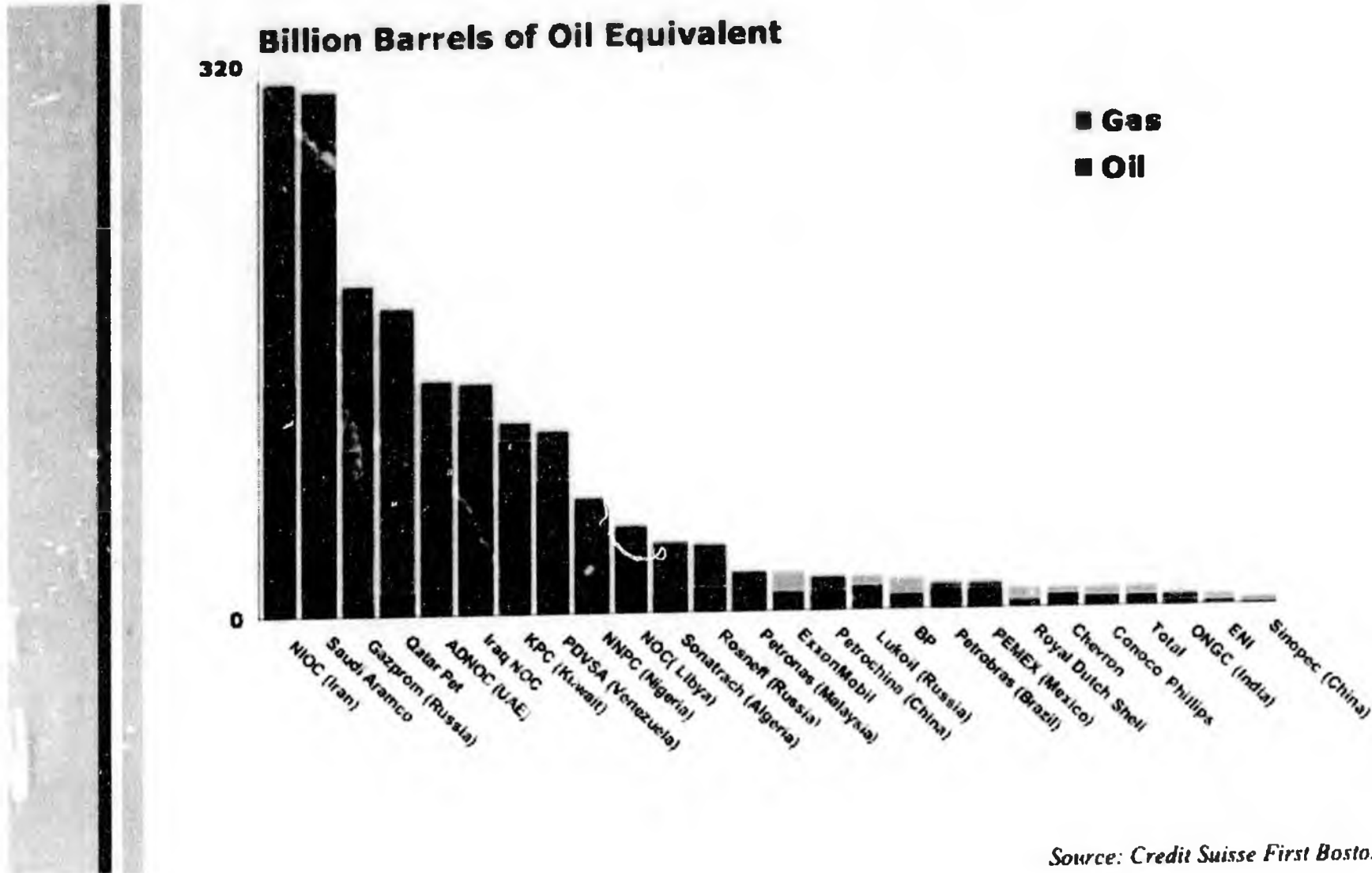


ALASKA LEGISLATURE COMMITTEE FILES 2007-2008 HR1S 12321

# Chart 9: National Oil Companies Control 94 Percent of World's Reserves





## OIL & GAS NEEDS IN THE U.S.

- During this same time period the U.S. was producing approximately 64 billion to 65 billion cubic feet per day (bcf/d) of natural gas and importing approximately 9 to 10 bcf/d of natural gas, primarily from Canada.
- Of this, approximately 1.6 to 1.8 bcf/d of the total U.S. natural gas is being imported as LNG.
- Thus 14.7% of U.S. natural gas consumption is imported, with LNG representing approximately 2.4% of total U.S. natural gas needs.



## OIL & GAS NEEDS IN THE U.S.

- Historically natural gas HAS sold at a lower Btu equivalent price compared to crude oil.
- From 2002 to 2007, natural gas averaged 68% of the WTI price of crude oil (i.e. 32% below crude oil).
- In April 2008, the NYMEX closing price for May 2008 deliveries of natural gas was \$10.60/mcf or, a crude oil equivalent price of \$63.60, some 45% below the then crude price of \$115/bbl.
- We believe that there was a fundamental severing in the price of natural gas compared to crude oil once oil hit the \$60 to \$70/bbl range.



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## OIL & GAS NEEDS IN THE U.S.

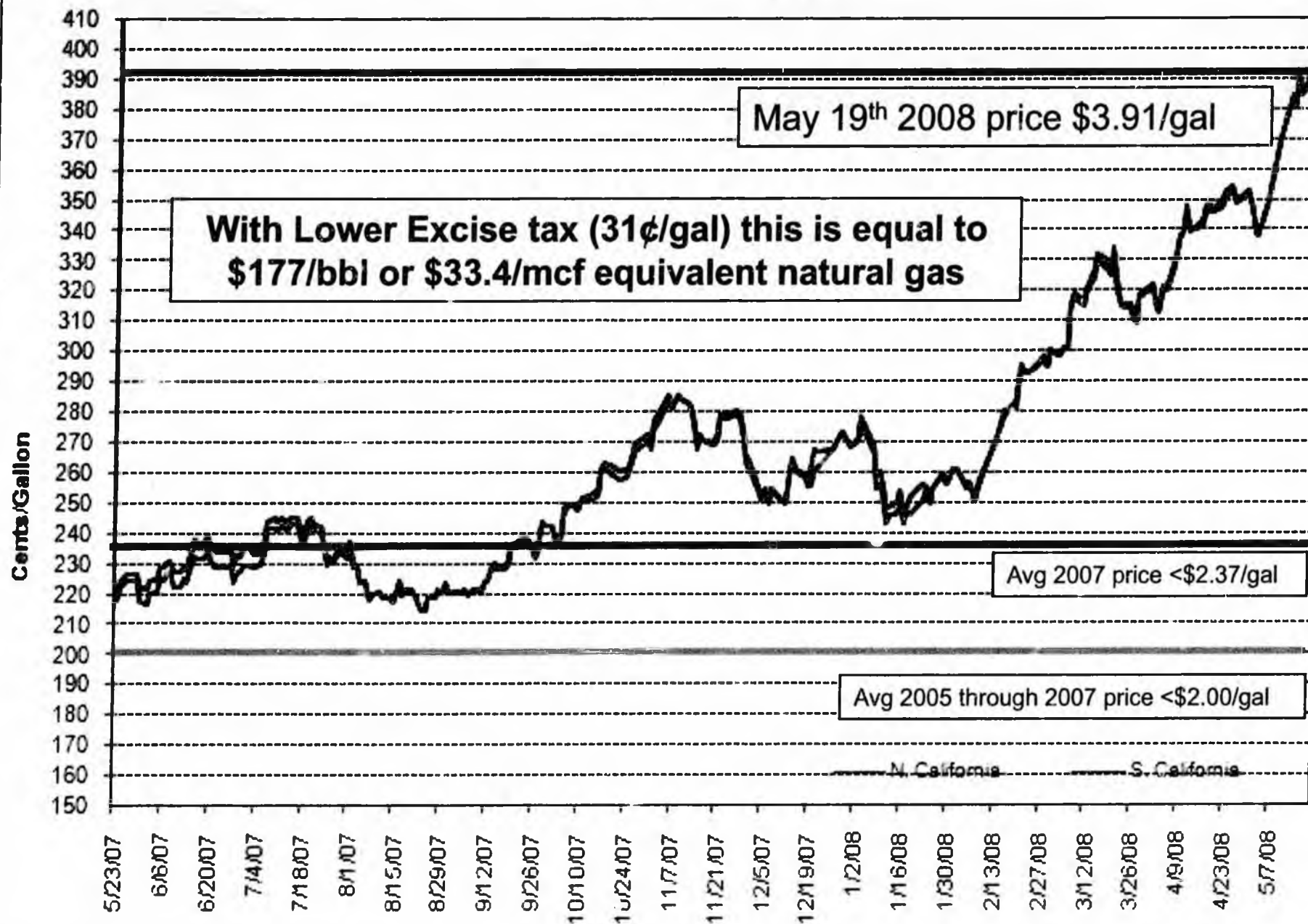
- All of the energy consumers who could have switched off crude-based products have done so but the gas industry is still able to meet demand.
- In fact, little LNG is currently being imported into the U.S. because markets elsewhere in the world, especially those linked to the price of crude oil, are paying much higher prices and few want U.S. dollars.
- If one compares a California ultra-low sulfur diesel price with an equivalent natural gas price one quickly sees a potentially greater return for Alaska in selling F-T products than selling natural gas.



