



# Gas Strategies & Portfolios

Anchorage, AK  
August 5-9, 2013

North Slope Gas & LNG Symposium

# Executive Summary

- Four companies are actively participating in commercial discussions to commercialize Alaskan gas via a liquefaction project:
  - ExxonMobil
  - BP
  - ConocoPhillips
  - TransCanada
- While it is clear that these companies have an incentive to make their Alaskan gas reserves productive, it is less certain how Alaskan gas commercialization fits into their global business strategies

# Legacy of LNG Commercialization Experience

## ExxonMobil, BP, ConocoPhillips

- ✓ **Large Balance Sheet**

- Varying degrees of financial health and focus

- ✓ **LNG Project Experience**

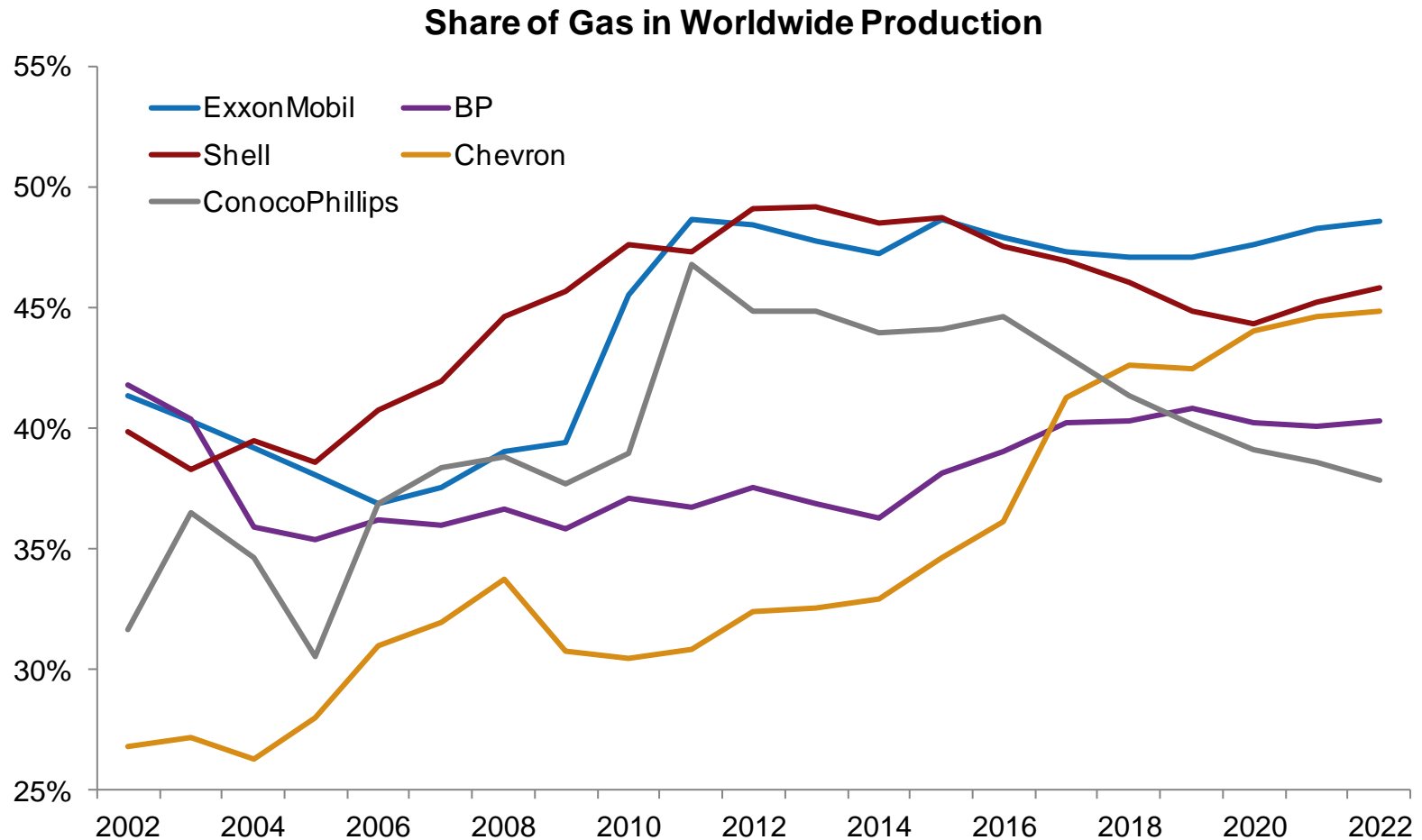
- Different project structures, operating environments and levels of equity involvement

- ✓ **LNG Marketing Experience**

- Different volume levels and end markets

- *The big question is not can they execute, but will they execute*

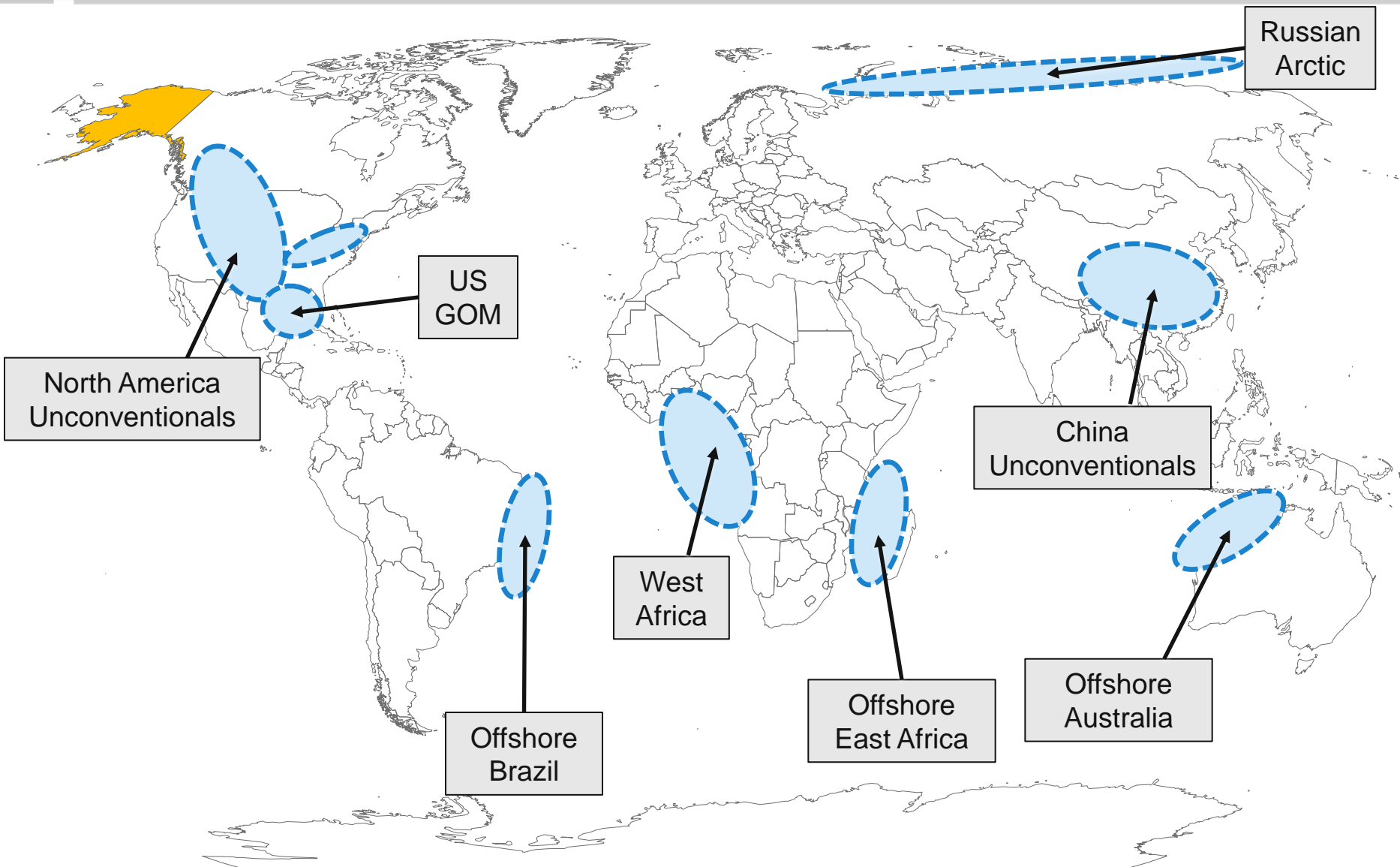
# Gas Increasingly Underpins Production Growth



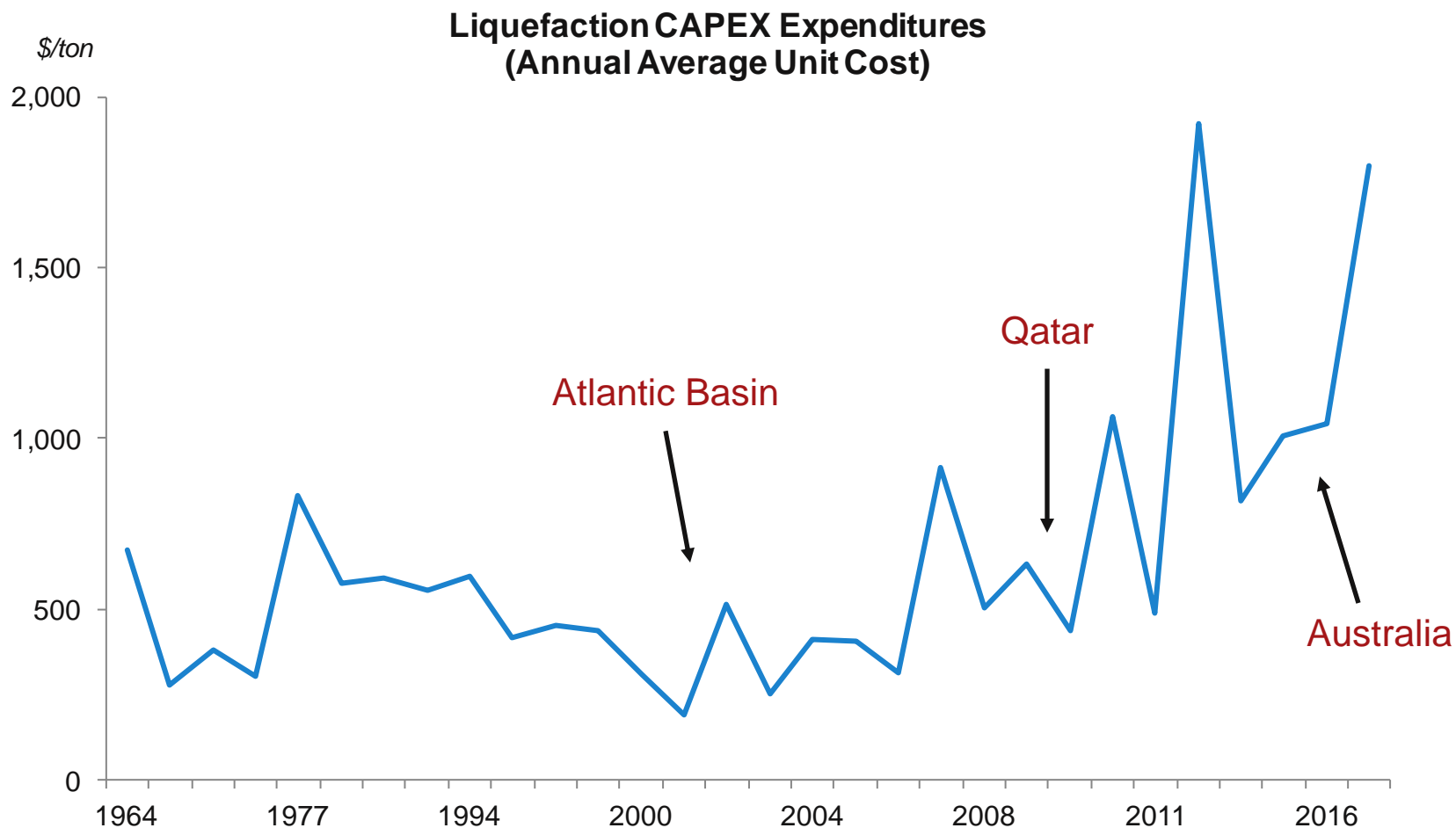
# Company Perspective: Not Just Alaska Upstream



