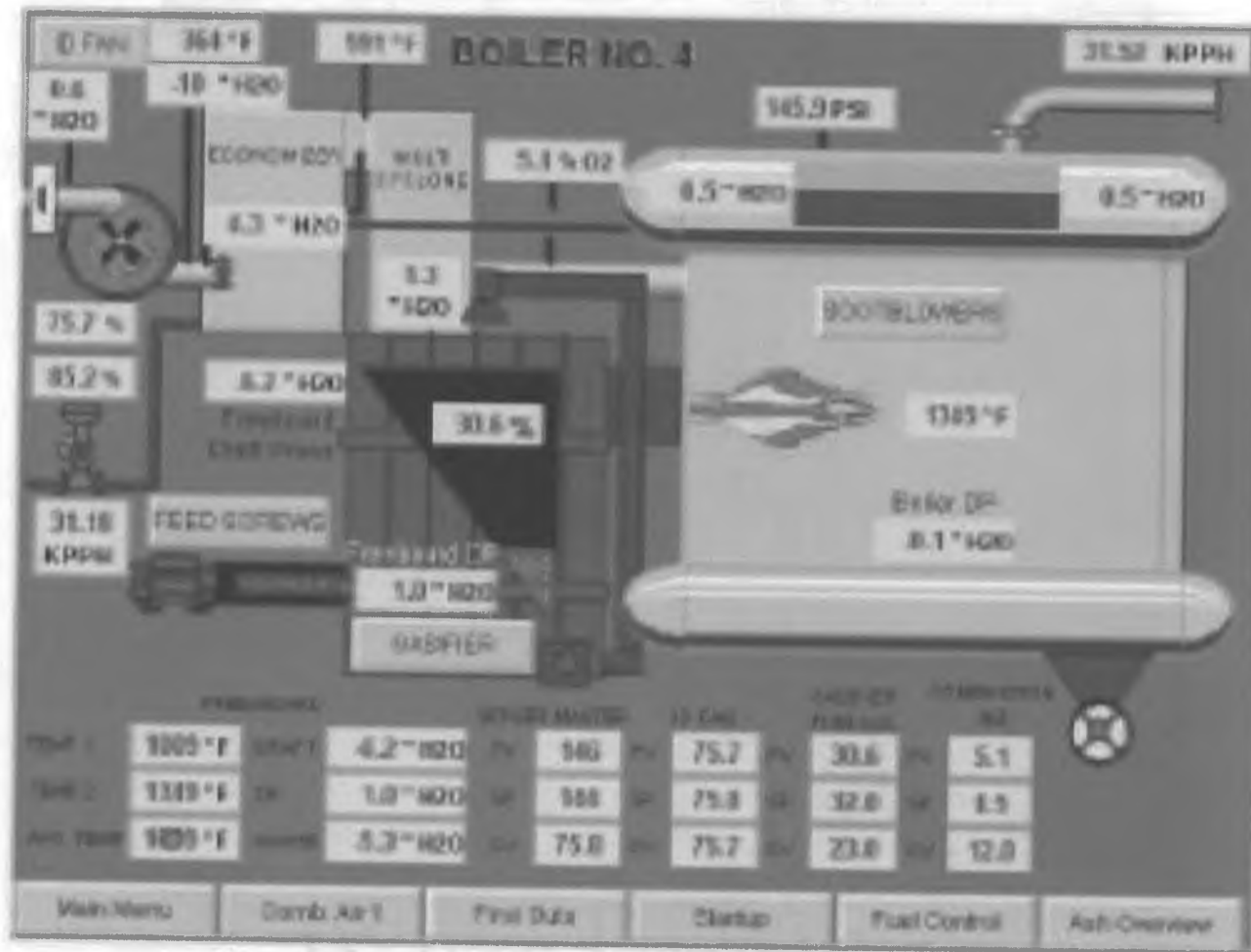
1. Bulk delivery by sliding chain/bar conveyor
2. Belt conveyor to a shaker screen for removal of large chips (if required)
3. Screw conveyors for delivery to the fire grate