## OIL & GAS NEEDS IN THE U.S.

- April 2008 California CARB diesel wholesale price of \$3.30/gallon (\$138.60/bbl) plus the tax advantage of selling a natural gas based fuel in the transportation market of \$13.02/bbl, one has a market gas equivalent price of \$28.6/mcf.
- Compare this to the April NYMEX number and one can see that the gas price would have to increase by 270% to equal that of diesel.
- On May 19<sup>th</sup> , the wholesale price of California diesel hit \$3.91/gal or a mcf equivalent price of \$33.4/mcf.

## CARB Diesel Fuel Average Rack Prices (As of 5/19/08)



Source: Oil Price Information Service



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## OIL & GAS NEEDS IN THE U.S.

- We point these facts out to show that the greatest energy need in the U.S. is not natural gas; it is replacing crude oil imports and more importantly adding domestic refining capacity.
- U.S. natural gas is not priced on a world crude oil equivalent as it is in many other parts of the world. U.S. transportation fuels are, however, priced based upon the world price of oil.
- Plus in some areas, such as the U.S. West Coast, transportation fuels are priced at a premium due to higher quality requirements.



# GTL FACTS and FICTION

- Majors not pursuing F-T technology
- F-T Process not Efficient
  - Value vs Efficiency
- Costs of F-T too high
- TAPS - Batching/Pigging can't be done
- American needs natural gas (market)
- **Value of Alaska Natural Gas**
  - Do the people know Alaska gas isn't going to be cheap?





---

# NETBACK FROM CALIFORNIA TO PRUDHOE BAY

## THREE CASES TO CONSIDER:

- CASE A - Average California 2007 refinery wholesale rack price **\$2.37/gallon**
- CASE B – May 19<sup>th</sup> 2008, California refinery wholesale rack price **\$3.91/gallon**
- CASE C – Projected 2014 crude oil price of \$200/bbl and \$40/bbl refinery margin resulting in **\$5.71/gal**

Assume a \$2/bbl shipping cost Valdez to Market and a \$5/bbl TAPS Tariff  
for a total \$7/bbl Prudhoe Bay to California

Assume 5.3 million btu/bbl of F-T and 1 million btu/mcf of natural gas

Assume a debt service / equity recovery cost of \$31.75/bbl

Assume a GTL plant operating cost of \$18/bbl

**CASE A**  
**2007 AVG Wholesale Rack Diesel Price**  
**in California (OPIS) RED LINE**

**\$2.37/gal = \$99.5/bbl**

**F-T diesel same as CNG for road tax \$99.5 /bbl+ \$13/bbl = \$112.5/bbl**

**Minus all costs (\$112.5/bbl-\$56.75/bbl= \$55.8/bbl @ Prudhoe Bay )**

**Mcf equivalent -- \$55.8 ÷ 5.3 = \$10.5/mcf (GTL Plant Outlet)**

**F-T Diesel treated same as CNG then transportation tax is reduced by 31¢/gal (\$13/bbl)**

**CASE B**  
**May 15 Wholesale Rack Diesel Price**  
**in California (OPIS) BLUE LINE**

**\$3.91/gal = \$164.2/bbl**

**F-T diesel same as CNG for road tax \$164.2 /bbl+ \$13/bbl = \$177.2/bbl**

**Minus all costs (\$177/bbl-\$56.75/bbl= \$120.5/bbl @ Prudhoe Bay )**

**Mcf equivalent -- \$120.5 ÷ 5.3 = \$22.7/mcf (GTL Plant Outlet)**

**F-T Diesel treated same as CNG then transportation tax is reduced by 31¢/gal (\$13/bbl)**

**CASE C (Tomorrow)**  
**Assume \$200/bbl crude oil price and**  
**\$40/bbl refining margin in 2014**  
**2014 Wholesale Rack Diesel Price**  
**in California (OPIS) \$5.71/gal**

**\$5.71/gal = \$240/bbl**

**F-T diesel same as CNG for road tax \$240 /bbl+ \$13/bbl = \$253/bbl**

**Minus all costs(\$253/bbl-\$56.75/bbl= \$196.1/bbl @ Prudhoe Bay)**

**Mcf equivalent - \$196.1 ÷ 5.3 = \$37/mcf at GTL Plant Outlet**

**F-T Diesel treated same as CNG then transportation tax is reduced by 31¢/gal (\$13/bbl)**

## **THESE NEXT POINTS ARE CRITICAL TO UNDERSTAND AND IT IS A POINT THAT OPPONENTS OF CTL/GTL OFTEN USE**

The F-T process converts carbon contained in the natural gas into finished transportation fuels and heat. Approximately 65% of the Btus contained in the natural gas will end up in the transportation fuels. Much of the Btu's contained in the natural gas will be captured either in the F-T fuels or waste heat to produce power. We further reduce the final number by 12% because all products don't receive the diesel price and have excise tax reductions.

Thus we reduce the mcf equivalent value of the F-T products to take into consideration the F-T (GTL) conversion process and not all the products are diesel.

Case A -  $\$10.5/\text{mcf} \times .65 \times .88 = \$6.01/\text{mcf}$  natural gas at Prudhoe Bay GTL Plant Inlet

**\$2.37/GAL IN CALIFORNIA - \$6.01/MCF NATURAL GAS AT GTL PLANT INLET**

Case B -  $\$22.7/\text{mcf} \times .65 \times .88 = \$12.98/\text{mcf}$  natural gas at Prudhoe Bay GTL Plant Inlet

**\$3.91/GAL IN CALIFORNIA - \$12.98/MCF NATURAL GAS AT GTL PLANT INLET**

Case C -  $\$37/\text{mcf} \times .65 = \$21.16/\text{mcf}$  natural gas at Prudhoe Bay GTL Plant Inlet

**\$5.71/GAL IN CALIFORNIA - \$21.16/MCF NATURAL GAS AT GTL PLANT INLET**



# AGIA Gas Price Projections

- A Prudhoe Bay price approaching \$18 to \$27 per mmbtu over 25 years.
- 2017 to 2042. WOW
- What do Alaskan's think they will be paying for natural gas?
- These AGIA projected gas prices are 300% to 400% higher than the 2007 prices in the Cook Inlet. This isn't "cheap" gas!



## WHO RECEIVES THE MOST VALUE FROM THE GAS SALES?

- Tax the Producers natural gas at a crude oil price equivalent and the Producer may only receive a fraction of the value of the natural gas.
- At today's \$120/bbl crude oil price the PPT on natural gas would be:
  - $.25 + ((97.5-30) \times .004) + (120-97.5) \times .001 = .543$  or 54%
  - With a 1/8 Royalty (12.5%) + 54% = 66.5% of the value goes to the State – the Producer receives 33% (+ pays other taxes to the state and federal government)



## WHO RECEIVES THE MOST VALUE FROM THE GAS SALES?

- At \$200 crude the % of value to the State would exceed 75%
- You can easily see why the Producer who is expected to take all of the pipeline risk isn't excited about AGIA
- Ask yourself, "Why isn't the market guaranteeing the gas line payout instead of the Producers"?



---

## Who Should be Buying Firm Capacity Supply or Market?

If Natural Gas truly was in short supply or its projected short supply were real, then the people who need natural gas, have no other choice but to use natural gas (market) would be coming to Alaska to buy this “proven” gas resource. THEY would be contracting with TC Alaska for firm capacity to their market.

Do You See This Happening?



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# ENERGY CONSERVATION

Its Impact on a Gas Line



# ENERGY CONSERVATION

## Its Impact on a Gas Line

- 300 million people in America
- Take 1/3 or 100 million people
- Turn off two – 100 Watt light bulbs or  
don't run a PC for half a day
- Save 480 billion watts per day or 20,000 MW-HR
- Assume a modern heat rate of 8,500 Btu/kw-hr
- Save 4.08 billion cubic feet per day of natural gas

**THAT'S THE ALASKA GAS LINE CAPACITY  
IN A FLICK OF THE SWITCH**



# ENERGY CONSERVATION

## The Nuclear Threat

- We are told that Toshiba is looking at installing up to 5 of their small nuclear power plants in Alberta to supply the tar sands projects with heat and electricity that would be CO<sub>2</sub> free energy.
- Helps Canada meet its Kyoto obligations.
- There goes 1 to 2 bcf/d of gas market.
- Canadian supplied gas will have to flow into the U.S. market competing with Alaska AGIA gas.