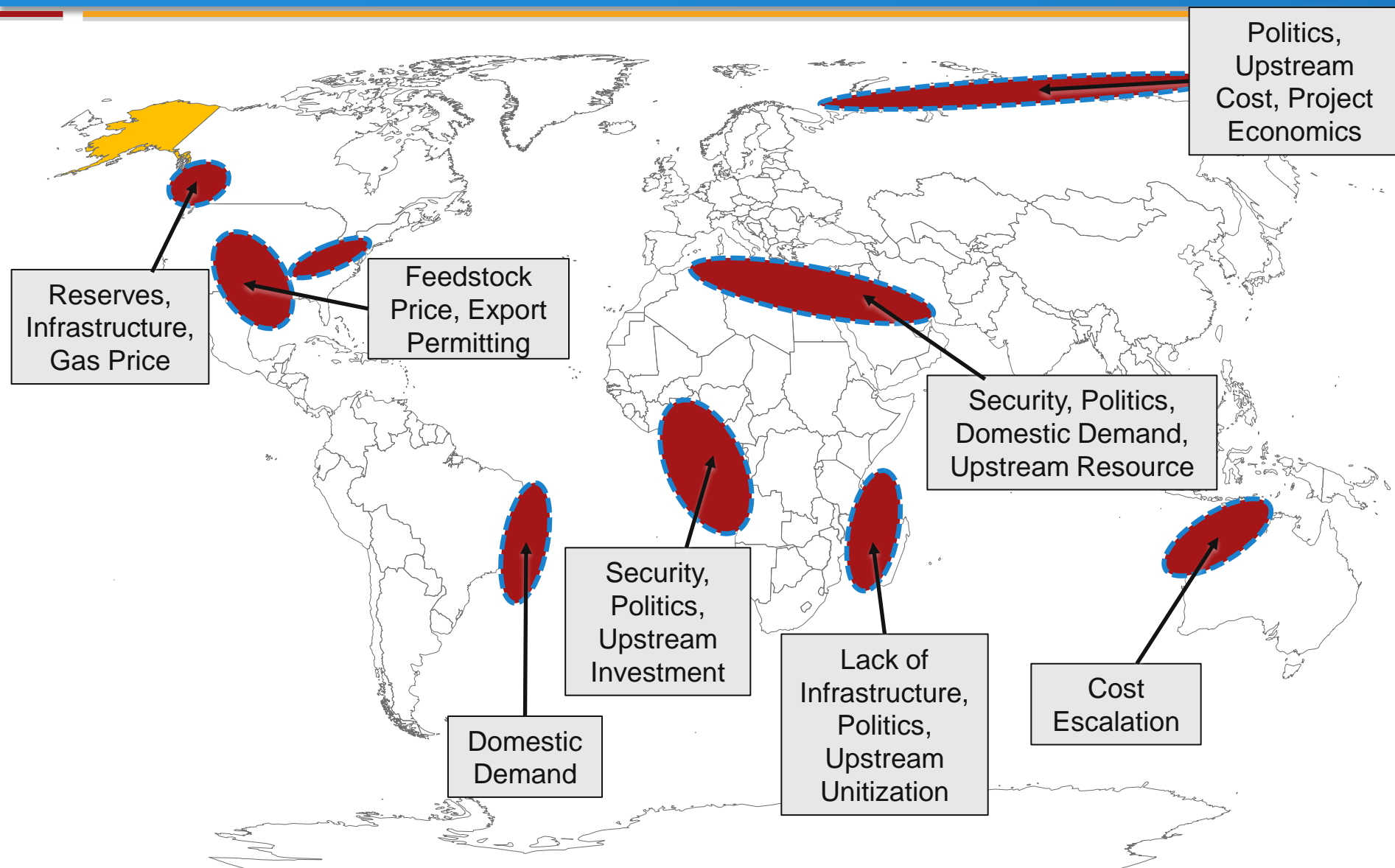
# Company Perspective: Global Upstream Opportunity Cost



# Company Perspective: Rising Cost of Liquefaction



# Company Perspective: LNG Project Risk





# ExxonMobil: Company Overview

	ExxonMobil	BP	ConocoPhillips
Headquarters	Irving, Texas	London, England	Houston, Texas
Employees	99,100	85,900	17,000
2011 Reserves	24,922 mmboe	17,750 mmboe	8,387 mmboe
2012 Production	4,239 mboe/d	3,282 mboe/d	1,578 mboe/d
Prod. Growth (2009-12)	2.6% CAGR	-5.98% CAGR	-11.6% CAGR
Market Cap (July 2013)	\$417 bn	\$133 bn	\$79 bn
Avg. CAPEX (2009-12)	\$33 bn	\$25 bn	\$11 bn

- Largest of the global upstream players
- One of the largest IOC equity liquefaction portfolios
  - Existing: 15.2 mmtpa of net equity liquefaction capacity from 2 projects
  - Under Construction: 6.2 mmtpa of net equity liquefaction capacity
- Strategic signature
  - Upstream growth based on scale, basin dominance, and execution excellence
  - Superior returns through project management efficiencies

# Is Alaskan LNG a good fit?

- **Corporate Strategy**

- How does the company achieve success in the eyes of shareholders?

- **Upstream Portfolio**

- Is Alaskan gas production a relatively attractive option for pursuing upstream production growth?

- **Willingness to allocate capital to an Alaskan LNG project**

- How does Alaskan LNG compare to other LNG projects in the company's project queue?

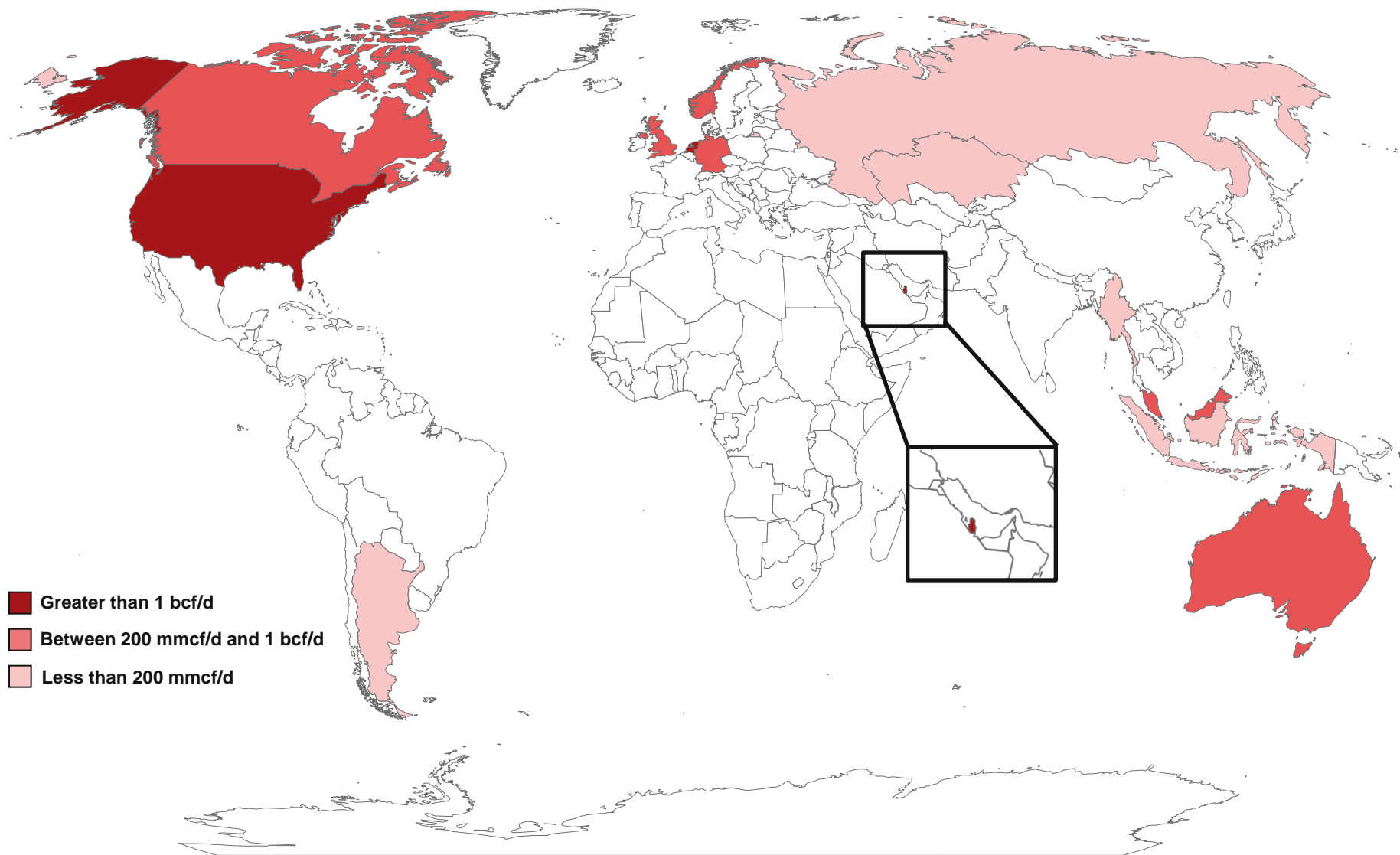
# ExxonMobil: Upstream Overview

	Country	2012 (mboe/d)
Core	United States	1,055
	Qatar	863
	Netherlands	314
	Canada	305
	Nigeria	296
	Norway	278
Focus	Kazakhstan	126
	Angola	120
	Australia	106
	Russia	53
	Indonesia	27
	Papua New Guinea	5
New Venture	Iraq	34
	Argentina	6
	China	
	Colombia	
	Rep. of Congo	
	Greenland	
	Guyana	
	Ireland	
	Madagascar	
	Poland	
	Romania	
	Tanzania	
	Turkey	
	Vietnam	

	Country	2012 (mboe/d)
Harvest	United Arab Emirates	291
	Malaysia	103
	Germany	81
	United Kingdom	71
	Equatorial Guinea	38
	Chad	36
	Azerbaijan	30
	Thailand	3