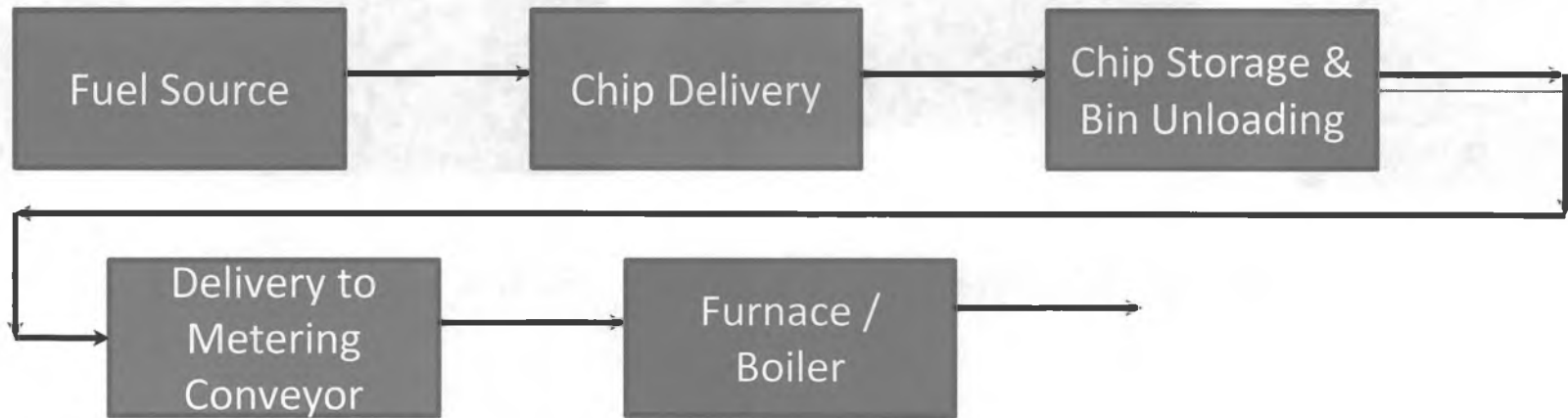
Pellet Delivery



Controls - Chiptec Screen HMI



Furnace / Boiler



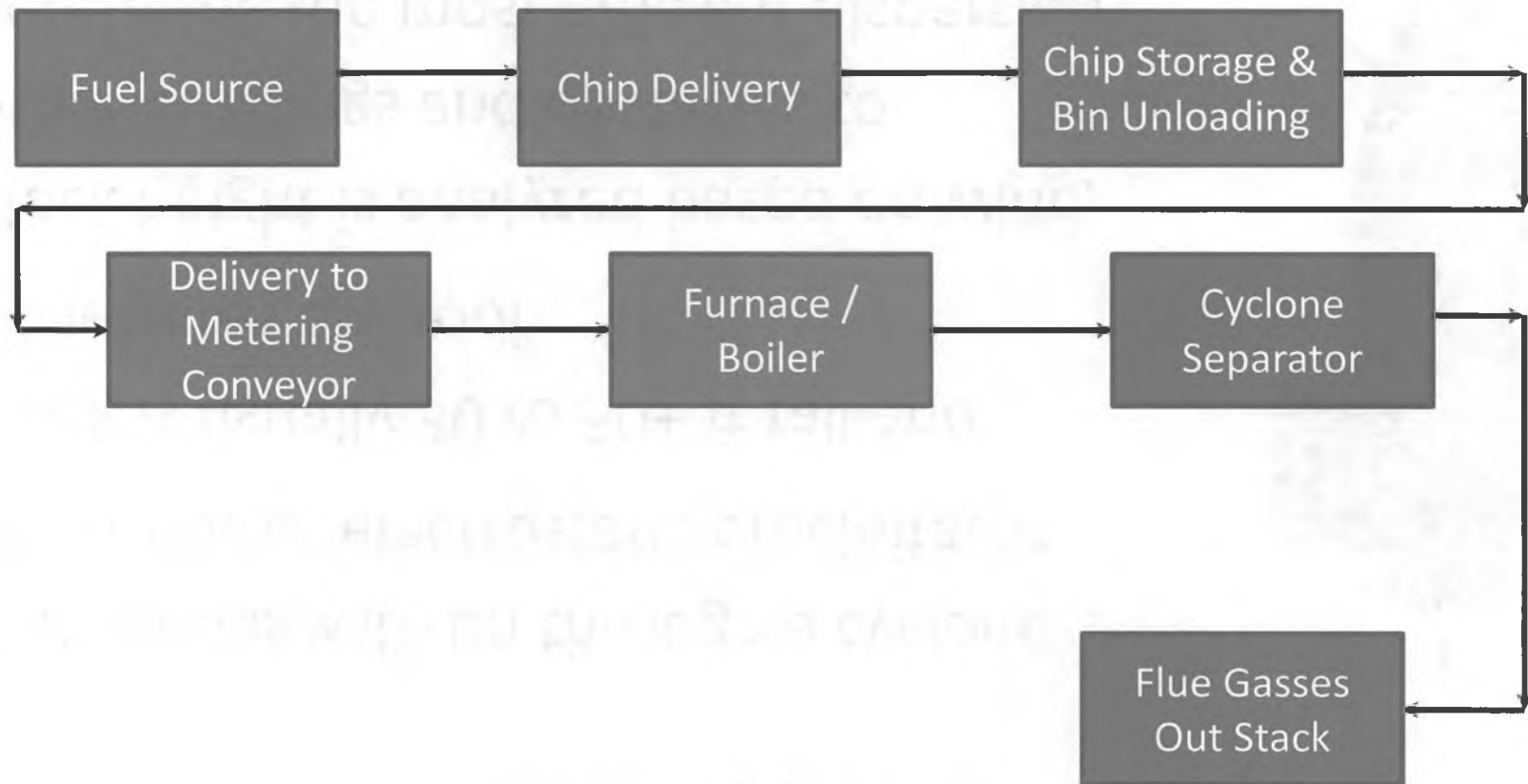
Boiler Systems

- Gasification System
- Boiler – fire tube, hot water, steam
- Garn with fire box inside water tank

Photos: Left, Garn; Center, Delta Greely HS; Right, Sealaska

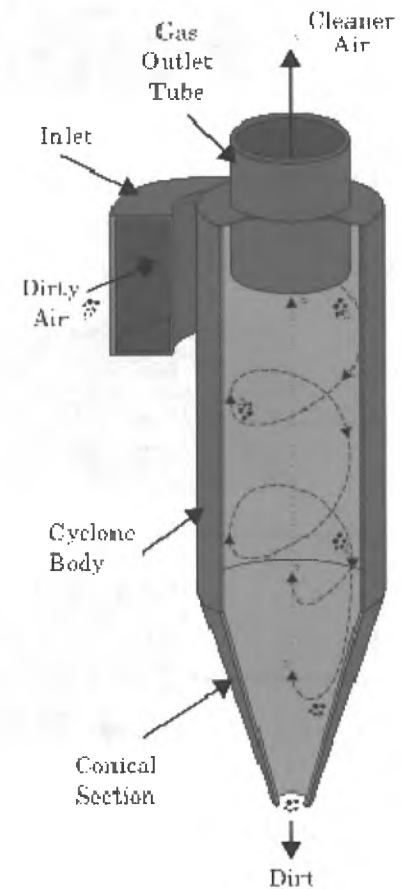


Furnace / Boiler

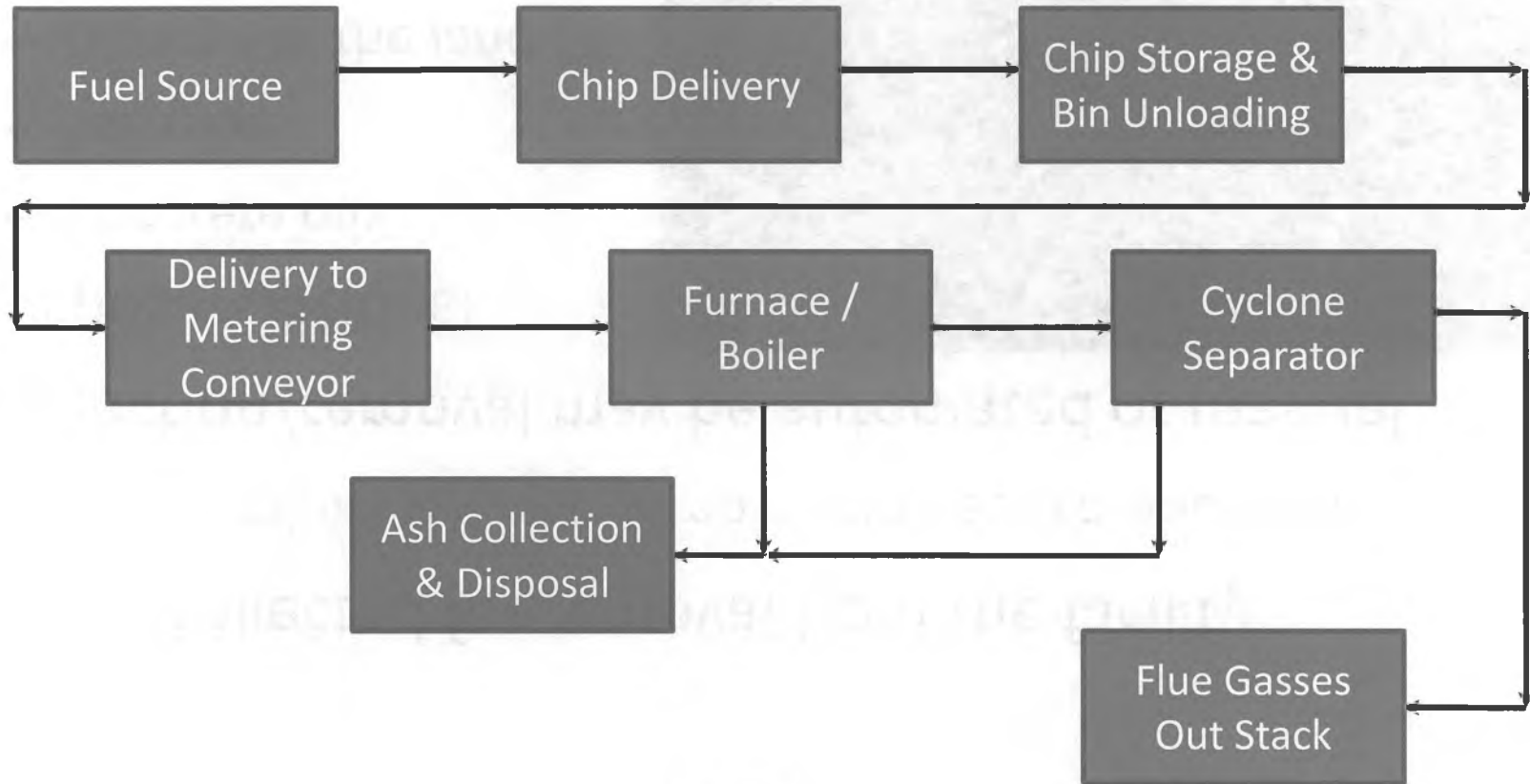


Flue Gasses

- Flue gasses will run through a cyclone separator or electrostatic precipitator
- Stack is usually 30 to 50+ ft tall and penetrates the roof
- Stack height is analyzed based on wind, other buildings and obstacles to determine the most efficient dispersion height



Furnace / Boiler



Ash

- Ash is collected for removal from the facility
(very minimal due to almost complete combustion)
- Collection/removal may be automated or manual
- Disposal options:
 - Concrete mix
 - Soil mix
 - Dispose at the land fill
 - Garden soil additive



New Structures – Buried Piping

- Boiler, chip storage and trailer storage building
 - Pre-engineered metal building with insulated panels on a concrete slab





Interior Storage


- Wood Chip Storage
 - Concrete bunker with either a pre-engineered metal structure or fabric structure cover





Pellet Storage – Interior/Exterior

 **Bulk Pellet Storage Options**


Outdoor grain silo bin


Rigid metal bins


Timber-framed fabric bins


V bottom rigid bin in storage room

Exterior Cord Wood Storage



Thank You - Questions?