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# **MORE THAN JUST A GTL PROJECT**

**HUNDREDS OF VALUE ADDED  
BUSINESSES ARE POSSIBLE**

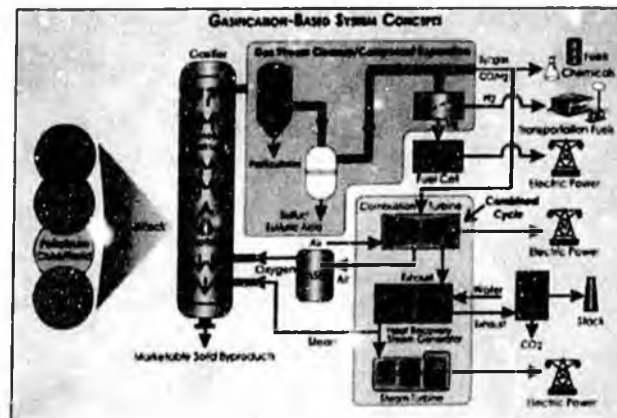
**Manufacturing on a Grand Scale.**

**The beginning of a new era for Alaska and Alaskans.  
Suppiying the world with high value finished goods  
instead of basic natural resources.**



# VALUE ADDED INDUSTRIES

- The Sasol CTL plants in South Africa produce over 150 different value added products from effluent streams.
- The North Dakota Gasification plant uses the Lurgi process to convert 6 million tons per year of lignite coal to syngas and liquids. The average daily production at Great Plains is about 160 million cubic feet of high quality pipe line natural gas.
- Many by-products are also produced at the plant, including: ammonium sulfate, anhydrous ammonia, carbon dioxide, dephenolized cresylic acid, krypton and xenon gases, liquid nitrogen, naphtha, phenol, and methanol.





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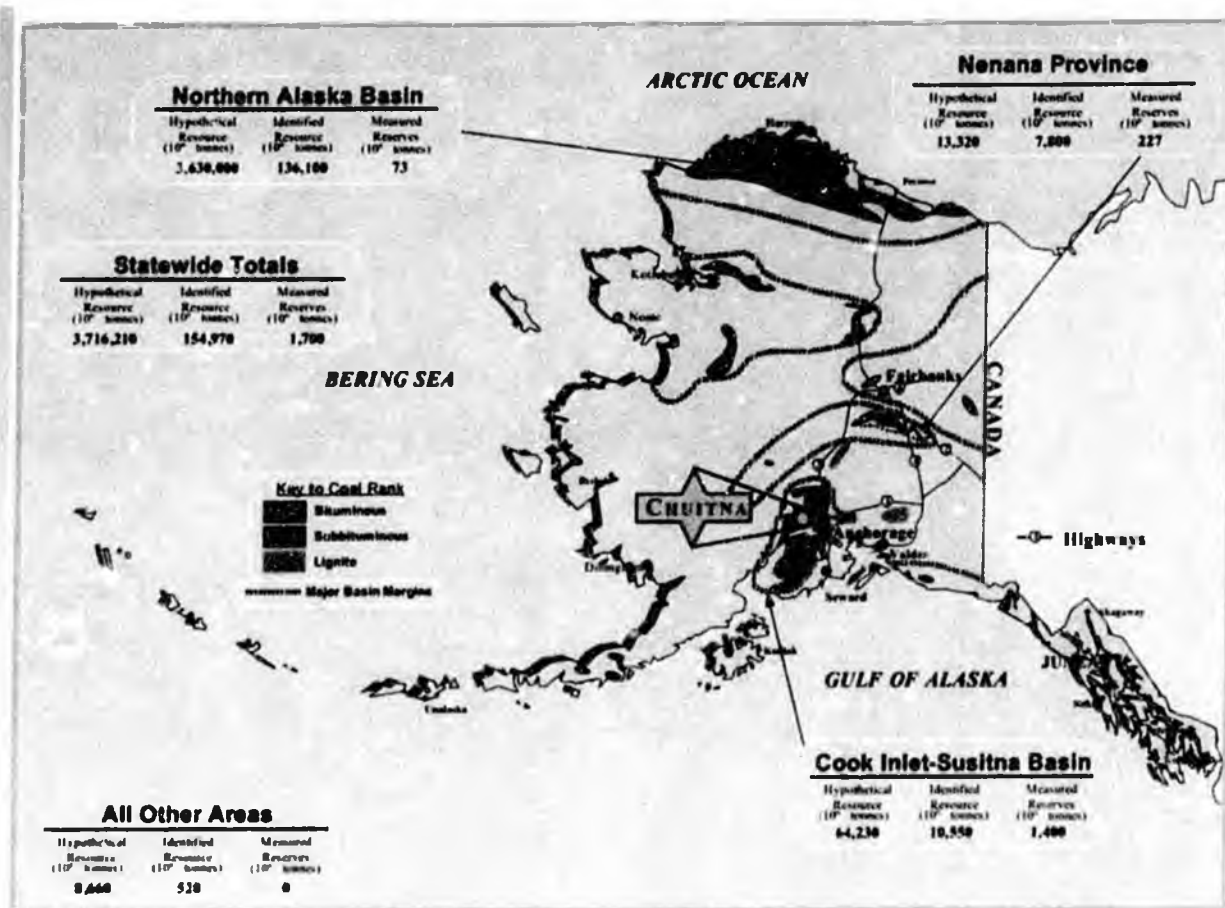
# ADDITIONAL BENEFITS OF A NORTH SLOPE GTL OPTION

- Benefits of GTLs at Prudhoe Bay
  - CO<sub>2</sub>
  - Electricity
  - Water for people and EOR
  - Synthetic drilling fluids
  - Batching NGLs – Lower TAPS tariff
  - Liquids in Fairbanks



# THINK OUT SIDE OF THE BOX

## Alaska's Coal Resources & Reserves



### Estimated Recoverable Coal Reserves

(10<sup>9</sup> tonnes)

World Total 1,038

North America 256

United States  
246+Alaska

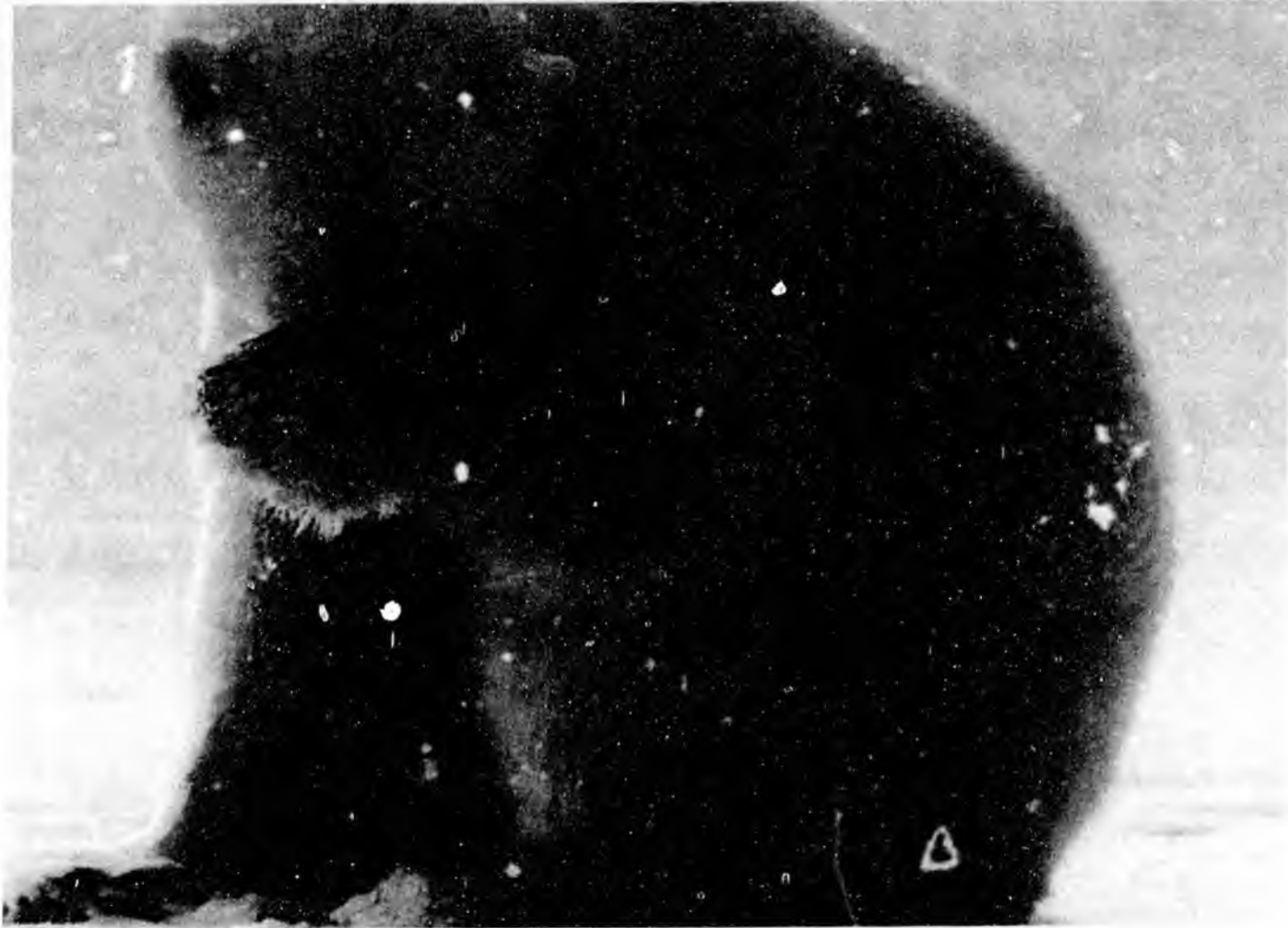
Alaska (measured) 2

Alaska Estimated 200

CHUITNA (measured) >1

Note: The Northern Alaska Basin could potentially have upwards of 1.5 to 2.5 trillion tons of bituminous coal reserves – more coal than the total proven reserves in the world today!