	Country	2012 (mboe/d)
Exit/Potential Exit	Brazil	
	Cameroon	
	Italy	
	Libya	
	Philippines	
	Yemen	

# ExxonMobil: Gas Production by Country (2012)



# ExxonMobil: LNG vs. Gas Commercialization (2012)

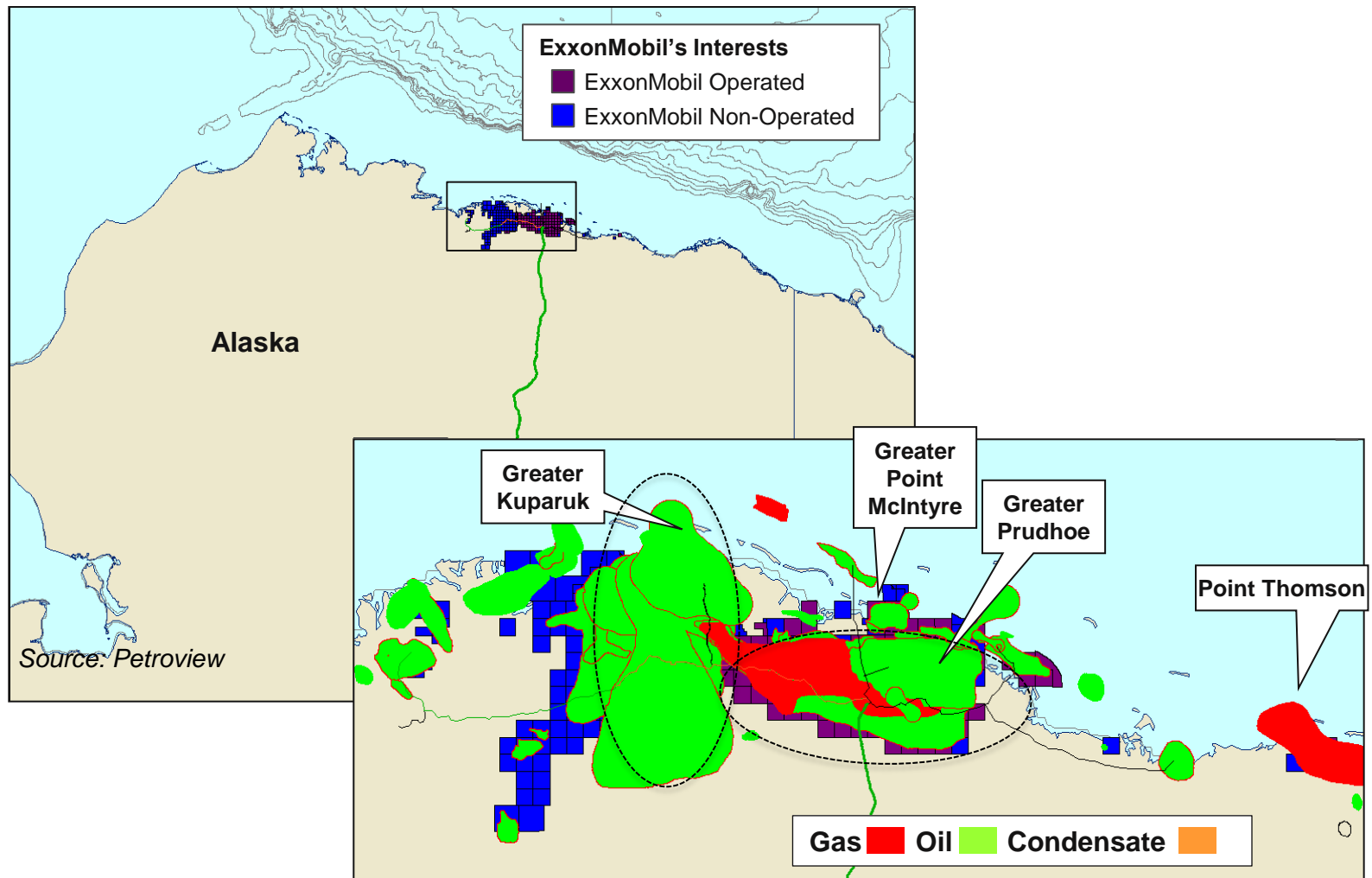
## *LNG Gas Commercialization*

Country	Production (mmcf/d)
Qatar	3,835
Indonesia	131
Nigeria	17

## *Domestic Market or Pipeline Export Commercialization*

Country	Production (mmcf/d)
United States	3,822
Netherlands	1,841
Norway	605
Germany	468
Malaysia	376
Australia	363
Canada	324
United Kingdom	306
Kazakhstan	120
Russia	57
Argentina	38
Thailand	19

# ExxonMobil: Alaska Upstream



# ExxonMobil: Alaska Upstream (continued)

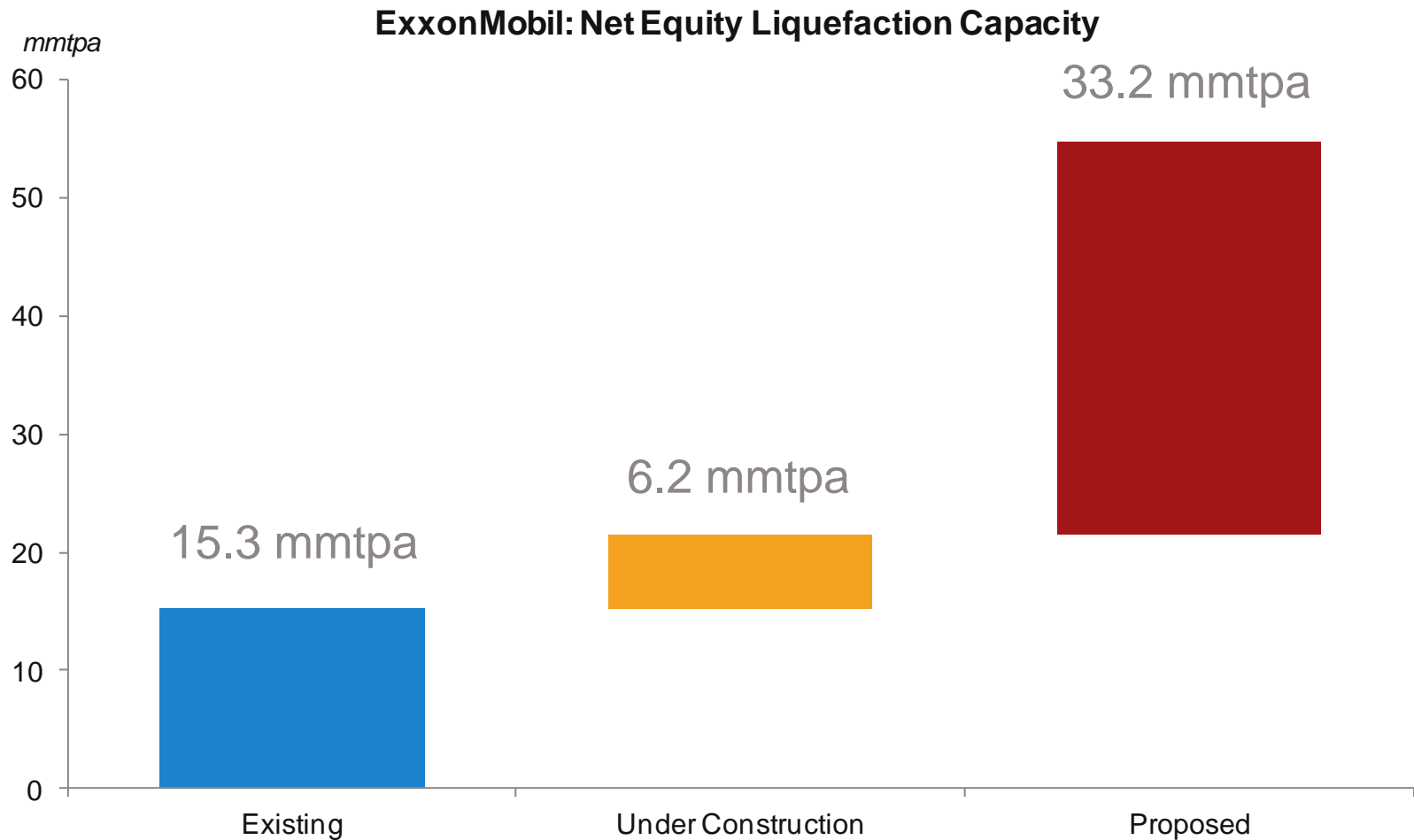
- PFC Energy considers Alaska a material **harvest area** for ExxonMobil
  - “Harvest Areas” produce positive net cash flow, but due to lack of geological potential or other upside and/or competitive factors, investment activity is typically at replacement/minimum levels.
- The company is one of the largest North Slope producers, the largest holder of discovered gas resources on the North Slope, and a co-operator of the Prudhoe Bay Western Region development
- ExxonMobil’s North Slope production is in decline
- In 2009, ExxonMobil announced it would participate in a pipeline project with TransCanada to compete with the Denali pipeline
- Maintaining and growing upstream investment increasingly hinges on a gas commercialization/export scheme

# ExxonMobil: Alaska within Upstream Outlook

- The maturing of ExxonMobil's producing portfolio in Qatar, UAE, and West Africa is expected to result in declines in portfolio production over the next two years. In the medium to long term, however, new growth areas are projected to reverse this downward trend. These include:
  - **US Onshore Unconventional Gas and Liquids:** The 2010 acquisition of XTO and follow on land and corporate acquisitions catapulted ExxonMobil into a leading position in the North American unconventional resource play.
  - **Oil Sands:** ExxonMobil (through subsidiary Imperial Oil) holds stakes in the Syncrude, Kearl, and Cold Lake projects, which provide strong, sustained production growth.
  - **LNG:** Similar to oil sands, these large scale, long life projects are key to the continued success of an ExxonMobil Upstream strategy based on efficiency excellence.