Tony SlatonBarker, PE, Coffman Engineers

http://www.youtube.com/watch?v=lbO AP2-sTE&list=PLDCC49BE1571A6E01&index=10&feature=plpp_video&noredirect=1



Alaska's Place in the World:

An Update on International Trade

Presented by:

Greg Wolf, Executive Director, World Trade Center Alaska

21 February, 2012

Presented to the House Special Committee on Economic Development,
Trade, and Tourism

Juneau, Alaska

International Trade is Big Business for Alaska

- Annual Worldwide Exports totaled \$4.7 billion (January – October 2011)
20% increase over 2010 figures
- This represents nearly 10% of the Alaska's Gross State Product (GSP)
- New Money into Economy
- Thousands of Direct and Indirect Jobs
- Results in stronger, more diversified economy
- How We Rank? – Alaska ranks 37th among all states

How do we rank per capita?

Why Trade Matters?

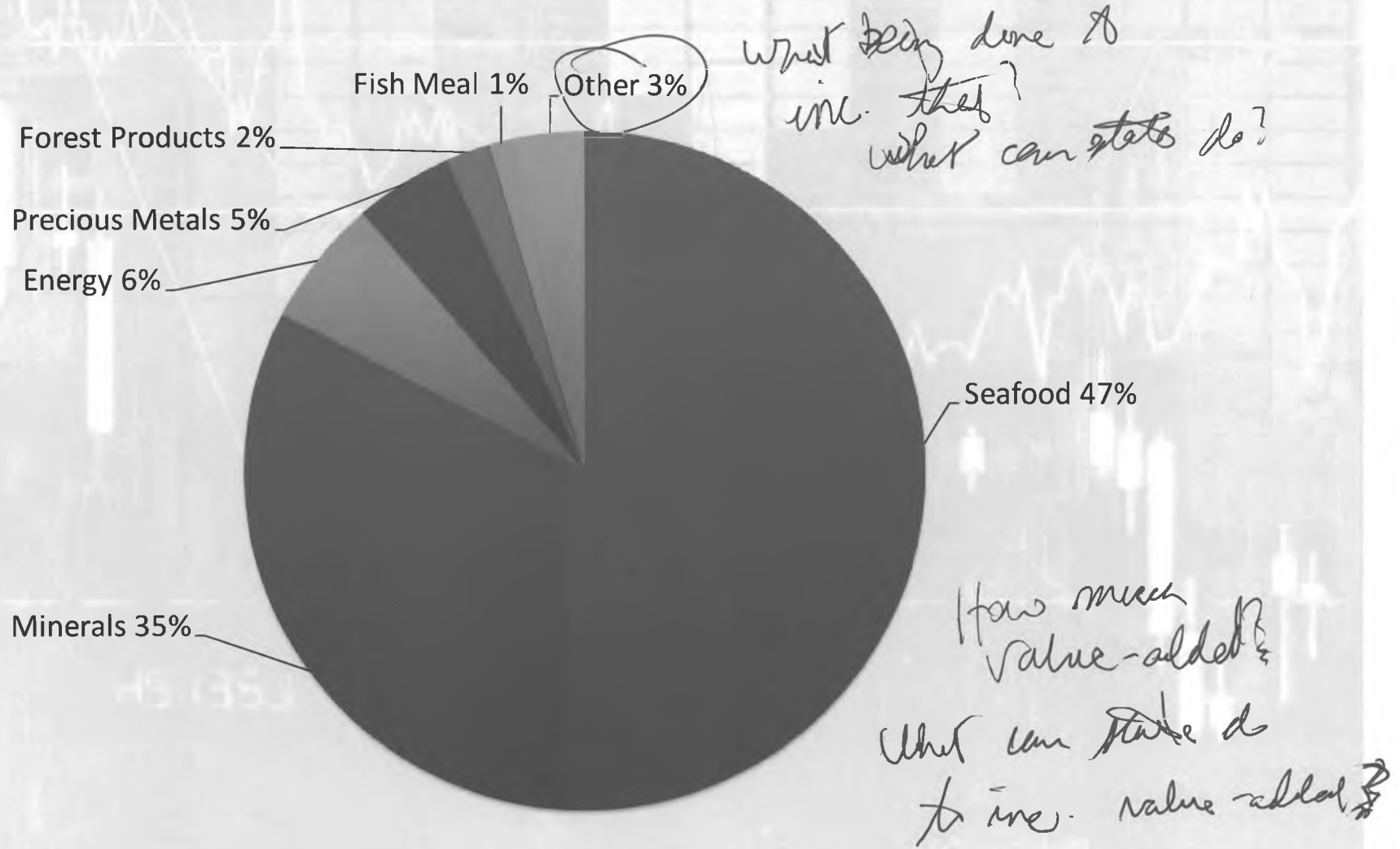
- Substantial component of Alaska's economy. Exports typically account for approximately 10% of the GSP. Export total does not include the export of services from Alaska — such as construction, engineering and oil & gas services.
- Exports now bring more than ~~\$5 billion~~ of new money into our economy. New money, not recycled money. Also, exports account for nearly \$2 billion in induced and indirect economic benefits, according to a recent study by Northern Economics.
- Exports allow companies to become larger through expanded markets and customer base.
- For some Alaska companies, their best bet for growth is overseas markets.

~~What types of companies~~

Exports = Jobs

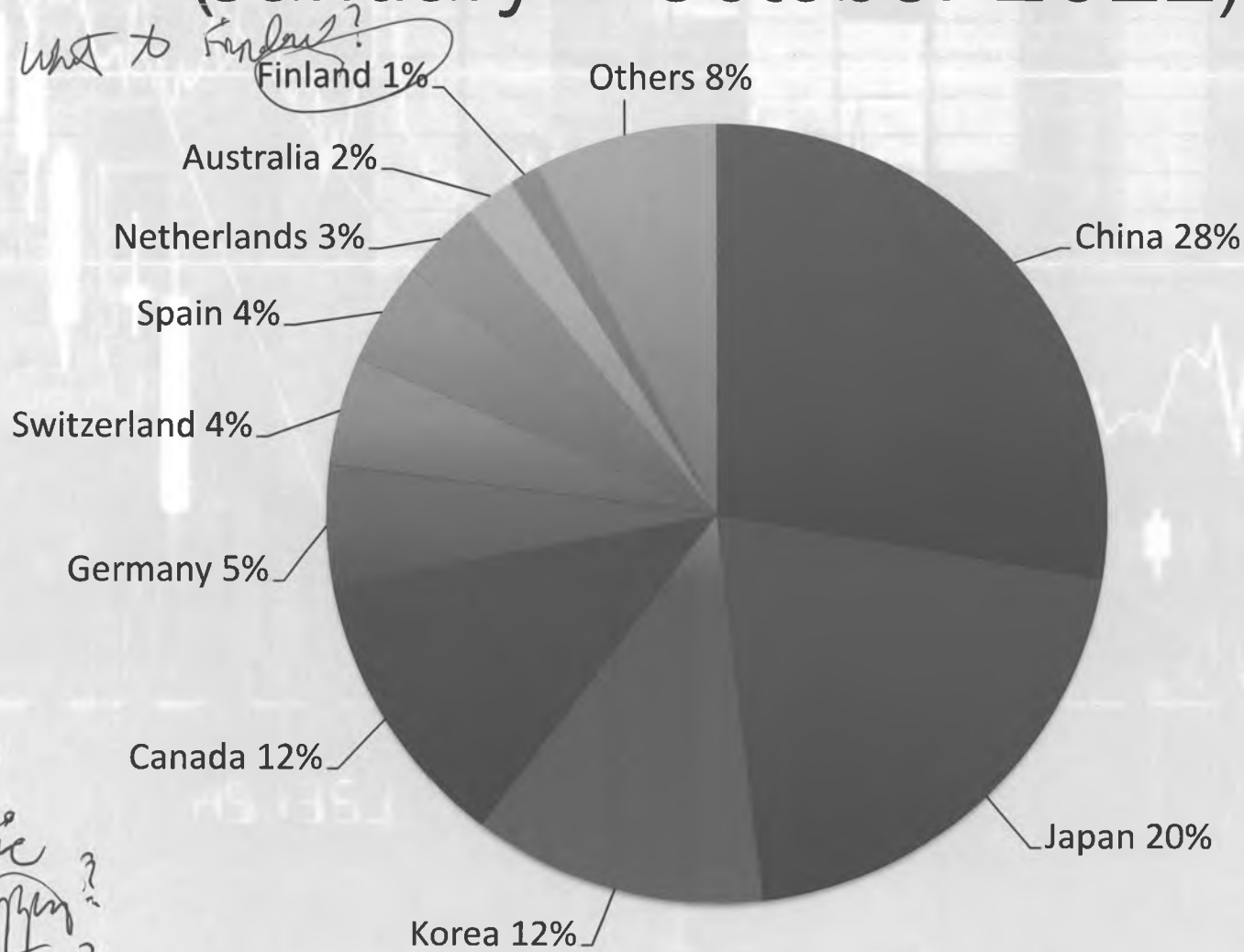
- Exports supported nearly 15,000 direct and 9,800 indirect and induced jobs in Alaska in 2008
- Export jobs are high paying jobs. Export-related jobs typically pay 13-16% more than jobs tied solely to domestic economy
- According to the U.S. Department of Commerce, there are approximately 340 companies that export from locations in Alaska