## ALASKA LEGACY PROJECT



**THANK YOU FOR LISTENING TO  
THE GTL STORY**



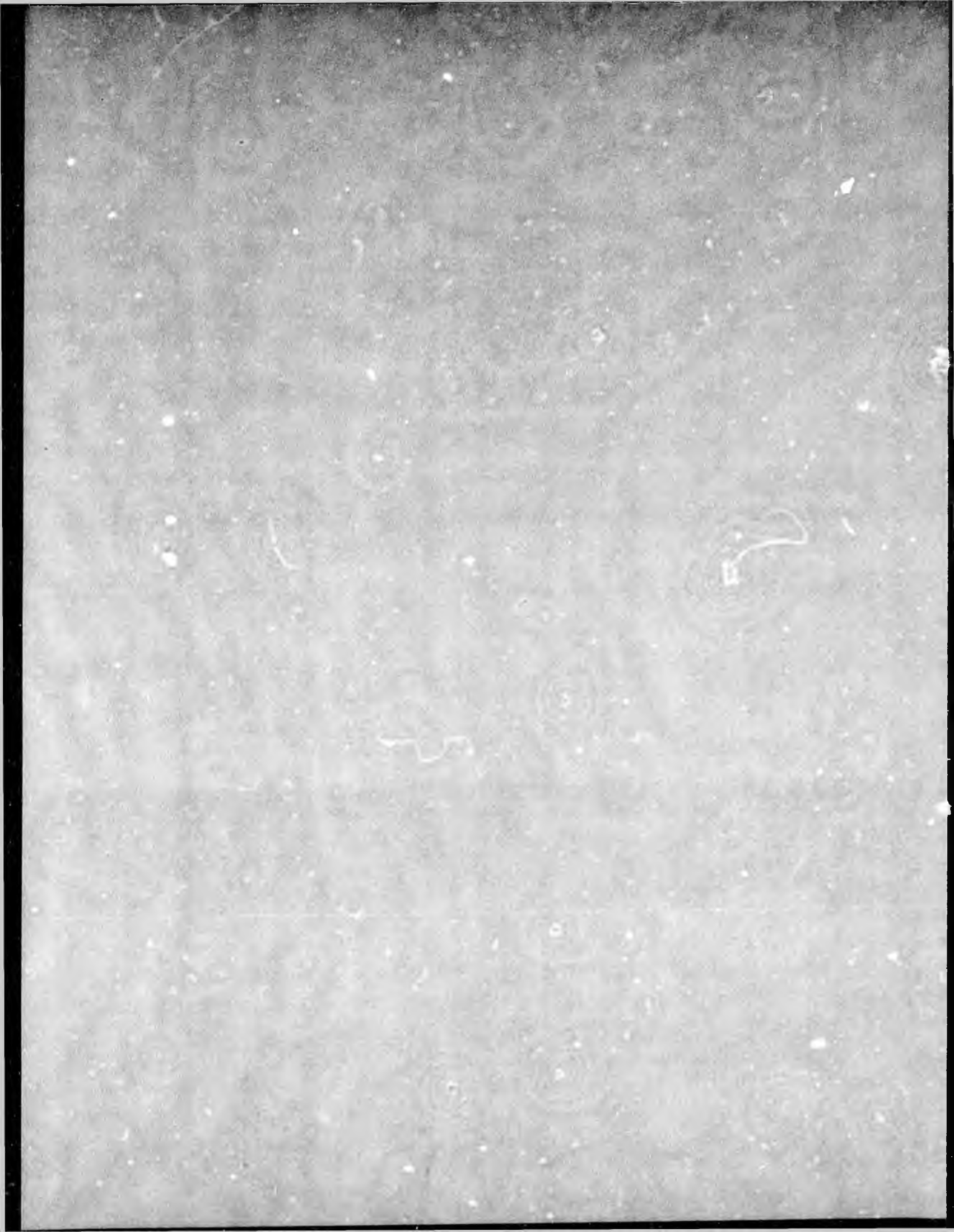
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# CONTACT DETAILS

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Peter Tijm  
Member  
[Tijmp@aol.com](mailto:Tijmp@aol.com)



# **Comparison of Netbacks from Potential LNG Project with ALCAN Pipeline Project**

**June 20, 2008**

**Barry Pulliam  
Senior Economist  
Econ One Research**

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Houston, Texas 77002  
713 228 2700*

*Suite 501  
805 15th Street, N.W.  
Washington, D.C. 20005  
202 289 7620*

**ECON  
ONE**

# Econ One Review

- **Analyzed economic assumptions & netback values associated with potential LNG and pipeline projects**
  - **Port Authority proposal**
  - **Other potential LNG configurations**
  - **TransCanada proposal**
- **Reviewed Port Authority proposal, assumptions and analysis**
- **Reviewed Administration analysis of LNG and pipeline netbacks**
- **Reviewed information from various LNG specialists and government agencies**

# Econ One Review

(cont'd)

- **Analyzed netback @ the inlet to GTP**
  - **\$ / MMBtu**
  - **Total value of netback**
    - **Nominal \$**
    - **Real (\$2008)**
    - **NPV-10**
- **Project that “maximizes” the netback creates highest value for resource owners**
  - **Producers**
  - **State**

# Project Netback Analyses

## LNG Exports to Asia

- 2.7 Bcf/d (Port Authority proposed)
- 4.5 Bcf/d (Little Susitna proposed)

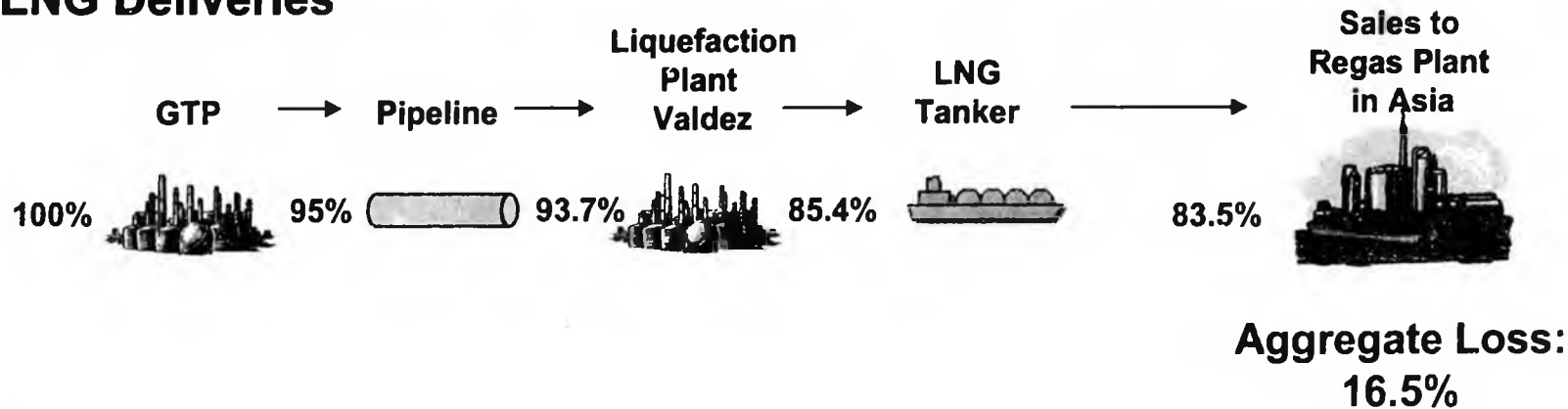
## Pipeline to Alberta

- 3.5 Bcf/d (TransCanada minimum volumes)
- 4.5 Bcf/d (TransCanada base volumes)

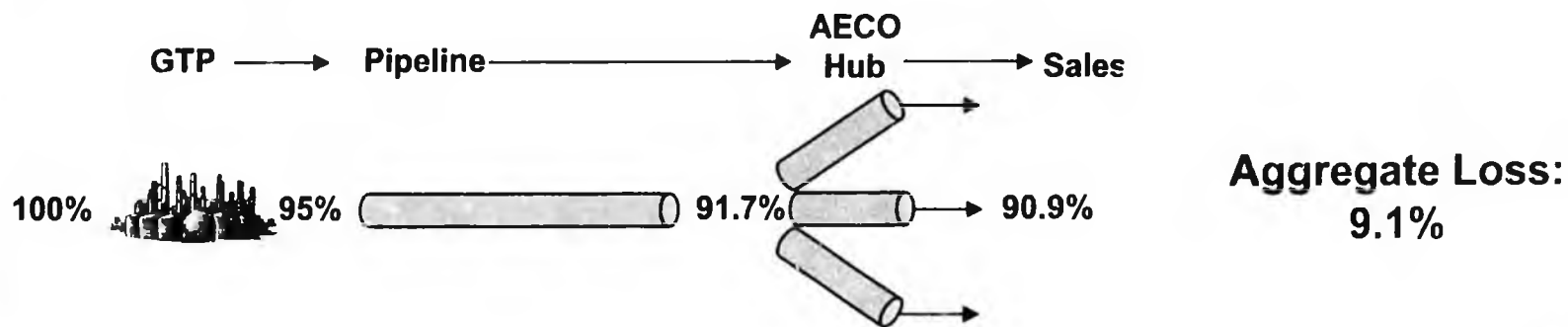
# **Overview of LNG v. Pipeline Delivery**