# ExxonMobil: LNG Overview



# ExxonMobil: Existing and Under-Construction LNG Projects

## *Existing Liquefaction Capacity*

Country	Project	Trains	Status	Start Date	Net Equity Capacity (mmtpa)
Qatar	Qatargas I	T1-3	Existing	1997, 1998	1.0
Qatar	Qatargas II	T1-2	Existing	2009	3.8
Qatar	RasGas I	T1-2	Existing	1999, 2000	1.7
Qatar	RasGas II	T1-3	Existing	2004, 2005	1.4
Qatar	RasGas III	T1-2	Existing	2007, 2009	6.1

## *Under-Construction Liquefaction Capacity*

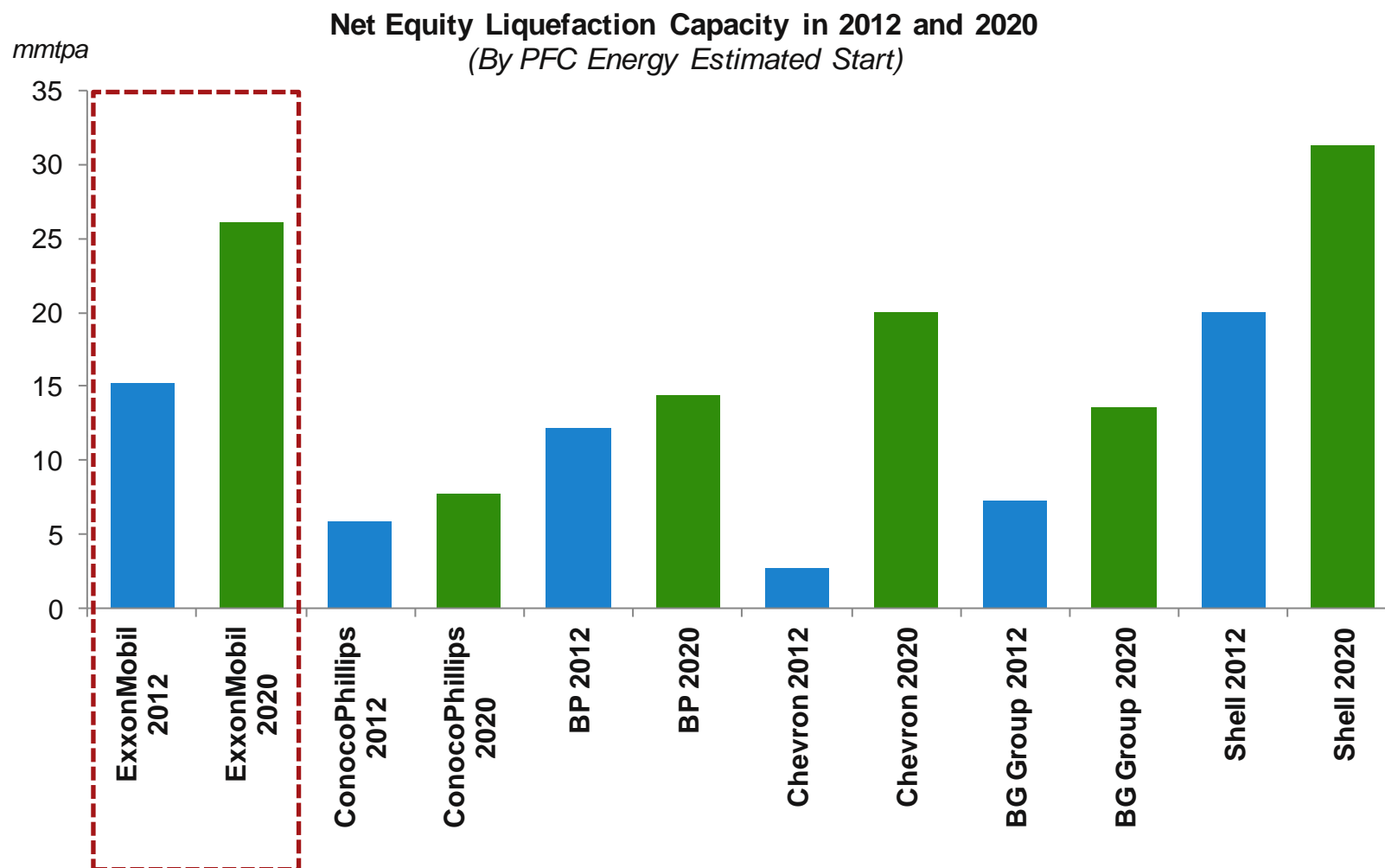
Country	Project	Trains	Status	Start Date	Net Equity Capacity (mmtpa)
Papua New Guinea	PNG LNG	T1-2	Under Construction	2014, 2015	2.3
Australia	Gorgon LNG	T1-3	Under Construction	2015, 2016	3.9

# ExxonMobil: Proposed LNG Projects

## *Proposed Liquefaction Capacity*

Country	Project	Total Trains	Status	Gross Capacity (mmtpa)
Australia	Gorgon LNG	1	Proposed	5.2
Papua New Guinea	PNG LNG	1	Proposed	3.5
Australia	Scarborough LNG	1	Proposed	6.5
Tanzania	Tanzania LNG	2	Proposed	10.0
Canada	West Coast Canada LNG	3	Proposed	15.0
United States	Golden Pass LNG	3	Proposed	15.6
United States	Alaska South Central LNG	3	Proposed	18.0

# ExxonMobil: Net Equity Liquefaction Benchmark



# ExxonMobil: Is Alaskan LNG a good fit?

- **Corporate Strategy**

- Upstream growth based on scale, basin dominance, and execution excellence
- Superior returns through project management efficiencies

- **Upstream Portfolio**

- XTO's unconventional upstream portfolio is gas heavy and therefore highly exposed to Henry Hub pricing
- Canadian Oil Sands

- **Willingness to allocate capital to an Alaskan LNG project?**

- PFC Energy expects brownfield expansions at Gorgon LNG and PNG LNG
- Golden Pass LNG would allow ExxonMobil to enhance the value of its gas production in the Lower 48

# BP: Company Overview

	ExxonMobil	BP	ConocoPhillips
Headquarters	Irving, Texas	<b>London, England</b>	Houston, Texas
Employees	99,100	<b>85,900</b>	17,000
2011 Reserves	24,922 mmboe	<b>17,750 mmboe</b>	8,387 mmboe
2012 Production	4,239 mboe/d	<b>3,282 mboe/d</b>	1,578 mboe/d
Prod. Growth (2009-12)	2.6 CAGR	<b>-5.98 CAGR</b>	-11.6% CAGR
Market Cap (July 2013)	\$417 bn	<b>\$133 bn</b>	\$79 bn
Avg. CAPEX (2009-12)	\$33 bn	<b>\$25 bn</b>	\$11 bn

- Global integrated company
  - Second-largest company by production in the majors peer group after ExxonMobil
- Equity liquefaction portfolio is large, but limited growth horizon
  - Existing: 12.8 mmtpa of net equity liquefaction capacity from 4 projects
  - Commissioning: 0.7 mmtpa of net equity capacity
- Strategic signature
  - Portfolio rationalization in response to Deepwater Horizon oil spill; gravitating toward higher-risk, less certain, but potentially more material future growth opportunities

# Is Alaskan LNG a good fit?

- **Corporate Strategy**

- How does the company achieve success in the eyes of shareholders?

- **Upstream Portfolio**

- Is Alaskan gas production a relatively attractive option for pursuing upstream production growth?

- **Willingness to allocate capital to an Alaskan LNG project?**

- How does Alaskan LNG compare to other LNG projects in the company's project queue?

# BP: Upstream Operations Overview

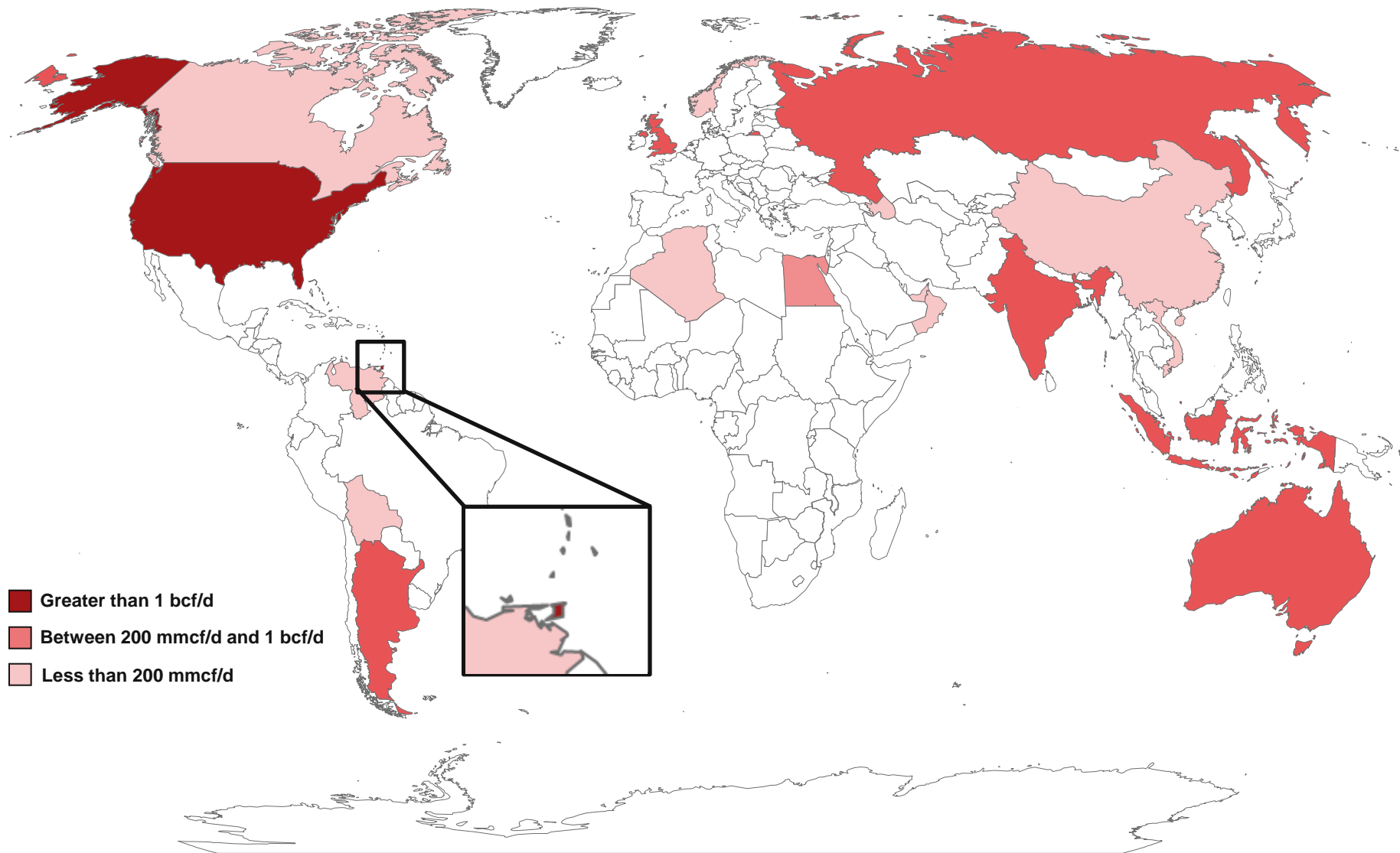
	Country	2012 (mboe/d)
Core	Russia	985
	United States	665
	Trinidad & Tobago	371
	United Arab Emirates	222
	Angola	149
	Egypt	119
Focus	Azerbaijan	118
	Australia	97
	Indonesia	74
	India	52
	Iraq	39
	Algeria	32
New Venture	Norway	24
	China	9
	Bolivia	9
	Brazil	7
	Canada	3
	Oman	2
	Jordan	
	Libya	
	Namibia	
	Ukraine	
	Uruguay	

	Country	2012 (mboe/d)
Harvest	United Kingdom	155
	Venezuela	15
	Vietnam	8

	Country	2012 (mboe/d)
Exit/Potential Exit	Argentina	124
	Chile	
	Colombia	
	Pakistan	