Alaska's Top Export Commodities (January - October 2011)



Source: U.S. Census Bureau, SOA, Governor's Office of International Trade

Alaska's Top Ten Export Markets (January - October 2011)



Source: U.S. Census Bureau, SOA, Governor's Office of International Trade

Alaska Worldwide Exports 1994 -2011

USD Billions



Source: U.S. Census Bureau, SOA, Governor's Office of International Trade

Alaska's Exports to China

(2000 - 2011 Full Year Comparison)

USD Millions

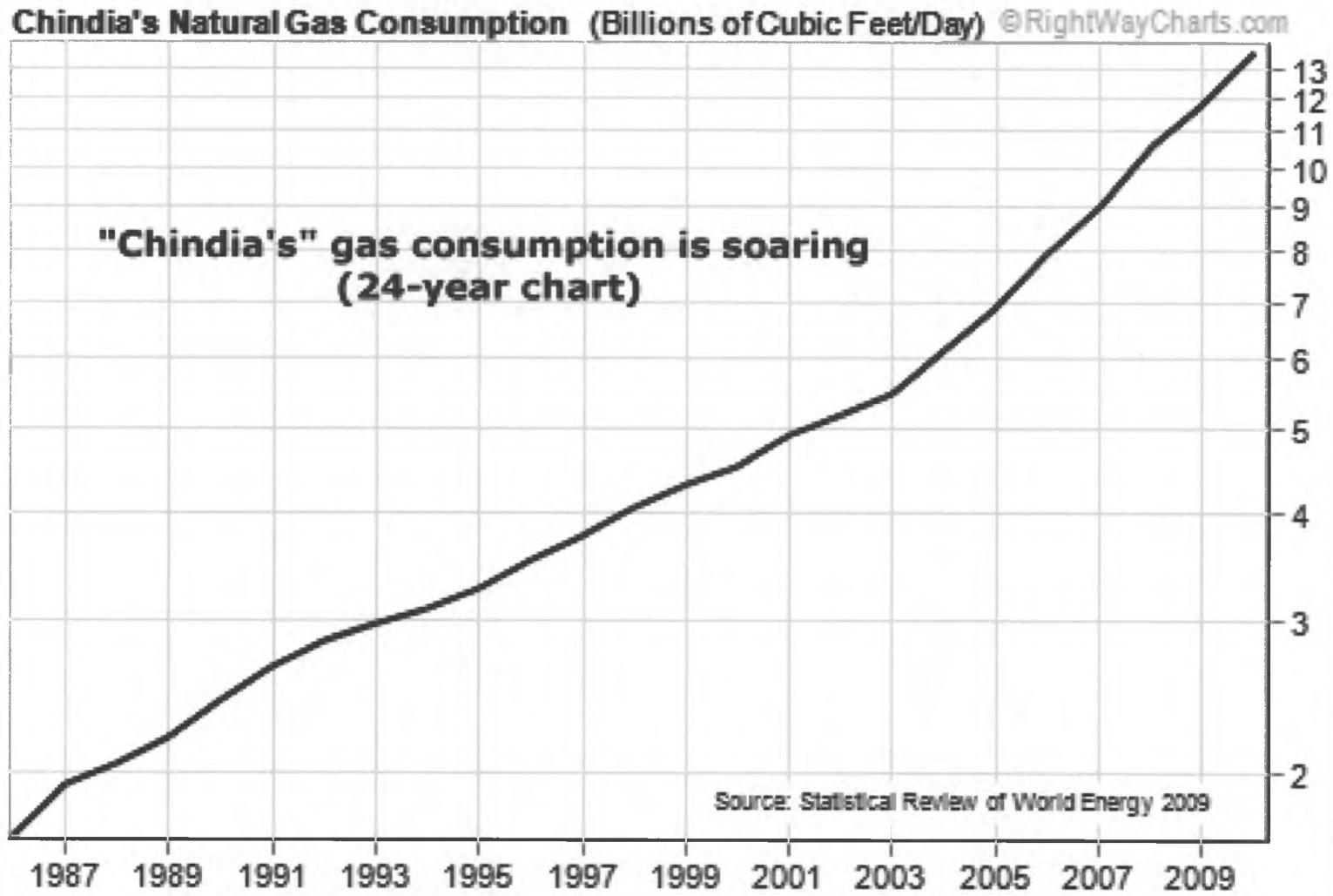


Source: U.S. Census Bureau, SOA, Governor's Office of International Trade

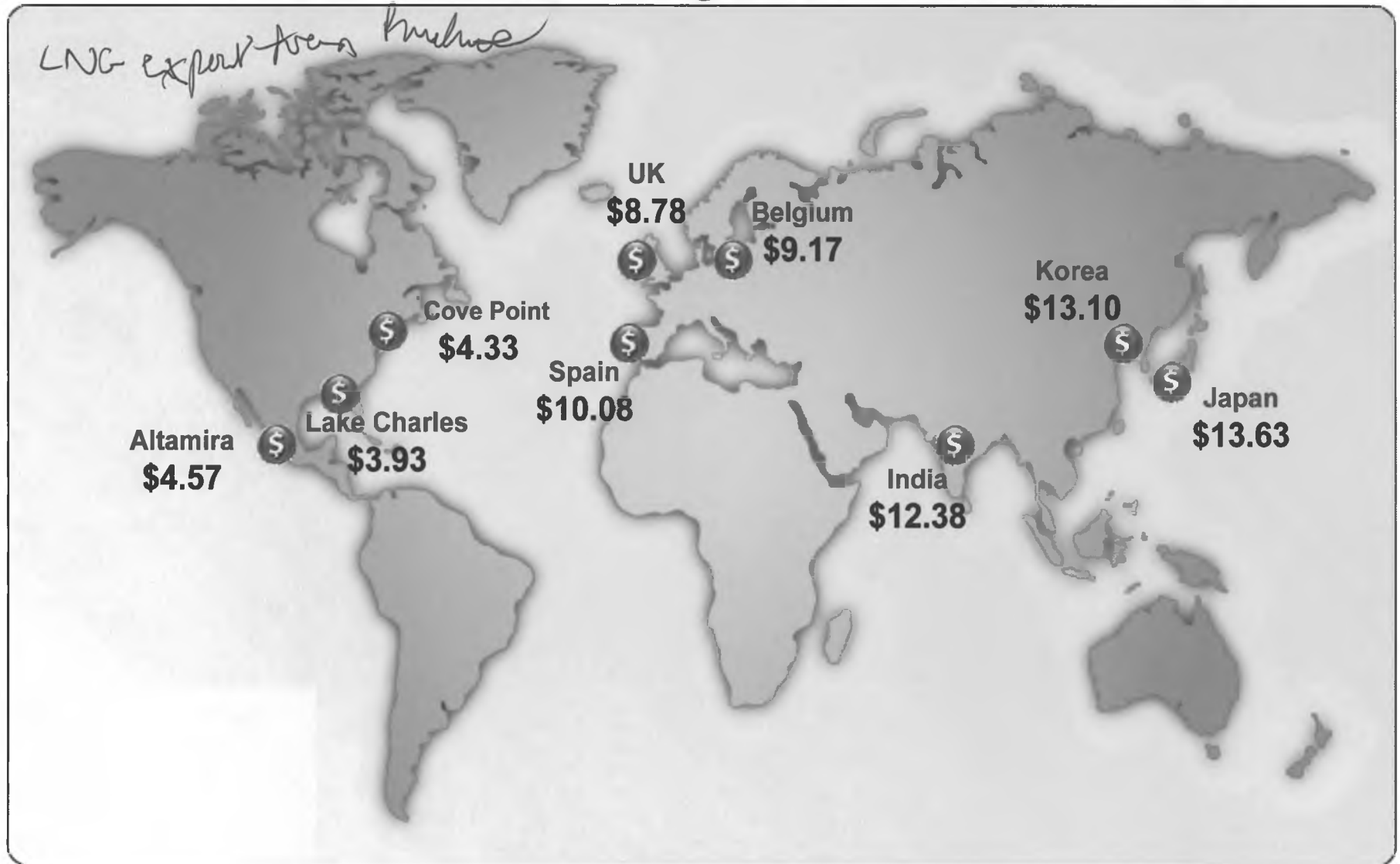
Overarching Trends That Benefit Alaskan Exports