# LNG and Pipeline Delivery Chain

## LNG Deliveries

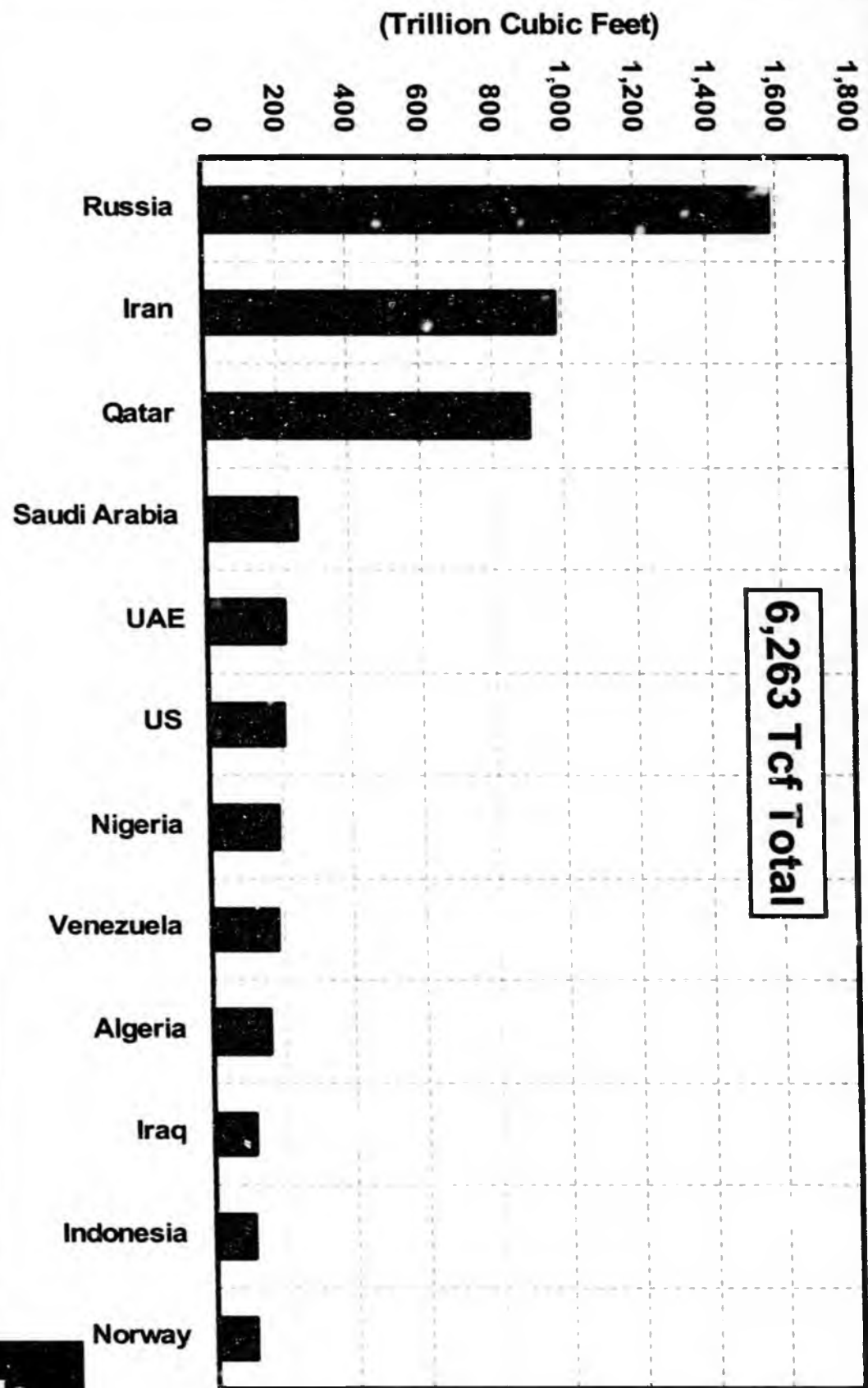


## Pipeline Deliveries



# Supply / Demand

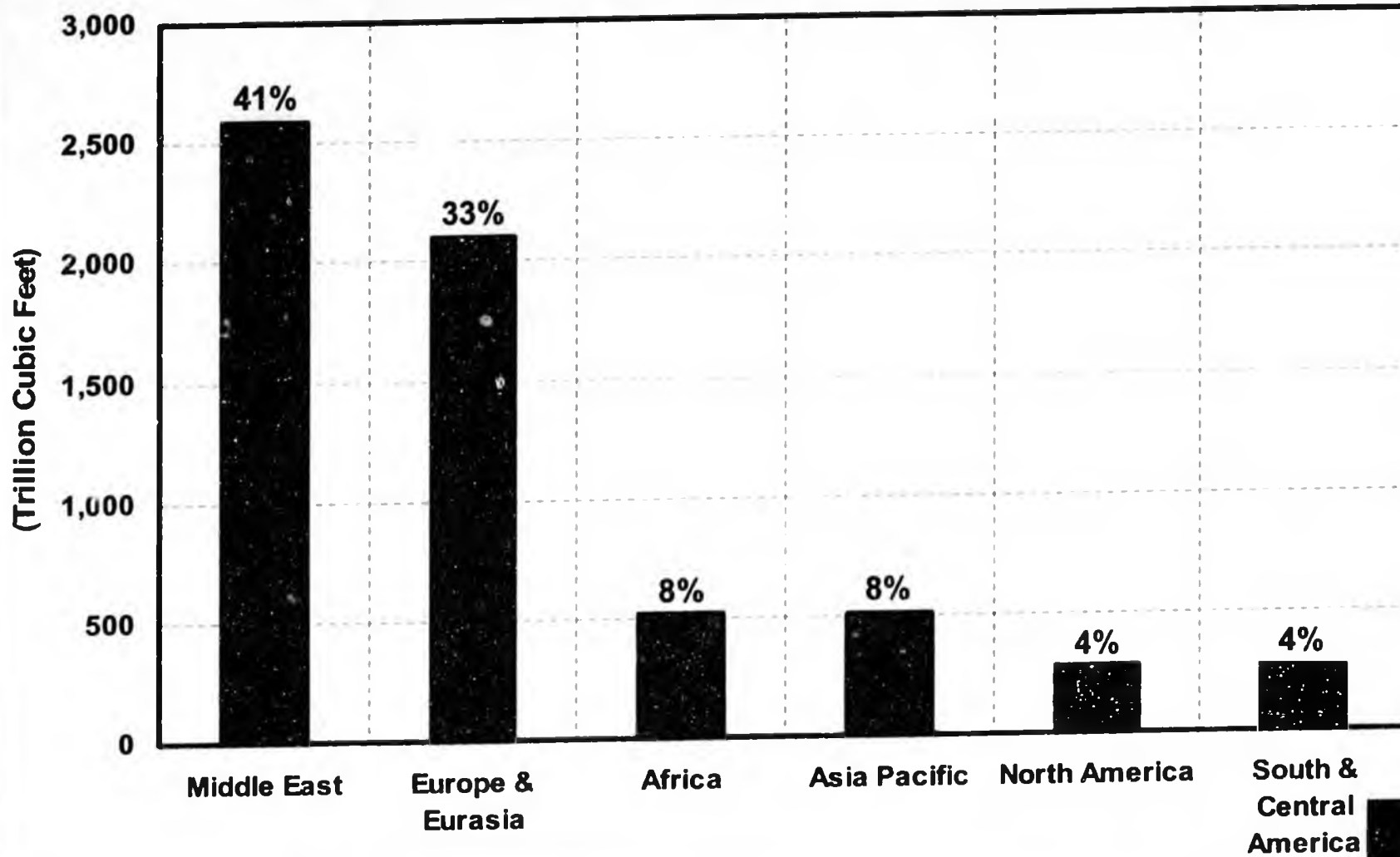
# Worldwide Proved Gas Reserves



Source: BP Statistical Review 2008.  
Represents 80% of known reserves in 2007.