# BP: Gas Production by Country (2012)



# BP: LNG vs. Gas Commercialization (2012)

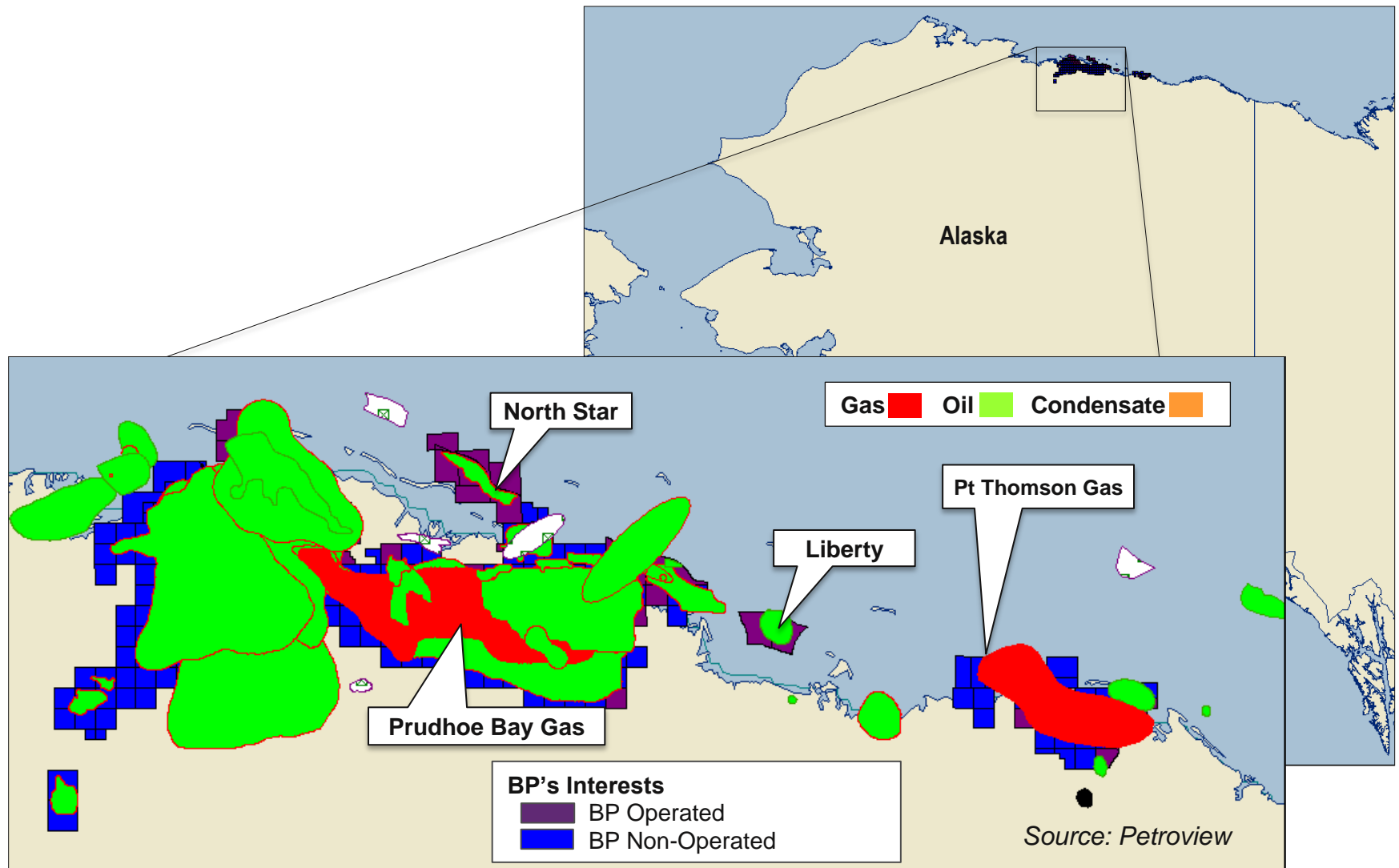
## *LNG Gas Commercialization*

Country	Production (mmcf/d)
Trinidad & Tobago	2,097
Indonesia	437
Australia	435
Algeria	120
United Arab Emirates	35

## *Domestic Market or Pipeline Export Commercialization*

Country	Production (mmcf/d)
United States	1,651
Russia	734
Egypt	470
United Kingdom	414
Argentina	355
India	313
Azerbaijan	158
China	54
Vietnam	46
Bolivia	45
Oman	14
Canada	13
Norway	8

# BP: Alaska Upstream



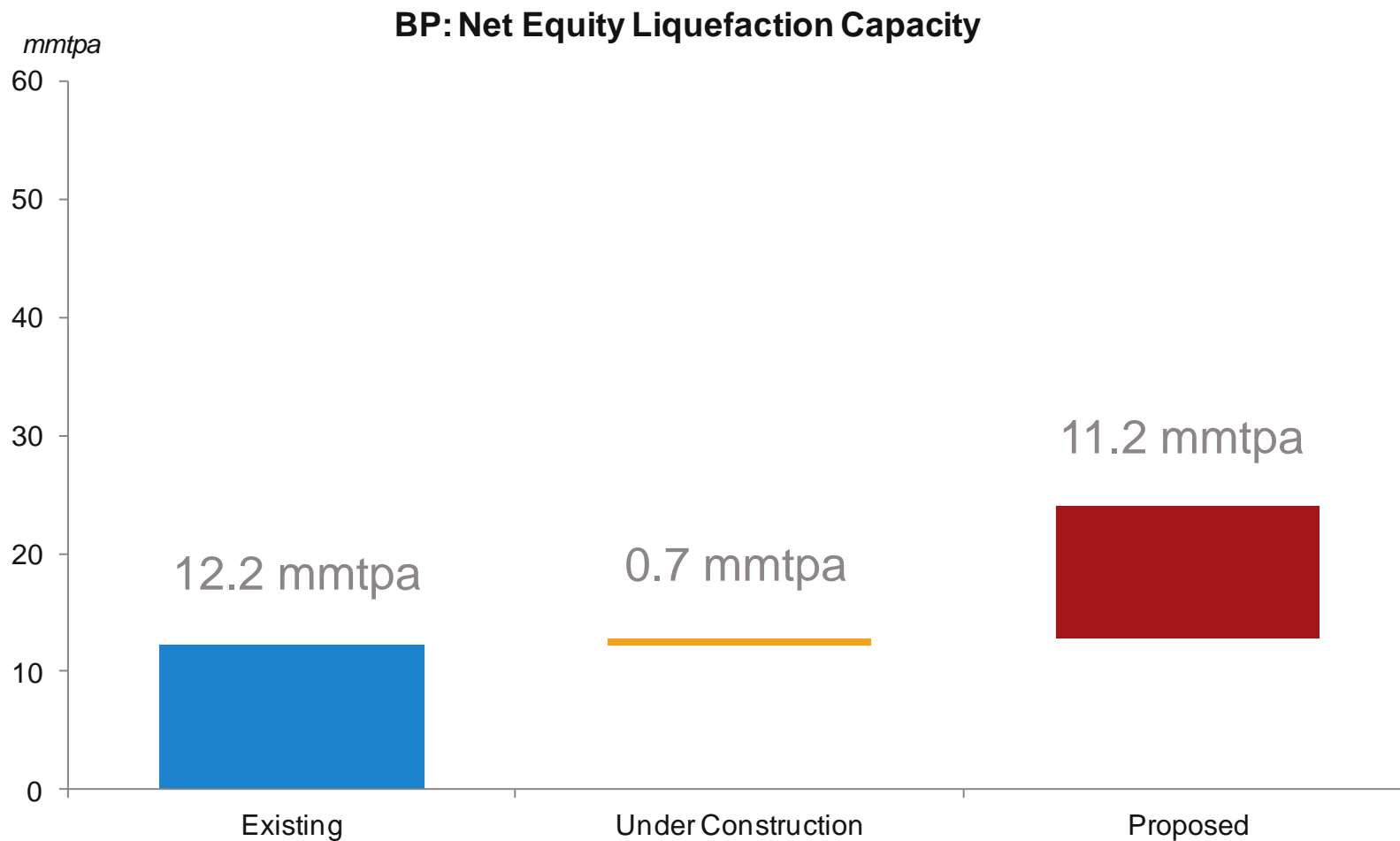
# BP: Alaska Upstream (continued)

- PFC Energy considers Alaska a material **harvest area** for BP
  - Asset concentration on the North Slope, where production volumes have generally declined because of the maturity of the asset base and/or gas infrastructure constraints
- Significant potential lies in the long-term commercialization of Prudhoe Bay and Point Thomson gas resources
  - BP's largest source of production is the Greater Prudhoe Area (26% working interest, operated), covering ~150,000 acres with more than 1,000 active wells.
- BP and ConocoPhillips withdrew the 4-bcf/d Denali pipeline proposal in May 2011, citing the lack of long-term purchase contracts.

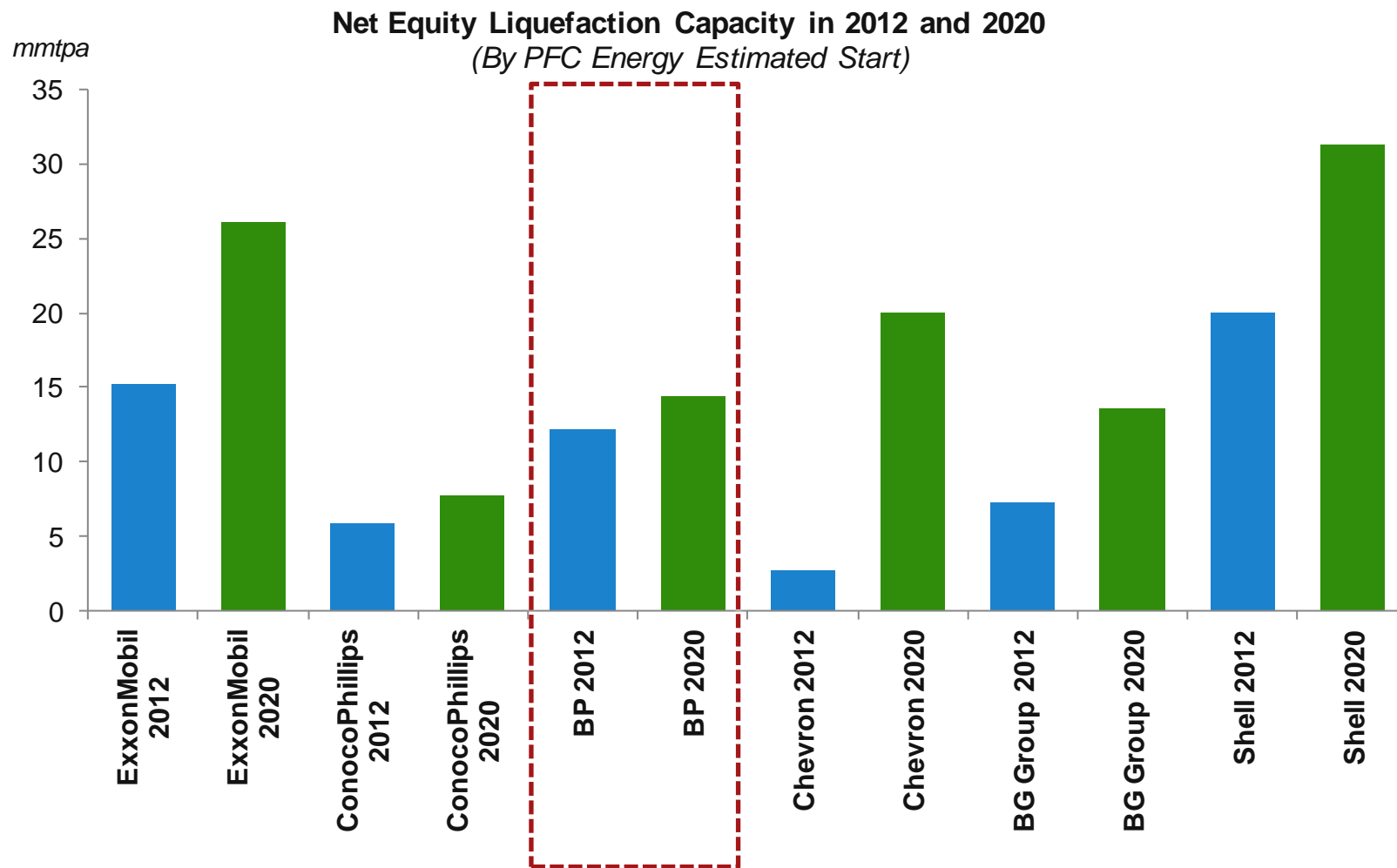
# BP: Alaska within Upstream Outlook

- Post-Macondo portfolio rationalization program (~\$28 bn in asset sales and ~\$17 bn in GOM production allocation to Macondo fund) completed in 2013. The result is a pared down and more focused geographic portfolio.
- Shah Deniz II and Trans Adriatic Pipeline (TAP) gas project
- Executing on a 3-pronged growth strategy:
  - **Deepwater Basins:** US GOM, Angola, Egypt, Brazil
  - **Global Gas:** Azerbaijan, US, Trinidad & Tobago, North Sea
  - **Giant Oil Fields:** Alaska, Iraq, others