- **Growth in emerging market consumer class**
More people, with higher expectations, and more money to spend (they want what we have) and increasingly have the ability to obtain these things. According to Standard Chartered, close to 5 billion people will live in cities by 2030, compared to 3.4 billion now. An equally significant increase in the size of the global “middle class” will see the number of these consumers growing from 1.8 billion people today to about 5 billion in 2030.
- **Resource Scarcity**
Growth in populations and wealth are outpacing development of energy, food, and other vital staples of modern living. Alaska is fortunate to be an exporter of natural resources that the world needs for economic development.
- **Decline of U.S. Dollar**
Continuing dollar weakness translates into higher commodity prices and the ability of our partners to buy more from us (as their currencies strengthen). Alaska’s export industries benefit when our customers have strong economies and strong currencies.

“Chindia” Natural Gas Consumption



World LNG Estimated August 2011 Landed Prices



Source: Federal Energy Regulatory Commission (FERC)

China Invests in “Lower 48” Shale Gas

January 2012

China Petrochemical Corporation (SINOPEC) invests \$2.5 billion to purchase 33% of Devon Energy’s shale oil & gas leases in Michigan, Ohio, and several other states.

January 2011

Chinese National Offshore Oil Corporation (CNOOC) invests \$570 million to purchase 33% of Chesapeake Energy Corporation’s shale gas leases in Colorado and Wyoming. Also commits \$697 million for drilling and completion costs.

October 2010

Chinese National Offshore Oil Corporation (CNOOC) invests \$1.08 billion to purchase 33% of Chesapeake Energy Corporation’s shale gas leases in Texas. Also commits \$1.08 billion for drilling and completion costs.

“Boots On The Ground” Strategy

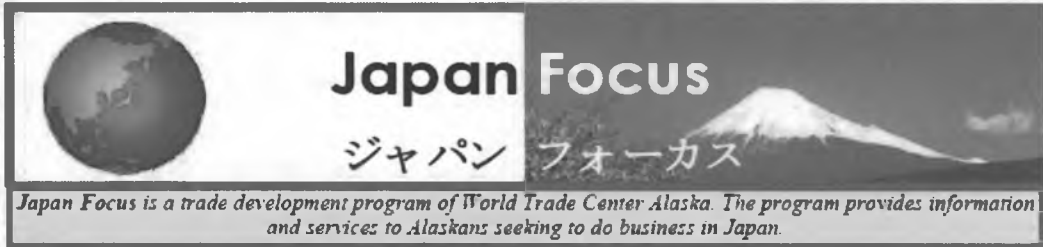


During the past 10 years, WTCAK has led missions to a variety of countries, including: China, Korea, India, Taiwan, Singapore, and Canada

- One of the functions of WTCAK is to organize and lead trade missions overseas
- Missions enable Alaskans to better understand markets and make valuable contacts
- Internet and e-mail are useful, but do not replace first-hand experience and face-to-face meetings

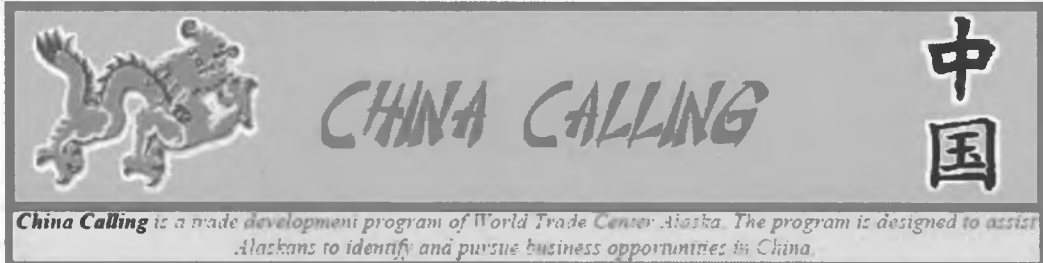
~~What~~ off town? What
do we expect?

WTCAK Trade Development Programs



Japan Focus
ジャパン フォーカス

Japan Focus is a trade development program of World Trade Center Alaska. The program provides information and services to Alaskans seeking to do business in Japan.



CHINA CALLING 中国

China Calling is a trade development program of World Trade Center Alaska. The program is designed to assist Alaskans to identify and pursue business opportunities in China.



CANADA: Opportunities Next Door

Canada: Opportunities Next Door is a trade development program of World Trade Center Alaska. The program helps Alaskans to pursue business opportunities in Canada.



KOREA Connection

Korea Connection is a trade development program of World Trade Center Alaska. The program offers information and assistance to Alaskans seeking to do business in Korea.



**New Markets
New Customers**

New Markets-New Customers is a trade development program of World Trade Center Alaska. The program aims to identify new export markets for Alaskans and assist them to pursue opportunities in these markets.



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Web: www.wtcak.org

Serving Alaska's Business Community Since 1987

a proud partner of the following organizations:



**UNIVERSITY *of* ALASKA
ANCHORAGE**



WORKING WITH CHINA

Alaska's growing export partner

Cannery workers prepare salmon at Peter Pan Seafoods in Bristol Bay, Dillingham.

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BY ALEX SALOV

For decades, China was considered an underdeveloped, closed-command economy, but since the 1990s it turned into a market-oriented economy that currently plays a major role in the global market. In 2010, China became the world's second largest economy and the largest exporter with the world's largest labor force (five times that of

the United States). It is the world's leader in gross value of industrial output and its insatiable demand for natural resources continues to grow.

One important factor is the growth of the emerging markets within China that have become very lucrative markets for the imported goods. By the "emerging markets" within China we mean so called "second-tier" cities (large cities other than Beijing, Hong Kong, Shanghai and Guangzhou). Second-tier cities include places like Tianjin, Wuhan, Chongqing, Shenzhen and others. The growth of the second-tier markets is driven by China's rapid urbanization.

According to McKinsey Global Institute, by 2025 more than 400 million Chinese will migrate from rural areas to cities. Already there are more than 160 cities in China with populations of more than 1 million people. According to the U.S. Department of Commerce, China's top 15 second-tier cities account for 60 percent of U.S. products imported to China. These cities are growing economically and are less filled with imported goods.

Growing middle class is another factor that influences growth of Alaska's exports to China. According to China's National Bureau of Statistics, the country's middle class will expand from 5 percent of the population in 2009 to 45 percent in 2020. Naturally, as the people have more disposable income, they have an increased demand for higher quality goods. U.S. products have a good reputation among the Chinese consumers and are successfully competing with other foreign products. Chinese buyers also prefer the products packaged in the country of origin rather than China to avoid possible counterfeits.

Also, in 2005, Chinese government has made the decision that moved yuan (RMB) away from fixed U.S. dollar (USD) peg. As a result, between 2005 and 2011, the yuan rate has risen by about 28 percent (Forex), thus making Chinese exports to the U.S. more costly, but also making U.S. goods more affordable in the Chinese market.