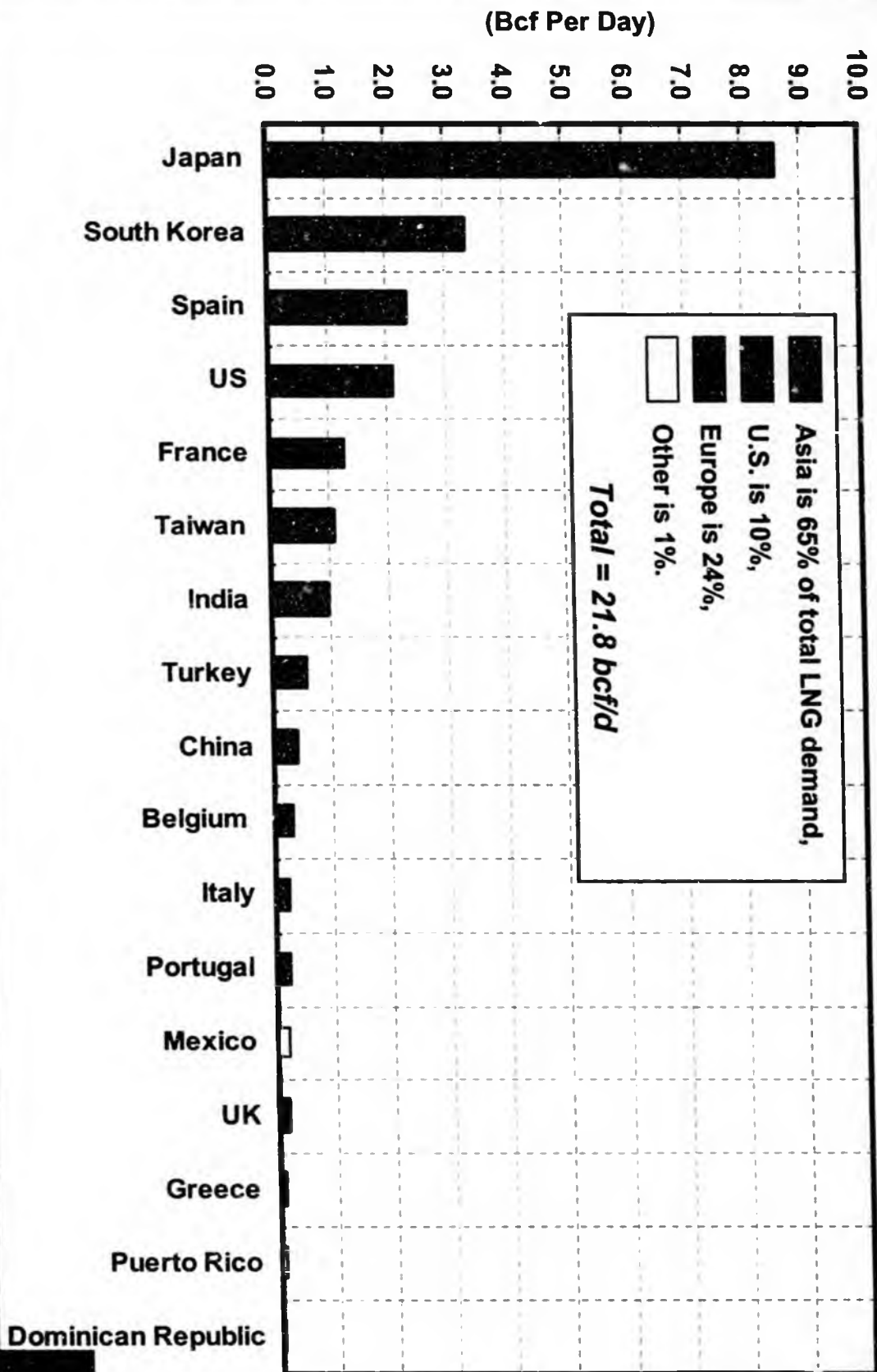
# Worldwide Proved Gas Reserves by Region



Source: BP Statistical Review 2008.

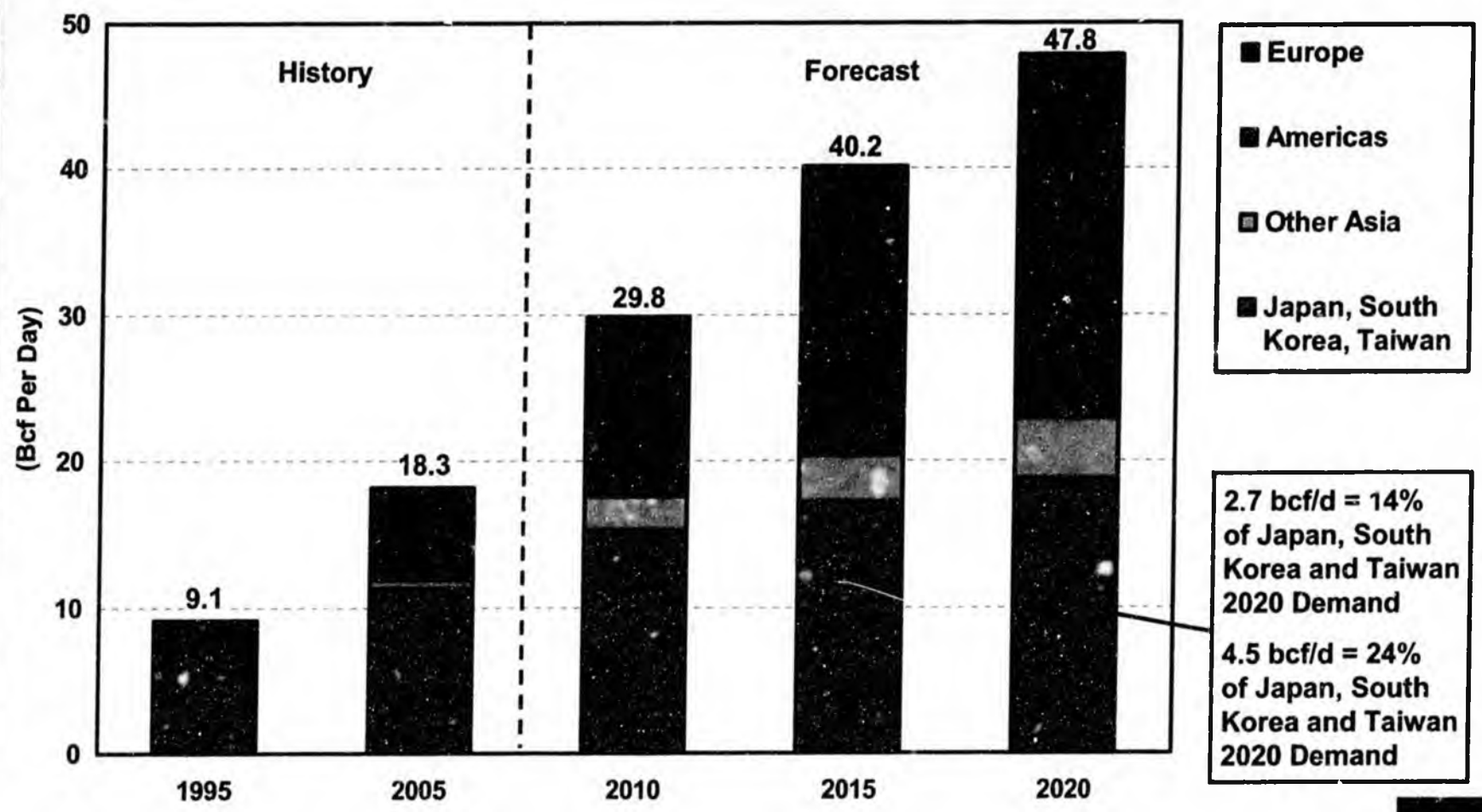
PCON  
ONE

# Current Worldwide LNG Demand



Source: BP Statistical Review 2008.

# Projected LNG Demand by Region



Source: National Petroleum Council ;  
Jensen Associates, August 2007



# Liquefaction Plant Capacities by Region

(Pacific Trade)