# BP: Liquefaction Overview



# BP: Net Equity Liquefaction Benchmark



# BP: Liquefaction Overview (continued)

## *Existing Liquefaction Capacity*

Country	Project	Trains	Status	Start Date	Net Equity Capacity (mmtpa)
United Arab Emirates	ADGAS LNG	T1-3	Existing	1977, 1994	0.4
Australia	North West Shelf	T1-5	Existing	1989, 1992, 2004, 2008	2.7
Trinidad & Tobago	Atlantic LNG	T1-4	Existing	1999, 2002, 2003	6.1
Indonesia	Tangguh LNG	T1-2	Existing	2009	2.8

## *Under-Construction Liquefaction Capacity*

Country	Project	Trains	Status	Start Date	Net Equity Capacity (mmtpa)
Angola	Angola LNG	T1	Commissioning	2013	0.7



# BP: Liquefaction Overview (continued)

## *Proposed Liquefaction Capacity*

Country	Project	Total Trains	Status	Gross Capacity (mmtpa)
United Arab Emirates	ADGAS LNG T4	1	Proposed	3.2
Australia	Browse LNG	3	Proposed	12.0
Indonesia	Tangguh LNG T3-4	2	Proposed	7.6
United States	Alaska South Central LNG	3	Proposed	18.0

# BP: Is Alaskan LNG a good fit?

- **Corporate Strategy**

- Portfolio rationalization in response to Deepwater Horizon oil spill

- **Upstream Portfolio**

- The portfolio repositioning represents an exchange of secure production and proved reserves for higher-risk, less certain, but potentially more material future growth opportunities

- **Willingness to allocate capital to an Alaskan LNG project?**

- PFC Energy believes BP will be able to pursue expansion growth through Browse LNG and a brownfield expansion train at Tangguh LNG
- BP is not participating in a Lower 48 LNG export projects
- Significant capital commitment to Shah Deniz II and TAP gas pipeline project
- Focus on upstream growth may limit capital availability for large-scale midstream investment

# ConocoPhillips: Company Overview

	ExxonMobil	BP	ConocoPhillips
Headquarters	Irving, Texas	London, England	<b>Houston, Texas</b>
Employees	99,100	85,900	<b>17,000</b>
2011 Reserves	24,922 mmboe	17,750 mmboe	<b>8,387 mmboe</b>
2012 Production	4,239 mboe/d	3,282 mboe/d	<b>1,578 mboe/d</b>
Prod. Growth (2009-12)	2.6 CAGR	-5.98 CAGR	<b>-11.6% CAGR</b>
Market Cap (July 2013)	\$417 bn	\$133 bn	<b>\$79 bn</b>
Avg. CAPEX (2009-12)	\$33 bn	\$25 bn	<b>\$11 bn</b>

- Evolving from an integrated player to an exclusive focus on E&P
  - Production declined to ~1.5 mmboe/d level in 2012, but is expected to recover to 1.64-1.69 mmboe/d level by 2015
- Equity liquefaction portfolio is modest, but will grow by 77% by 2017
  - Existing: 4.4 mmtpa of net equity liquefaction capacity from 2 projects
  - Under Construction: 3.4 mmtpa of net equity liquefaction capacity
- Strategic signature
  - Downstream divestment encourages redefinition of gas strategy as leading E&P Indy

# Is Alaskan LNG a good fit?

- **Corporate Strategy**

- How does the company achieve success in the eyes of shareholders?

- **Upstream Portfolio**

- Is Alaskan gas production a relatively attractive option for pursuing upstream production growth?

- **Willingness to allocate capital to an Alaskan LNG project?**

- How does Alaskan LNG compare to other LNG projects in the company's project queue?

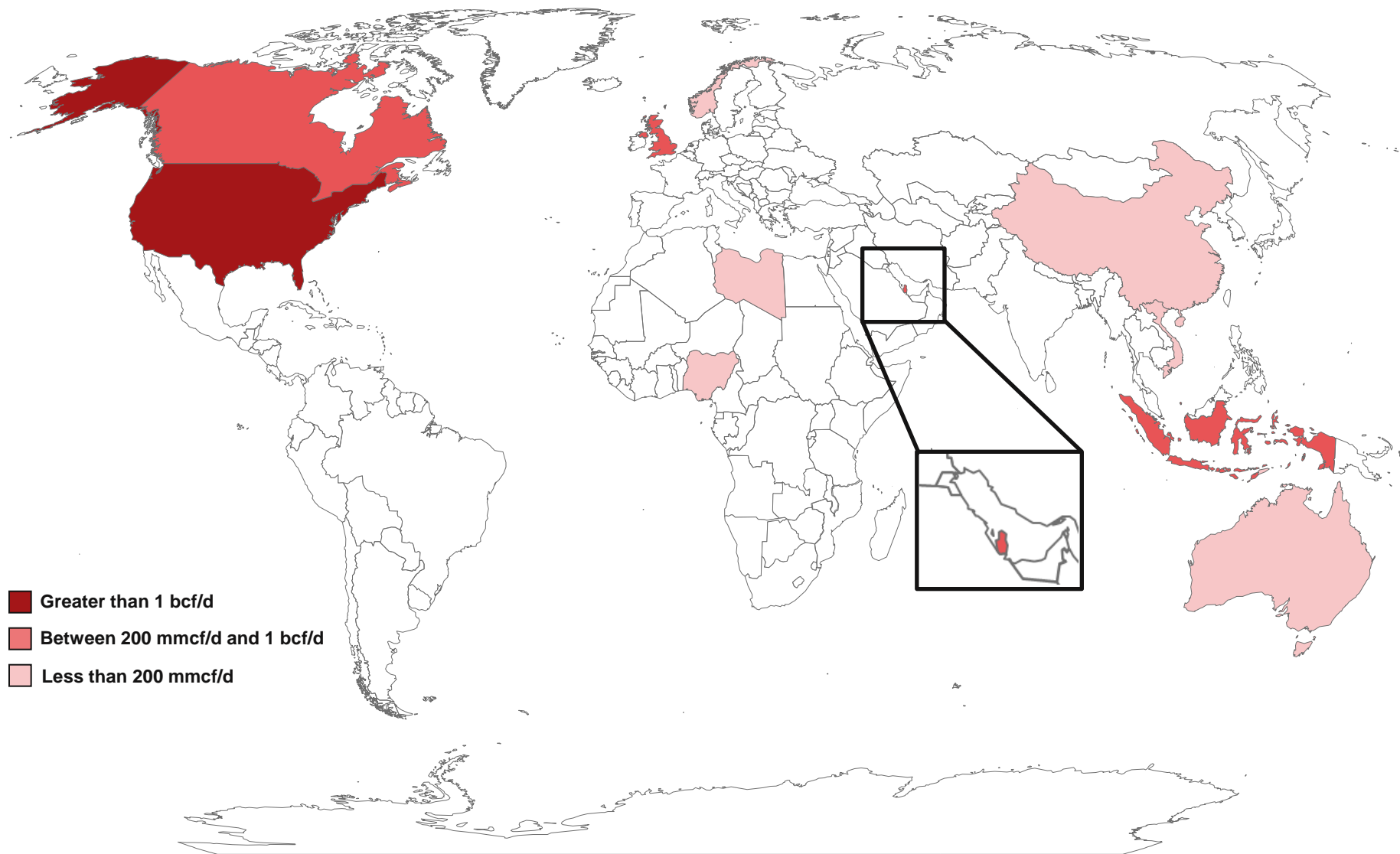
# ConocoPhillips: Upstream Operations Overview

	Country	2012 (mboe/d)
<b>Core</b>	United States	670
	Canada	273
	Norway	135
	United Kingdom	93
	Indonesia	87
	Qatar	84
<b>Focus</b>	Timor Leste/Australia	60
	Libya	43
	China	40
	Australia	25
	Malaysia	1
<b>New Venture</b>	Angola	
	Azerbaijan	
	Bangladesh	
	Brunei	
	Colombia	
	Greenland	
	India	
	Poland	