For Alaska's exports, China has been a very dynamic market that grew almost 9 times in value during the last

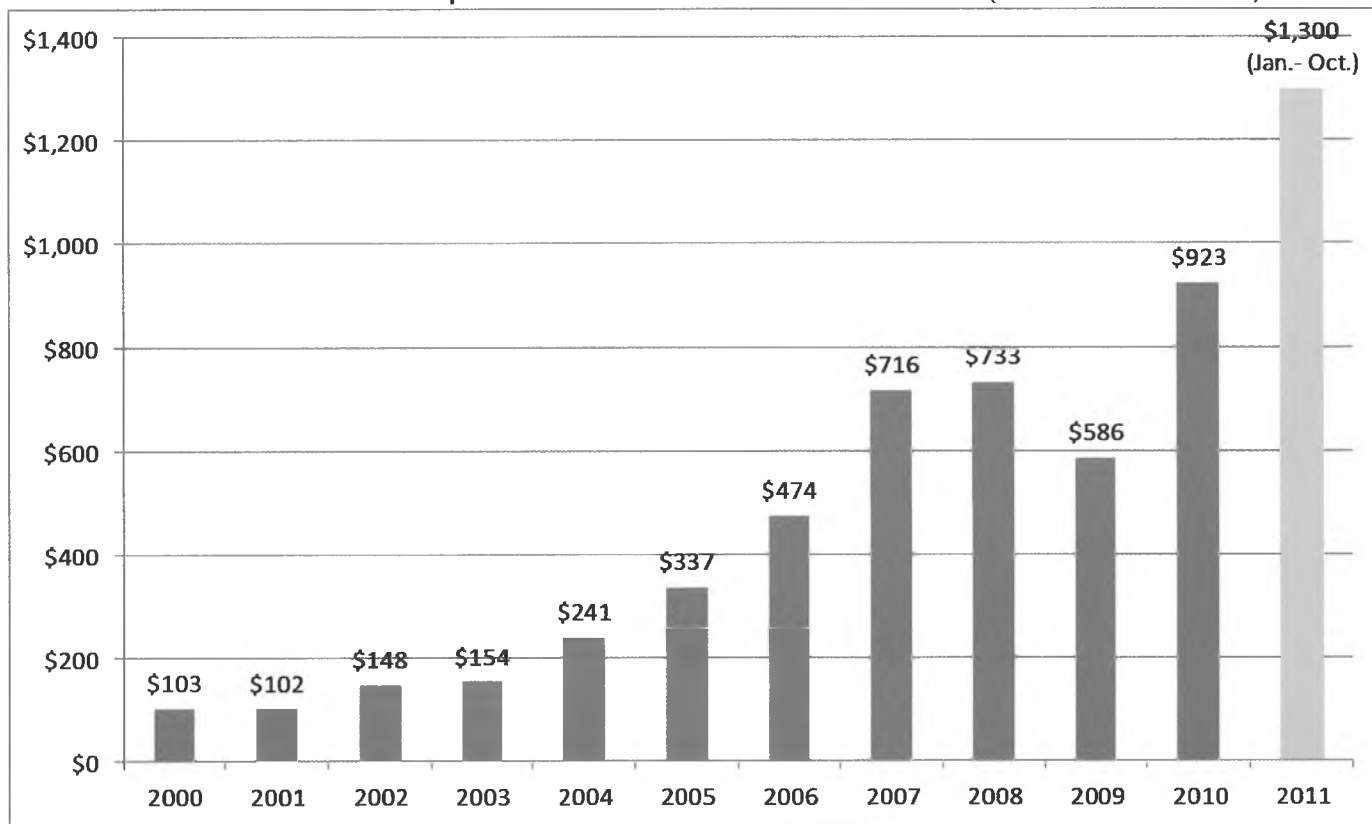
10 years—from \$102 million in 2001 to \$923 million in 2010 (see graph). Due to the impact of the Great Recession (2008-2009), the value of Alaska's exports to China decreased to \$568 million in 2009. In 2010, however, it rebounded strongly and set the record of \$923 million.

SEAFOOD IS TOP EXPORT

Seafood is Alaska's largest export category and currently represents 56 percent of the total exports to China. Seafood export to China totaled \$517 million in 2010 and only rivals to those to Japan (\$523 million). If fish meal export is taken into account, then China is actually Alaska's largest seafood customer (larger than Japan) with a little more than \$550 million in total exports value. According to Alaska Seafood Marketing Institute, in 2010, 37 percent of Alaska's seafood exports to China were pink, chum and sockeye salmon; 28 percent groundfish (cod and pollock); 22 percent flatfish and 6 percent snow crab.

Some of the seafood exported to China is being consumed within the

Alaska's total exports to China 2000-2011 (USD Millions)



Source: U.S. Census Bureau, SOA, Governor's Office of International Trade

domestic market and some of it is being processed and then re-exported to other countries. With the growth of the middle class and their disposable income there is an opportunity to sell larger amounts of seafood from Alaska every year.

Chinese seafood market differs from the U.S. seafood market in the way the fish is consumed. Chinese customers use the whole fish literally from head to tail. Many times fish is cooked intact. At the same time, parts that are traditionally considered waste in the U.S.

trade mission to China last December, we visited several upscale supermarkets that sell seafood products from all over the world. Customers buying seafood at those supermarkets pay a lot of attention to the quality of the products and prefer the seafood to be fresh rather than frozen.

MINED RESOURCES EXPORTS

Minerals and precious metals are another important category of exports from Alaska to China. In 2010, \$308 million worth of minerals and precious

and, also gold. In 2011 final numbers, we will see an increase in the precious metal exports (gold), as a result of the June 2010 contract between Coeur Alaska Inc. (a subsidiary of Coeur d'Alene Mines Corp.) and China National Gold Group Corp. (China's largest gold producer).

The contract is for purchasing and processing gold concentrates produced by the newly opened Kensington gold mine in Southeast Alaska. China National Gold has agreed to purchase approximately half of the concentrates to be produced at Kensington. According to Coeur, this agreement is the first of its kind between a state-owned corporation of China and a U.S. precious metals mine. Kensington mine began commercial production in July 2010.

LOGGING

Forest products' exports to China counted for \$58.7 million in 2010. China is currently the largest importer of logs from Alaska, accounting for approximately 50 percent of the total forest products exports from the state.

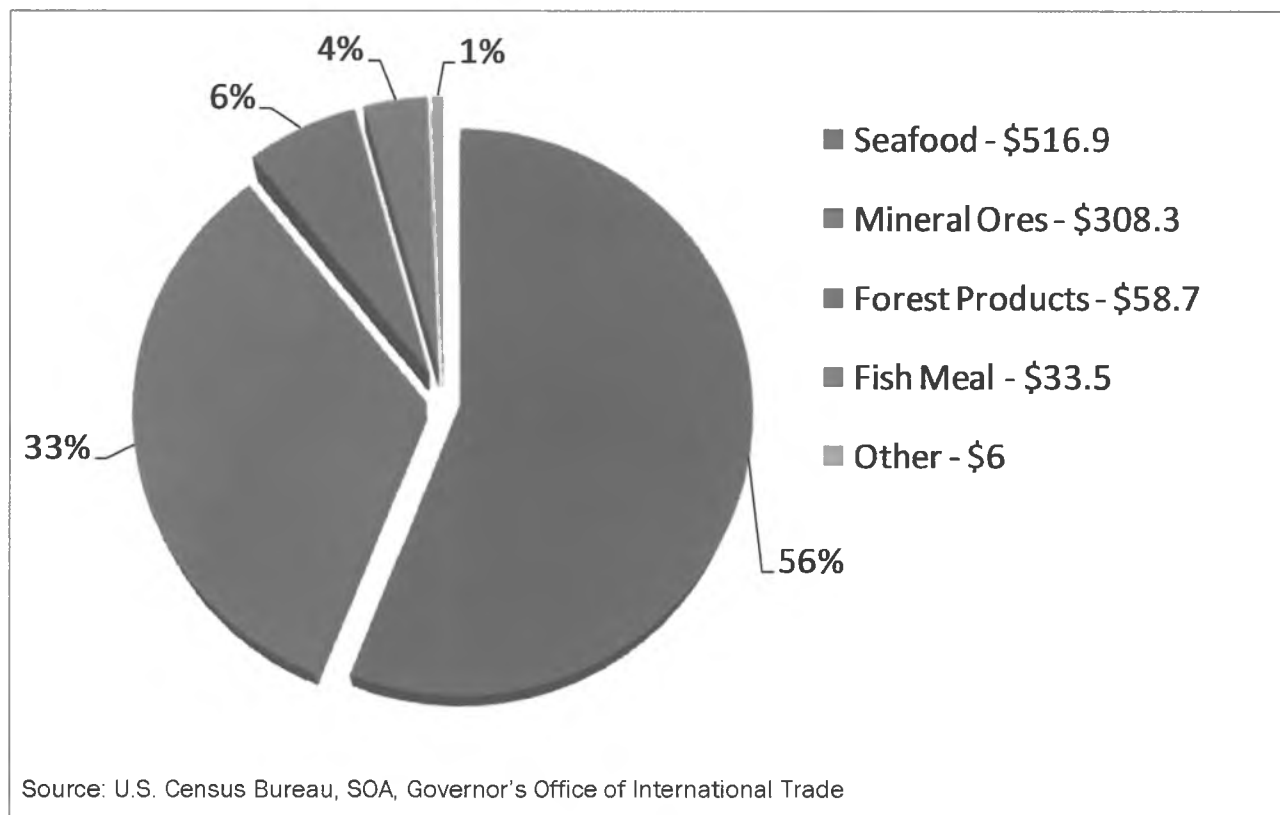
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are also used in the various dishes. For example, heads and fins are commonly used in soups and stews.