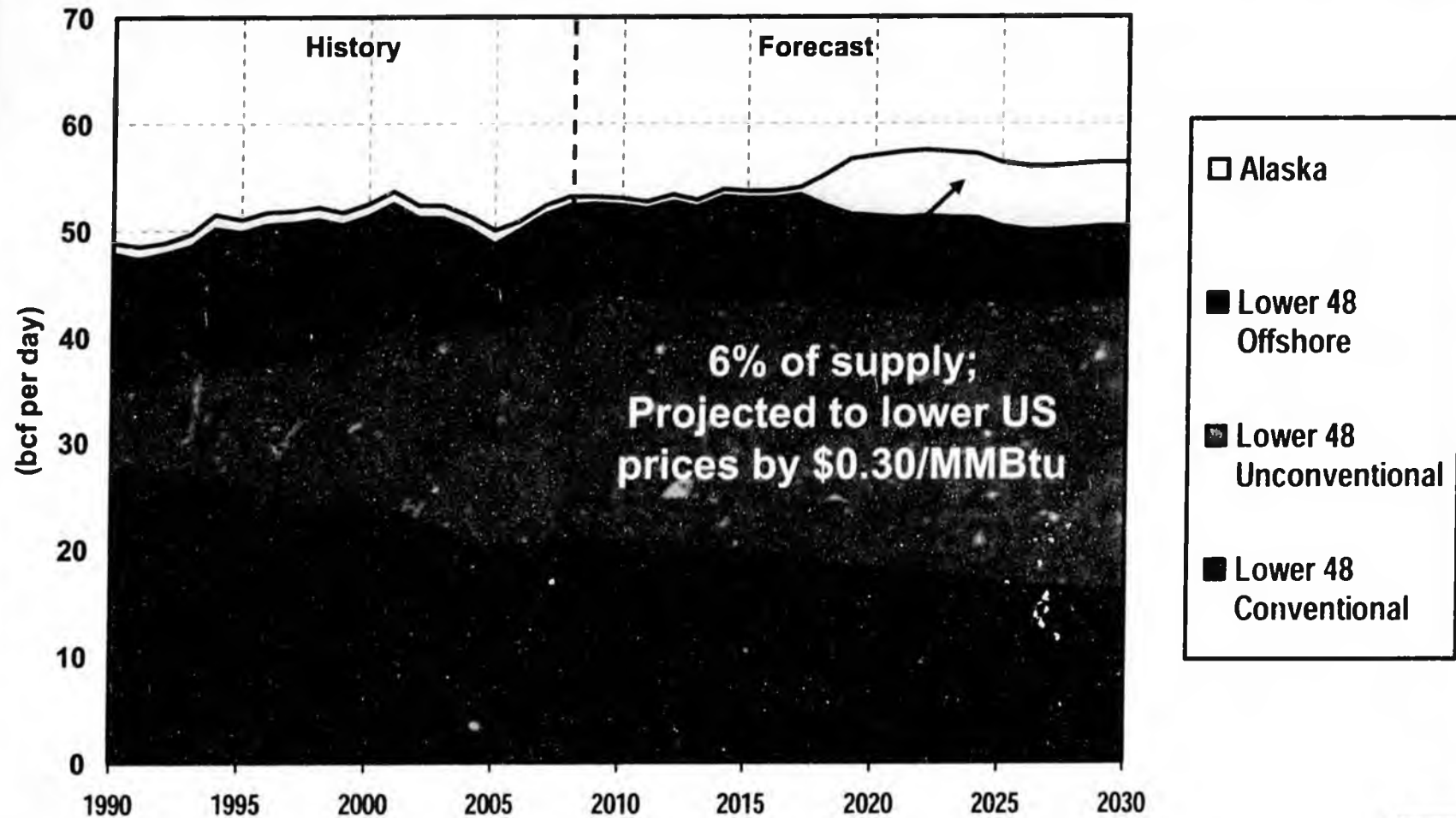
Pacific Basin		Middle East	
Category	Capacity	Category	Capacity
	(Bcf/Day)		(Bcf/Day)
(1)	(2)	(3)	(4)
Operating	9.85	Operating	6.06
Under Construction	3.50	Under Construction	6.84
Under Consideration	6.24	Under Consideration	4.63
<b>Total</b>	<b>19.59</b>	<b>Total</b>	<b>17.53</b>

Source: Facts Global Energy. "Evaluating Natural Gas Import Options for the State of Hawaii". April 2007.



# U.S. Gas Production by Source

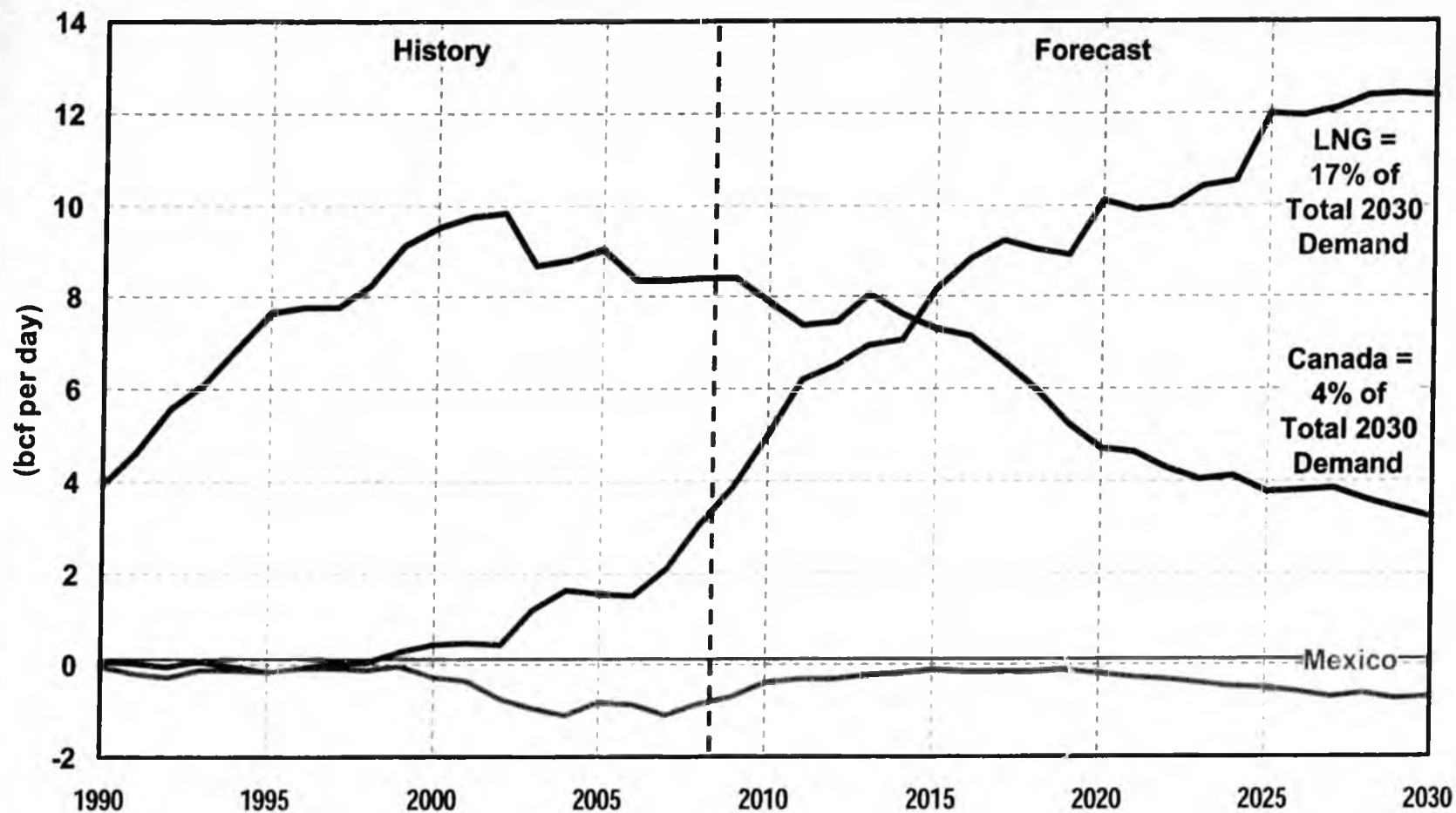
(1990 - 2030)



Source: EIA AEO 2007.

# U.S. Net Natural Gas Imports

(1990 - 2030)



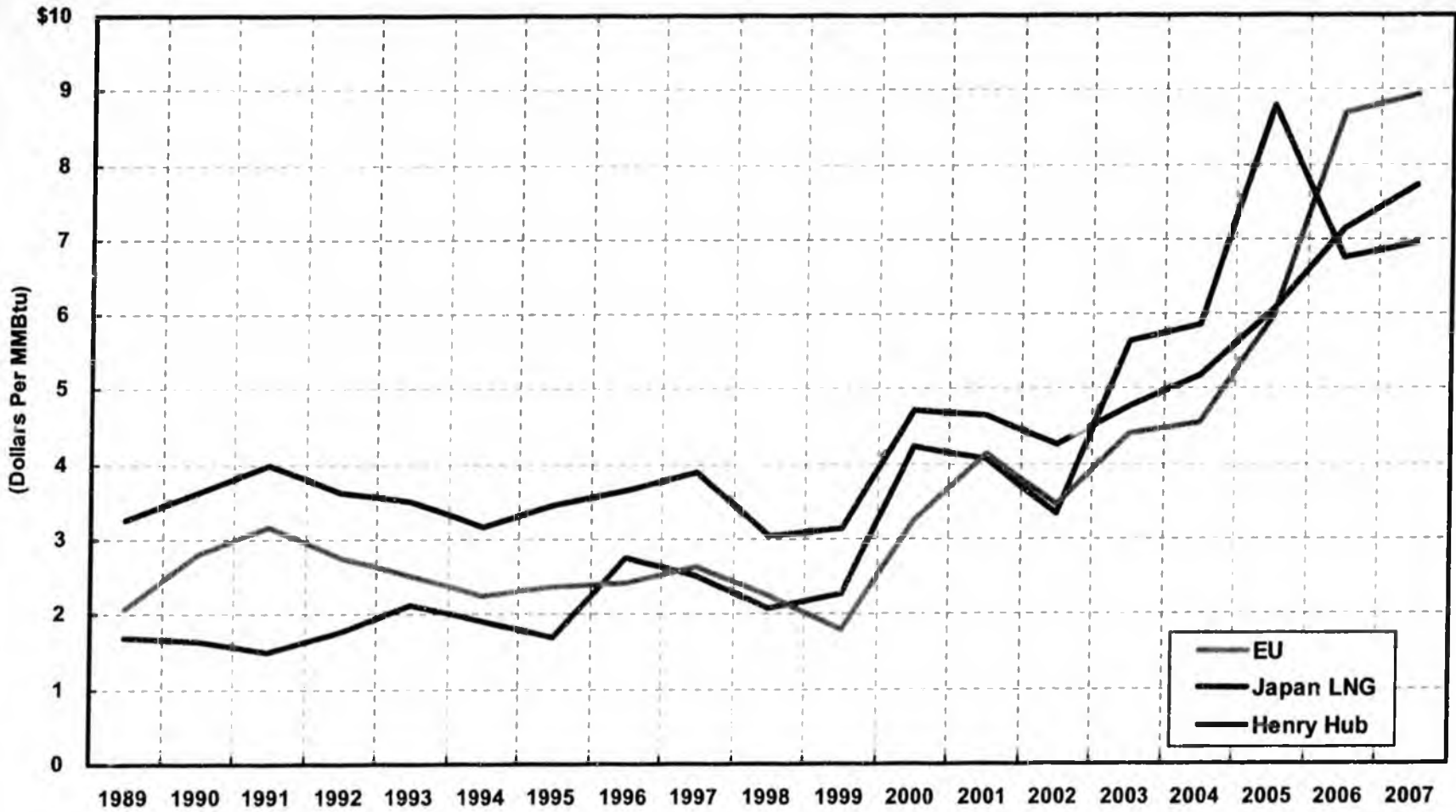
Source: EIA AEO 2007.