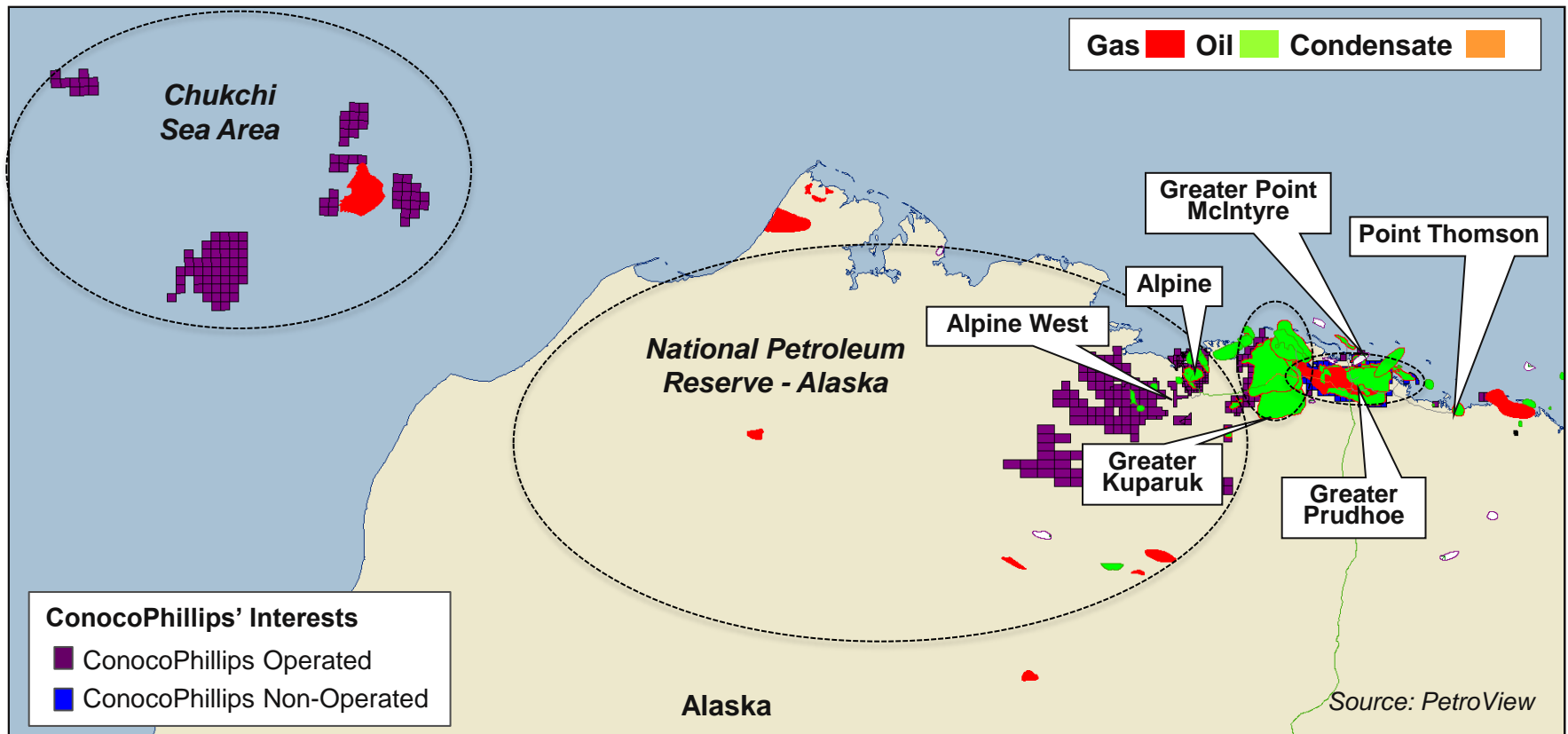
	Country	2012 (mboe/d)
<b>Harvest</b>		

	Country	2012 (mboe/d)
<b>Exit/Potential Exit</b>	Nigeria	41
	Russia	13
	Algeria	11
	Vietnam	3
	Kazakhstan	
	Peru	

# ConocoPhillips: Gas Production by Country (2012)



# ConocoPhillips: Alaska Upstream



# ConocoPhillips: Alaska Upstream (continued)

- PFC Energy considers Alaska a material **core area** for ConocoPhillips
  - ConocoPhillips is Alaska's largest oil and gas producer
  - Production from the mature Alaska portfolio has been in slow decline since the late 1980s. In 2011, net production from Alaska averaged 215 mb/d of oil and 61 mmcf/d of gas, accounting for ~35% of US production.
  - While ConocoPhillips has three primary gas fields in the Alaska region, Point Thomson (5% working interest, non-operated) remains the only potential new source development.
- BP and ConocoPhillips withdrew the 4-bcf/d Denali pipeline proposal in May 2011, citing the lack of long-term purchase contracts.
- ConocoPhillips will ultimately need expanded access to Asia gas markets in order to reverse the downward production trend in Alaska.



# ConocoPhillips: LNG vs. Gas Commercialization (2012)

## *LNG Gas Commercialization*

Country	Production (mmcf/d)
United States	1,548
Qatar	367
Australia	153
Nigeria	149

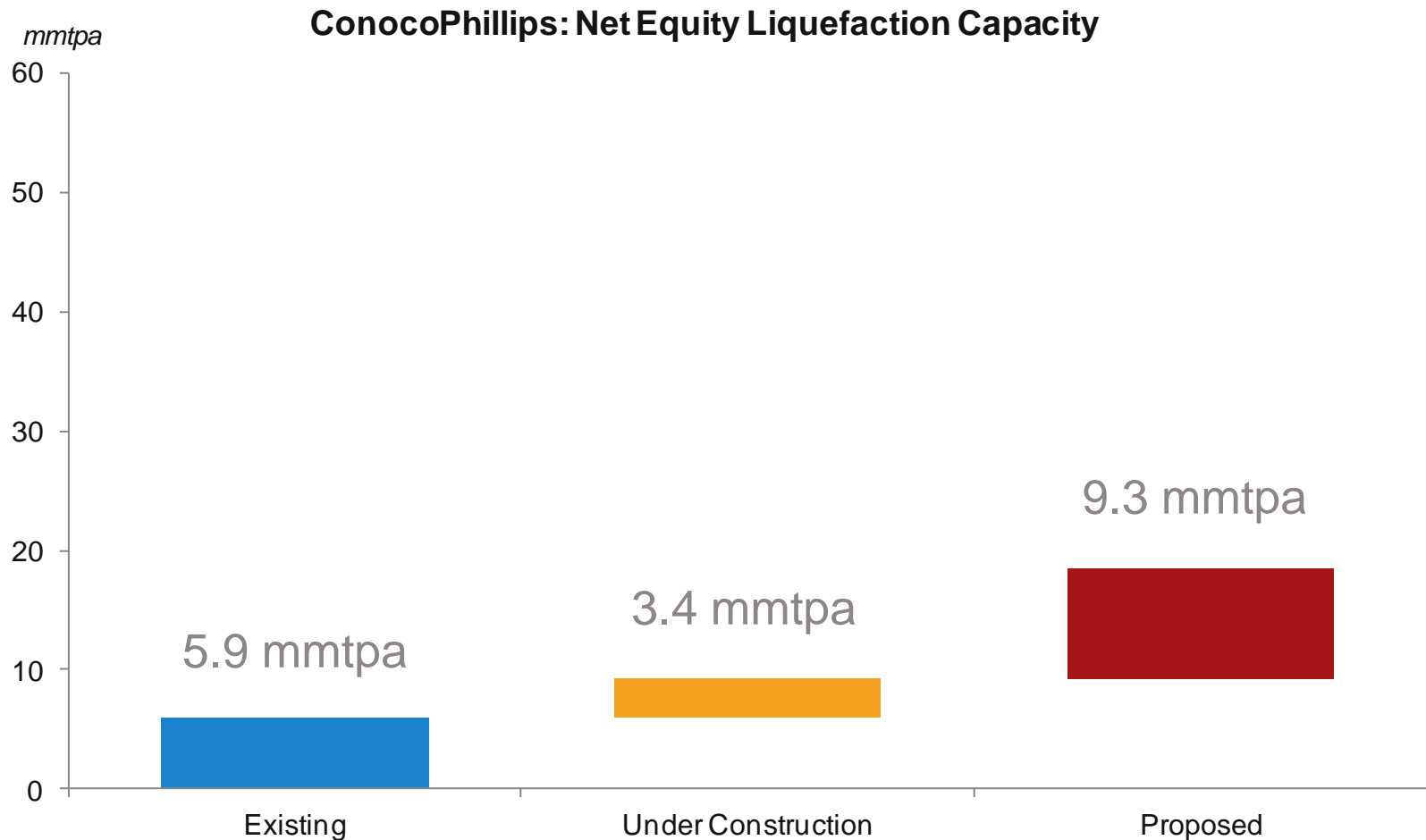
## *Domestic Market or Pipeline Export Commercialization*

Country	Production (mmcf/d)
Canada	857
Indonesia	437
United Kingdom	356
Timor Leste/Australia	195
Norway	160
Nigeria	149
Libya	18
China	3
Vietnam	2

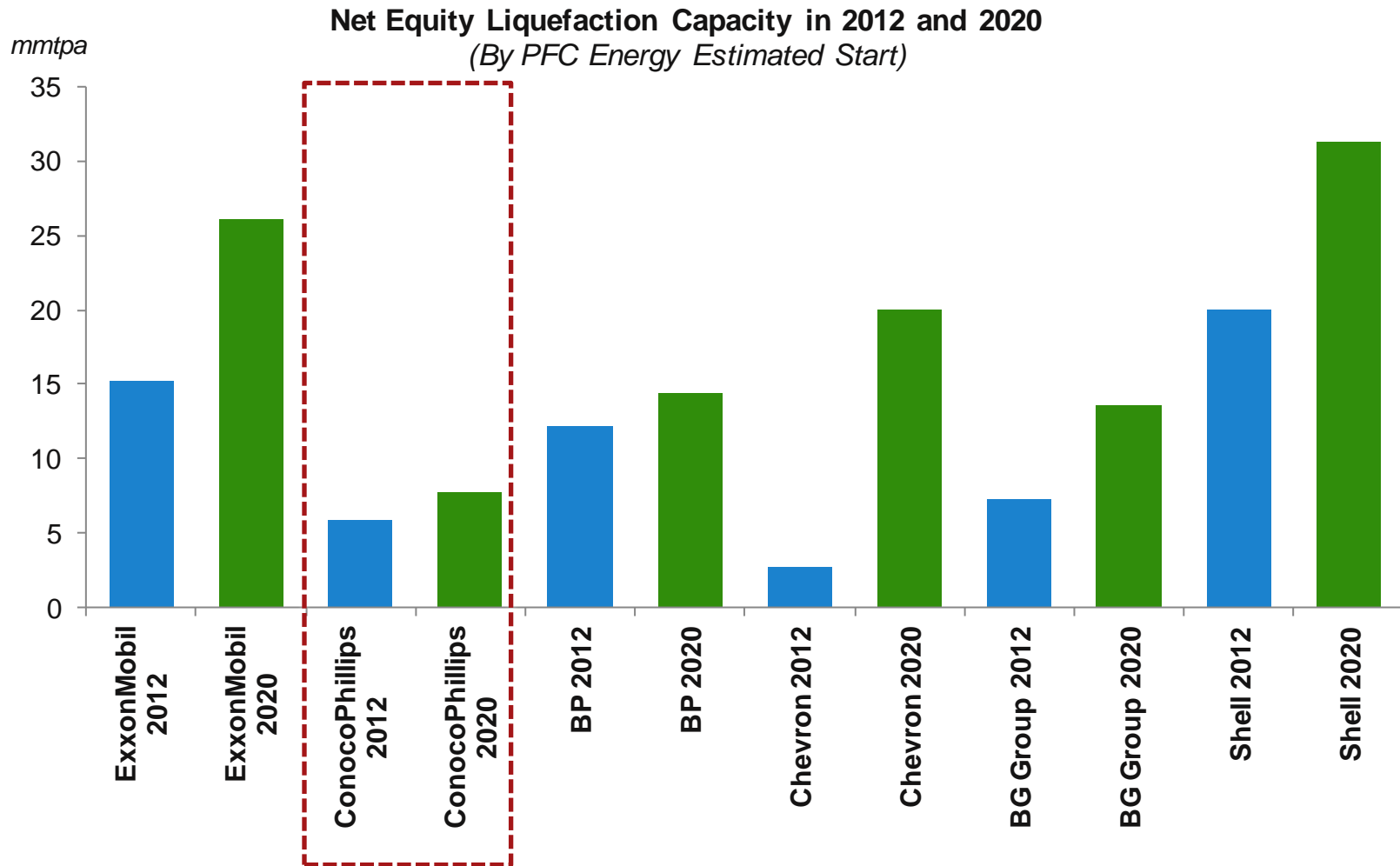
# ConocoPhillips: Growth Strategy

- Repositioned as the largest Independent E&P company by a considerable margin
  - Pressure to demonstrate production volume growth
- Sale of low margin, non-core (and largely non-OECD) assets
  - Production has fallen by 30% since 2009 (2,286 mboe/d to 1,610 mboe/d in 2011)
  - Existing new source developments basically keep pace with mature asset declines in the MENA, Europe, and RCA regions
  - Material net growth must come from North America and Asia Pacific
  - Alaska expected to continue to play prominent role within upstream portfolio