During World Trade Center Alaska's

metals was exported to China, this represents 33 percent of Alaska's total exports. This export is mainly represented by zinc and lead concentrates,

2010 Alaska Exports to China by Commodity in USD Millions (Total - \$923.4)



TRANSPORTATION CONNECTION

Another important aspect of relations between Alaska and China is the ongoing transportation connection via Ted Stevens Anchorage International Airport. Currently, there are seven mainland China cargo airlines that are customers of Ted Stevens Anchorage International Airport: Air China, China Cargo Airlines, China Southern Airlines, Great Wall Airlines, Jade Cargo, Shanghai Airlines Cargo International and Yangtze River Airlines. Cathay Pacific Cargo from Hong Kong has also been using Anchorage Airport for a number of years. Together, the Chinese cargo airlines operate more than 100 flights a week. The number of cargo flights might increase with the growth of exports of the commodities that can be shipped by air, fresh seafood can be a good example.

THE CHINA ERA

World Trade Center Alaska has made China a major area of work for almost 10 years. We established a trade development program "China Calling" in

2006 to assist Alaskans to identify and pursue business opportunities in China. China has been the fastest-growing export destination in our state's history. The products Alaska offers are of high demand in China and, considering the trends discussed, we can predict Alaska's exports to China will exceed \$1 billion and, thus, China will become Alaska's No. 1 trading partner as of the end of 2011, surpassing Japan.

Since 2005, we have conducted the Annual Alaska-China Business Conference. This event brings together experts from the private and public sectors, both Chinese and American, and provides the attendees with the latest information and ideas on business opportunities with China.

Since 2005, we've also conducted three trade missions to China, taking Alaskan business and government leaders to the country, familiarizing them with the local business environment, and getting them closer to signing deals with Chinese partners. We are looking forward to working more with China and seeing the continuing growth of the China era. □



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About the Author

Alex Salov is the business operations manager at World Trade Center Alaska and has been working there since 2004. He has a master's degree in global supply chain management from the University of Alaska Anchorage. Also, since 2005, Salov works as an adjunct instructor of Japanese language at the University of Alaska Anchorage.



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2012 is a very special year for us: it's our 25th anniversary!

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Editor's Note

To help the World Trade Center Alaska celebrate 25 years, Alaska Business Monthly presents a special section devoted to international trade. Opening the section is a Q&A with World Trade Center Alaska Executive Director Greg Wolf. We hope you find his answers and the rest of the special section as interesting and informative as we did.
—Susan Harrington, Managing Editor



Q&A

with Greg Wolf

ABM: Who are our largest trading partners? What are the top exports?

WOLF: Alaska's major trading partners are Pacific Rim countries, primarily in Asia. Consider our top four exports markets: Japan, China, Korea and Canada. Taken together, these four markets alone account for 70 percent of the state's total overseas exports. There are several reasons for this concentration of exports to Asia: first, many countries in the region are resource-poor, while Alaska is resource-rich. In other words,

we have what they need. Secondly, there is geographic proximity. Alaska is a neighbor, relatively speaking, and there are well-established transportation links by sea and air. Finally, and often overlooked, Alaska, as part of the United States, offers political stability that is very important for countries that rely on stable supplies of much needed commodities.

In addition to the countries already mentioned, five European countries, namely, Switzerland, Germany, Spain, Netherlands and Belgium are members of our Top 10 export markets. Australia rounds out the grouping. What distinguishes the major Pacific Rim customers from those in Europe is that the former are comparatively much larger customers and they typically buy a wider variety of commodities from Alaska.

Seafood has been and remains the state's top export commodity. In 2010, seafood accounted for 44 percent of the state's total exports. At 32 percent, minerals, primarily zinc and lead concentrates, are the second-largest category, followed by energy (10 percent). This category includes liquid natural gas, coal and refined fuel products. Precious metals and here, of course, we're talking about gold and silver, is the fourth major sector, followed by forest products.

Clearly, we are an exporter of natural resources. This has served us very well during recent years and all of the trends indicate that there is a lot more growth possible for Alaska, if we are allowed to responsibly develop our vast reserves of natural resources that are in so much demand from both developed and emerging markets.

ABM: How has this changed in the last five years?

WOLF: Actually, not that much. Then, as now, Japan, Korea, China and Canada are Alaska's four top markets. The specific rankings of these four have alternated from year to year, but these have been our top markets for a long time. Japan has always been our No. 1 market, but that is about to change as China assumes the role of Alaska's largest export market. 2011 will be the year the Middle Kingdom moves up to the No. 1 spot. This represents the culmination of 10 years of consistent and dramatic growth by China as a customer of Alaskan exports. Exports to China have grown from just over \$100 million in 2000 to \$923 million in 2010. That's a nine-fold increase in 10 years. For 2011, we project that exports from Alaska to China will exceed \$1 billion. I've been in this business



Greg Wolf
Executive Director
World Trade Center Alaska

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for 24 years and we have never seen a major market grow so fast for Alaskan exports. For Alaska's international trade community, China has been the headline story for a number of years. Our state has clearly benefited from China's rise to economic prominence.

ABM: How much are Alaska's exports worth? What does it mean to the economy?

WOLF: We don't have full-year figures available for 2011 yet, but looking at the first 10 months (January through October) data, the total has already reached \$4.7 billion. Once the final numbers are reported, we anticipate it will be an all-time record year for the value of Alaskan exports. We expect exports to top \$5 billion, surpassing the \$4.2 billion total in 2010, until now the previous record. Exports are important because they bring new money into our economy, create diversification and sustain thousands of jobs for Alaskans across the state. In a nutshell, when you consider exports and what they mean for us, you should think three things: revenues, expanded economic opportunities and employment.

ABM: What would happen to Alaska if we didn't have a healthy trade market?

WOLF: Well, we would certainly have a much smaller economic base and fewer high paying jobs. Certainly, some of the biggest players in our economy would not be active in Alaska were it not for overseas exports markets. We must remember that Alaska itself is a very small market. Our population is around 700,000. That's like a suburb of a lot of major cities around the world. To attract resources industries to our state, export markets are a necessity. Exports enable some of our major industries to be as large

and significant as they are today. In some cases, virtually 100 percent of the production generated by these companies is exported to customers overseas. In other words, but not for the existence of overseas markets, these companies would either not be in Alaska or their operations would, at least, be considerably smaller. For example, so far, the only natural gas to leave Alaska has been the LNG exports to Japan. The only coal to leave the state has

been to overseas markets like Korea and Chile. Virtually all of the minerals and metals go overseas and about 50 percent of Alaska's annual seafood catch is destined for foreign markets.

International trade is also a major source of employment for Alaskans. According to a recent study conducted by Northern Economics, exports are directly responsible for nearly 15,000 jobs and almost another 10,000 jobs

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on an indirect or induced basis. Taken together then, trade accounts for about 25,000 jobs in Alaska. I think that is significant. We also know many of these jobs are relatively high paying ones versus jobs found elsewhere in the economy.