# ConocoPhillips: Liquefaction Overview



# ConocoPhillips: Net Equity Liquefaction Benchmark



# ConocoPhillips: Liquefaction Overview (continued)

## *Existing Liquefaction Capacity*

Country	Project	Trains	Status	Start Date	Net Equity Capacity (mmtpa)
Australia	Darwin LNG	T1	Existing	2006	2.1
Qatar	Qatargas III	T1	Existing	2010	2.3

## *Under-Construction Liquefaction Capacity*

Country	Project	Trains	Status	Start Date	Net Equity Capacity (mmtpa)
Australia	Australia Pacific LNG	T1-2	Under Construction	2015, 2016	3.4

# ConocoPhillips: Liquefaction Overview (continued)

## *Proposed Liquefaction Capacity*

Country	Project	Total Trains	Status	Gross Capacity (mmtpa)
Australia	Australia Pacific LNG T3-4	2	Proposed	9.0
Australia	ConocoPhillips Timor Sea FLNG (Floating)	1	Proposed	2.5
Australia	Darwin LNG T2	1	Proposed	3.6
Australia	Sunrise LNG (Floating)	1	Proposed	4.0
Nigeria	Brass LNG	2	Proposed	10.0
United States	Alaska South Central LNG	3	Proposed	18.0

# ConocoPhillips: Is Alaskan LNG a good fit?

- **Corporate Strategy**

- Does greenfield LNG commercialization remain part of strategic identity as E&P independent?

- **Upstream Portfolio**

- ConocoPhillips will look for the most efficient options to continue growing production.

- **Willingness to allocate capital to an Alaskan LNG project?**

- PFC Energy is not optimistic about the commercial merits of ConocoPhillips' other proposed brownfield and greenfield LNG projects.
- ConocoPhillips is not participating in a Lower 48 LNG project.
- Alaska's position as a core upstream production area for ConocoPhillips is a plus.

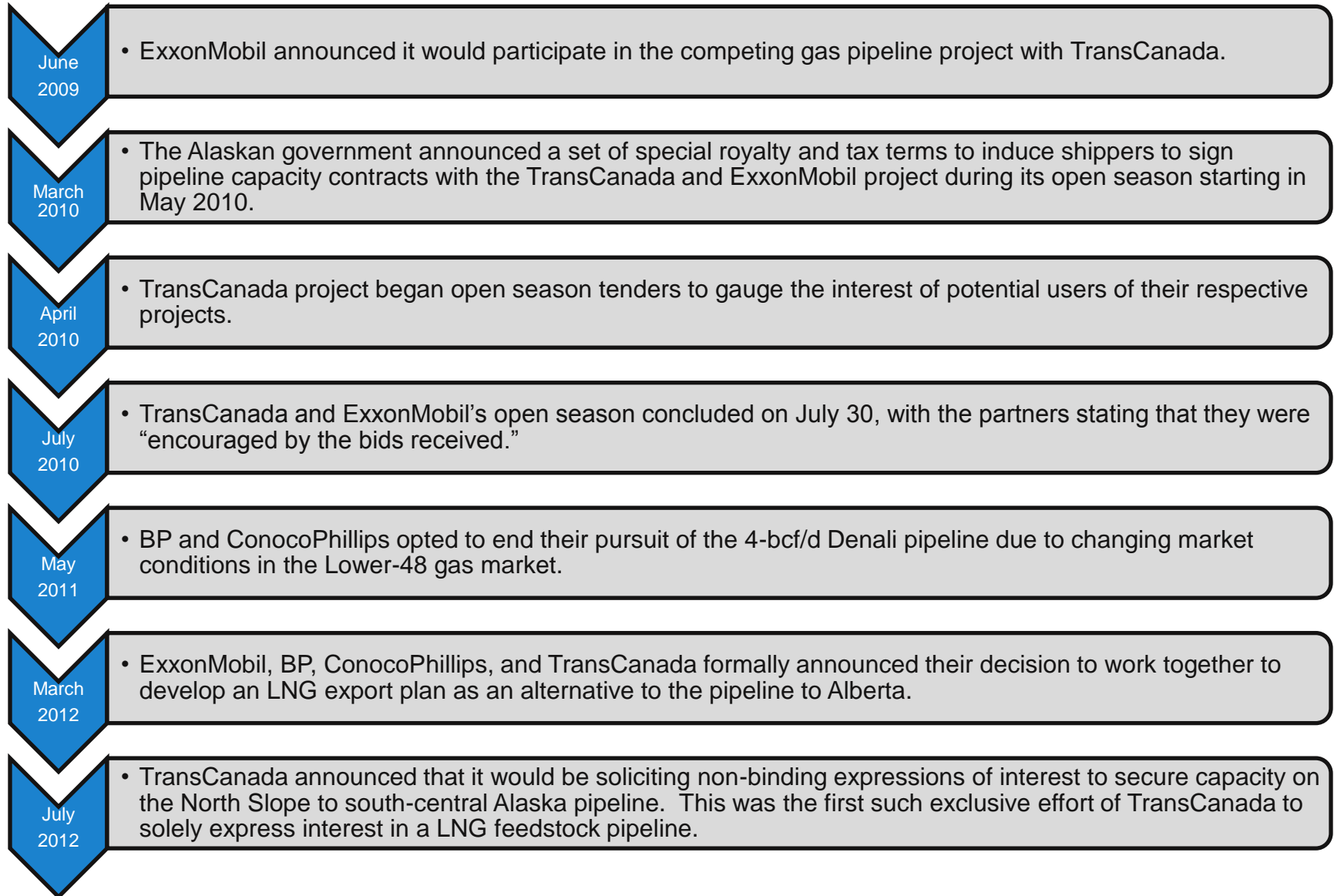
# TransCanada: Company Overview

Headquarters	Calgary, Canada
Employees	4,800
Natural Gas Pipelines	35,500 miles
Gas Storage	380 bcf
Market Cap (July 2013)	\$32 bn
Avg. CAPEX (2009-12)	\$3.5 bn

- TransCanada has proposed building an ~800 mile pipeline to deliver gas from the North Slope to a facility on Alaska's southern coast
  - Partnered with ExxonMobil to propose competitor pipeline to BP and ConocoPhillip's Denali pipeline
  - Originally proposed building a pipeline to connect into Lower 48 gas grid
- Strategic signature
  - Build pipeline infrastructure in North America to bring geographically isolated resources to market



# TransCanada Alaska Pipeline Project Timeline



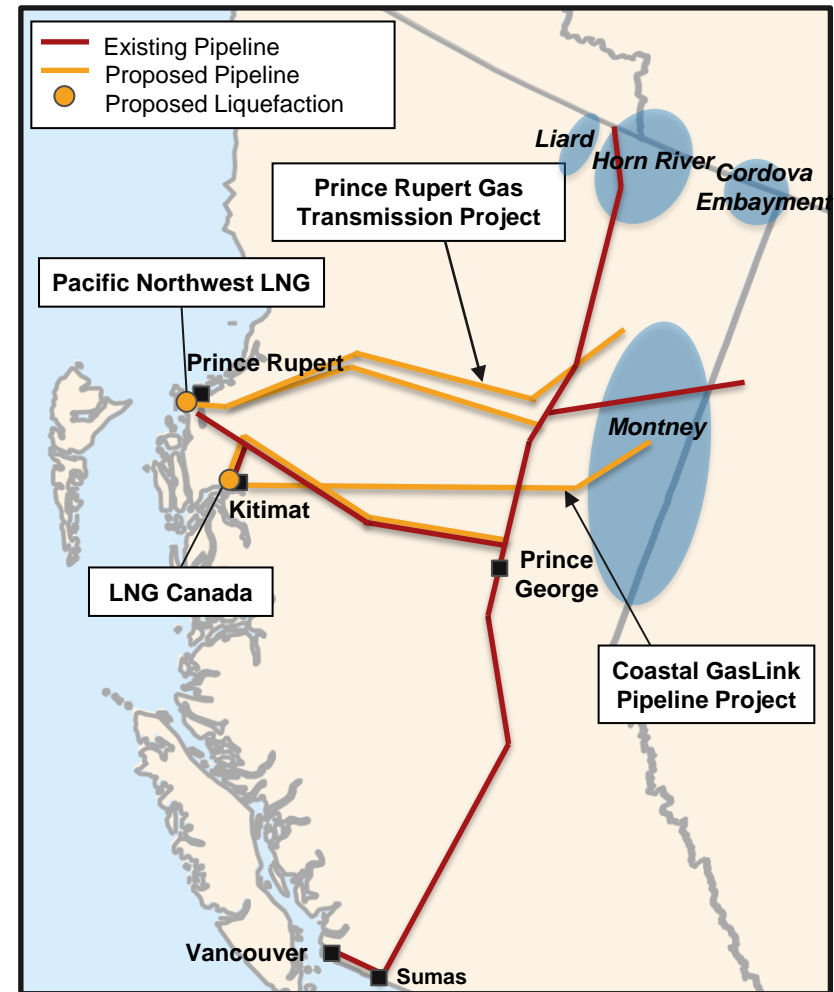
# TransCanada Pipeline Project Timeline (continued)

July  
2012

- ExxonMobil, ConocoPhillips, BP, and TransCanada submitted a letter to the Alaskan governor with a progress update on their proposed LNG facility, named Alaska South Central LNG. The partners estimated that an LNG development (including a pipeline from the North Slope) would cost \$45-\$65 bn.

# TransCanada: Other LNG-Related Activities

- Coastal GasLink Pipeline Project
  - The consortium developing the **LNG Canada** liquefaction project selected TransCanada to construct a 435-mile pipeline to deliver gas to the proposed project.
  - Shell, KOGAS, Mitsubishi and PetroChina are jointly developing LNG Canada.
- Prince Rupert Gas Transmission Project
  - Progress Energy, owned by Malaysia's PETRONAS, chose TransCanada to construct a 466-mile pipeline to deliver gas to the **Pacific Northwest LNG** project.
  - PETRONAS and Japex are jointly developing Pacific Northwest LNG.



# TransCanada: Priorities and Challenges

- Strong history of commercial partnerships with upstream gas producers in Canada for the development of midstream assets
- ExxonMobil, BP and ConocoPhillips will heavily rely on TransCanada to manage a cost-effective construction since the pipeline will greatly determine the project's level of economic success

# Conclusion

- All companies have the necessary track record to develop a LNG project in Alaska
- For ExxonMobil, ConocoPhillips and BP, an Alaskan LNG project will compete for capital with other investment opportunities
  - Upstream
  - Greenfield and brownfield LNG projects
- Aligning each company's interest on the same investment timeline is critical for the project to move forward
  - “Partner drag” impacts most projects at some point
- With such a large pipeline component, the three gas resource holders will depend on TransCanada to reliably deliver a challenging phase of the project