ABM: How many companies are involved with exports from Alaska? Are they mainly large organizations?

WOLF: According to the most recent information available from the U.S. Department of Commerce, there are 340 companies who export from locations in Alaska. If you include companies that export Alaskan commodities, but do so from a location outside of the state, such as a seafood processor in Seattle, then that number would be higher.

They report that 76 percent of the state's exporting firms have fewer than 500 employees and are thus considered small- or medium-sized companies. Further, their research indicates approximately 50 percent of the state's export dollars are generated by the small- and medium-sized enterprises, while the other half results from the export operations of the large companies, such as the multinational corporations operating in Alaska.

ABM: What is the role of World Trade Center Alaska? How do you help companies and promote trade?

WOLF: We work directly with Alaska companies, mainly small- and medium-sized firms seeking to grow their businesses through exports. Some of these companies are "new to export," meaning they will be selling to an overseas customer for the first time—others already have some overseas customers and are looking to expand their sales, sometimes to a new market.

One of our key roles is serving as a bridge between Alaska sellers and overseas buyers. This is the matchmaking role to help Alaskans find customers overseas. But there is typically a lot of other important work that must take place before we get to that point with a company. We normally work with companies that are export ready, meaning they already have a product or service to export and have the capacity to adequately respond to customers' orders.

We help these companies to research potential markets, to understand the distribution channels, regulations and other market requirements that pertain to their specific business. These issues can differ substantially from one country to the next. Of course, there are language and cultural barriers to contend with and business practices can be much different than our own.

Through trade leads, trade missions, conferences, research reports and one-on-one counseling, we work to expand Alaska's export capacity. With our full-time staff and interns, we have many years of international experience and the ability to provide assistance in a variety of languages. We are also fortunate to have strong, long-standing partnerships with the State of Alaska, the U.S. Department of Commerce and the University of Alaska that enable us to provide Alaskans with a high level of service.

ABM: Wrapping it up, are there any new markets we expect to see in the future?

WOLF: It's no secret that most of the world's economic growth continues to occur in Asia. That's good news for Alaska; as a Pacific Rim neighbor, we can supply the natural resources these countries need to meet the requirements

of their growing economies and populations. A rising standard of living in these countries is leading to higher consumer expectations. More disposable income can help boost sales of our high-quality, wild-caught seafood products. A growing number of people around the world are seeking out Alaska seafood for its healthy attributes and sustainability.

We are currently researching several emerging markets to see how their import needs match up with our export capabilities. One of those countries is India. At present, Alaska does very little trade with India, but that country, like China, is on a rapid growth trajectory. They, too, have a population of more than 1 billion people. Their economy is growing 8 percent to 9 percent annually. As their economy grows and modernizes, this could represent the next big opportunity for Alaska. Some of our work to get to know this market better and for India to know Alaska better, has been an Alaska-India Business Conference conducted in Anchorage in 2006 and a trade mission of private and public sector officials to New Delhi in 2010.

A much smaller, but potentially lucrative niche market is Singapore. We are also keeping an eye on Vietnam and some other markets around the world that may present opportunities.

ABM: Anything else you would like to add?

WOLF: I believe Alaska has a bright future. We are fortunate to be at the right time in history, in the right place geographically, and with the right type of exports—valuable natural resources—that the world so badly needs for growth and prosperity. If we can develop our vast supply of resources, our best days may still lie ahead of us. □



World Trade Center Alaska is a private, non-profit membership organization providing international trade and business services to members and community partners across the state. The mission of WTCAL is to assist Alaskans to successfully compete for trade and investment in the global market place.

The Center pursues this mission through five core functions:

Trade Capacity help Alaska companies to become export ready through information, seminars, conferences and other technical assistance.

Trade Development research foreign markets and identify trade opportunities for Alaska companies.

Trade Service support Alaska companies with the information and hands-on assistance needed to make trade happen. Connect Alaska sellers with overseas buyers.

Trade Facility make available office and conference room setting to facilitate business meetings and events.

Trade Network provide members with access to facilities and support in more than 300 cities around the world.



How Are We Doing So Far? What Others Say About World Trade Center Alaska.



Dennis L. Mitchell - Vice President Oil and Gas, Lynden International

Lynden International has been a member of the World Trade Center Alaska for 25 years. They provide timely and relevant information regarding Alaska's role in international trade and assist many companies in finding the right path when navigating this arena. Our involvement has led to many valuable business contacts both in Alaska and internationally which has enhanced our opportunities. We encourage businesses with an interest in expanding to international markets to become a member of WTCAK and discover the benefits of being a part of this dynamic group.

Richard Strutz - Regional President, Wells Fargo Bank Alaska



Understanding our customers' international trade needs is of paramount importance to Wells Fargo, and World Trade Center Alaska connects us with the resources to stay well informed about pertinent economic trade issues impacting Alaska. World Trade Center Alaska has helped us develop long-term relationships with Alaskan businesses that are just entering the global marketplace or expanding their horizons. We look forward to continuing our membership with WTC Alaska and working with them to advocate for Alaskan businesses. Congratulations to World Trade Center Alaska for 25 years of connecting Alaskan businesses with the global marketplace!



Gregory Galik - Founder & Chairman, Alaska Brands Group, Anchorage

I discovered the value of membership in the World Trade Center Alaska over ten years ago. Through my business career, and several business endeavors, World Trade Center Alaska has been vital to connecting and selling in markets worldwide. Now our business depends on WTCAK to help us expand and reach the world with our Premium Glacial Water business. The assistance Greg and his staff has provided is priceless, and their association with the U.S. Department of Commerce and other trade organizations have provided welcome introductions and 'deal-flow' for us. No matter your enterprise, product or service, if you are planning to do business in foreign markets, I encourage you to become a member of World Trade Center Alaska. You'll find that membership a valuable second Passport that will open doors for you!

Bill Brophy - Vice President, Customer Relations, Usibelli Coal Mine, Inc.



Usibelli Coal Mine (UCM) is proud to have been a member of World Trade Center Alaska (WTCAK) for many years. Over the years, UCM and WTCAK have successfully partnered to market Alaska coal to a variety of international customers on the Pacific Rim. The management team at WTCAK possesses the talent and expertise to prosper business relationships for international trade missions abroad. They continue to develop strategic plans and conduct market surveys that foster great relationships with allied countries. It is a great pleasure to applaud the great work at WTCAK as we celebrate their 25th Anniversary.



Angelina Skowronski - Marketing Development, The Auction Block Co.

The Auction Block Co., a locally-owned Homer-based seafood company, has worked with WTCAK for a number of years. This last year was my first personal experience with the organization and I was delightfully impressed with their work. Our goal was to expand our markets to Europe and it could not have been so smoothly attained if not for the aid of Alex Salov and the WTCAK team. They helped us in every corner of the process from linking us with the appropriate contacts abroad to answering my many travel and visa questions. They were effective communicators, professional, and met every interaction with great enthusiasm and genuine care. It was a true pleasure working with them. We are greatly appreciative for their hard work put forth.

Samuel Pelant - Managing Director, PolyEarth Construction International, LLC



PolyEarth Construction International is a small Alaska-based company that has successfully prosecuted projects in the Middle East and Mediterranean regions. With an interest in finding available opportunities in South Asia, PolyEarth approached World Trade Center Alaska for help. With World Trade Center Alaska's help, and through their excellent South Asian regional network connections, we have developed key relationships that we are using to create some new and very exciting export items from Alaska to South Asia. We could not have done this efficiently and effectively without the support we received from World Trade Center Alaska. When it comes to supporting the export of Alaskan goods and services, World Trade Center Alaska is truly a World Class organization!



Ryan B. Gilbert - Business Advisor and International Trade Specialist, Alaska Small Business Development Center

Greg Wolf and his staff at the World Trade Center Alaska apply their expertise where it matters, while their professional relationships throughout the world put global commerce at the fingertips of all Alaskan businesses. I had the pleasure of accompanying WTCAK on the 2011 China Trade Mission and witnessed, first hand, the unparalleled value of their connectedness.