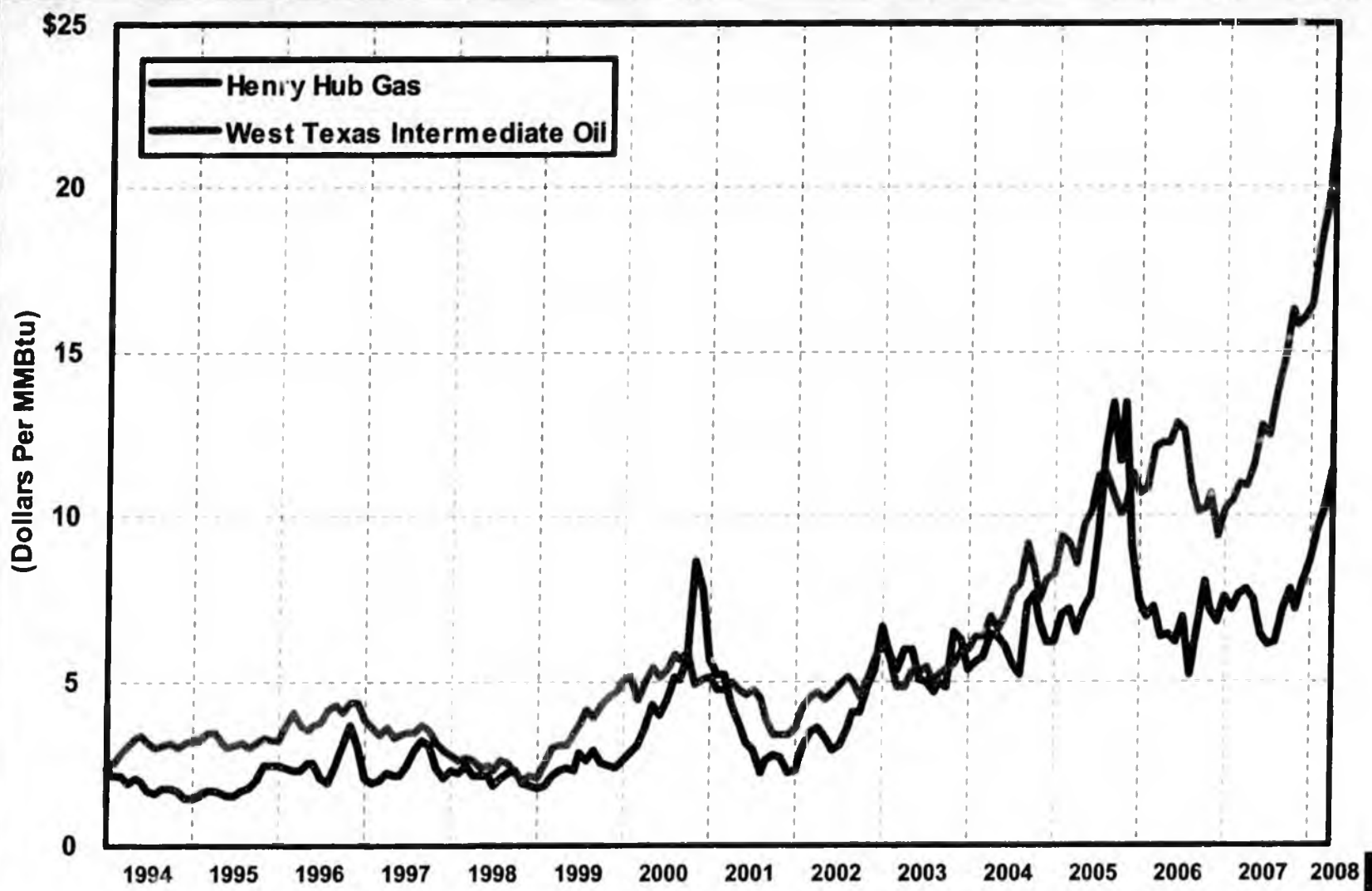
# Historical Pricing

# Historical Gas Prices

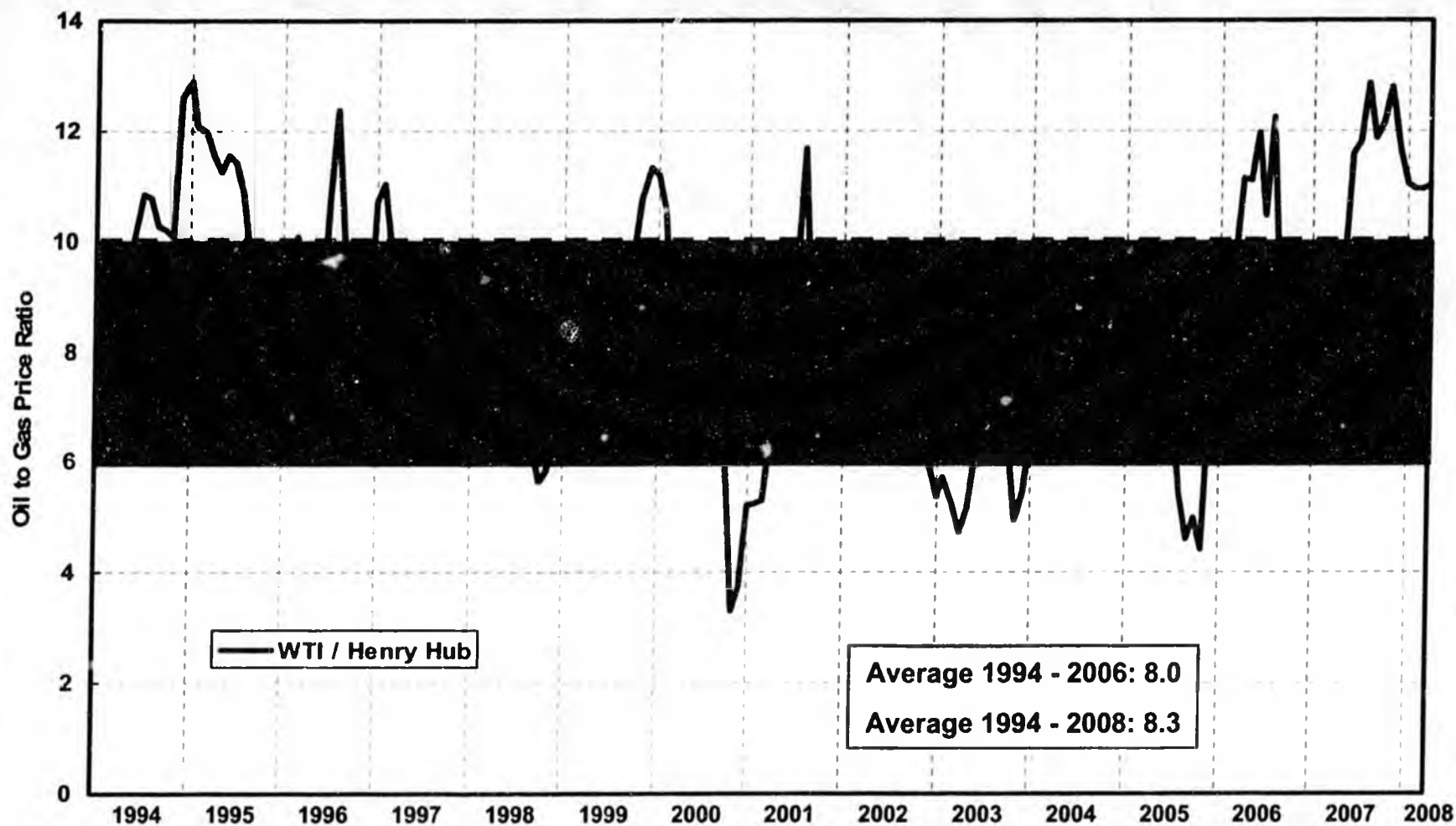
(U.S., Japan and Europe)



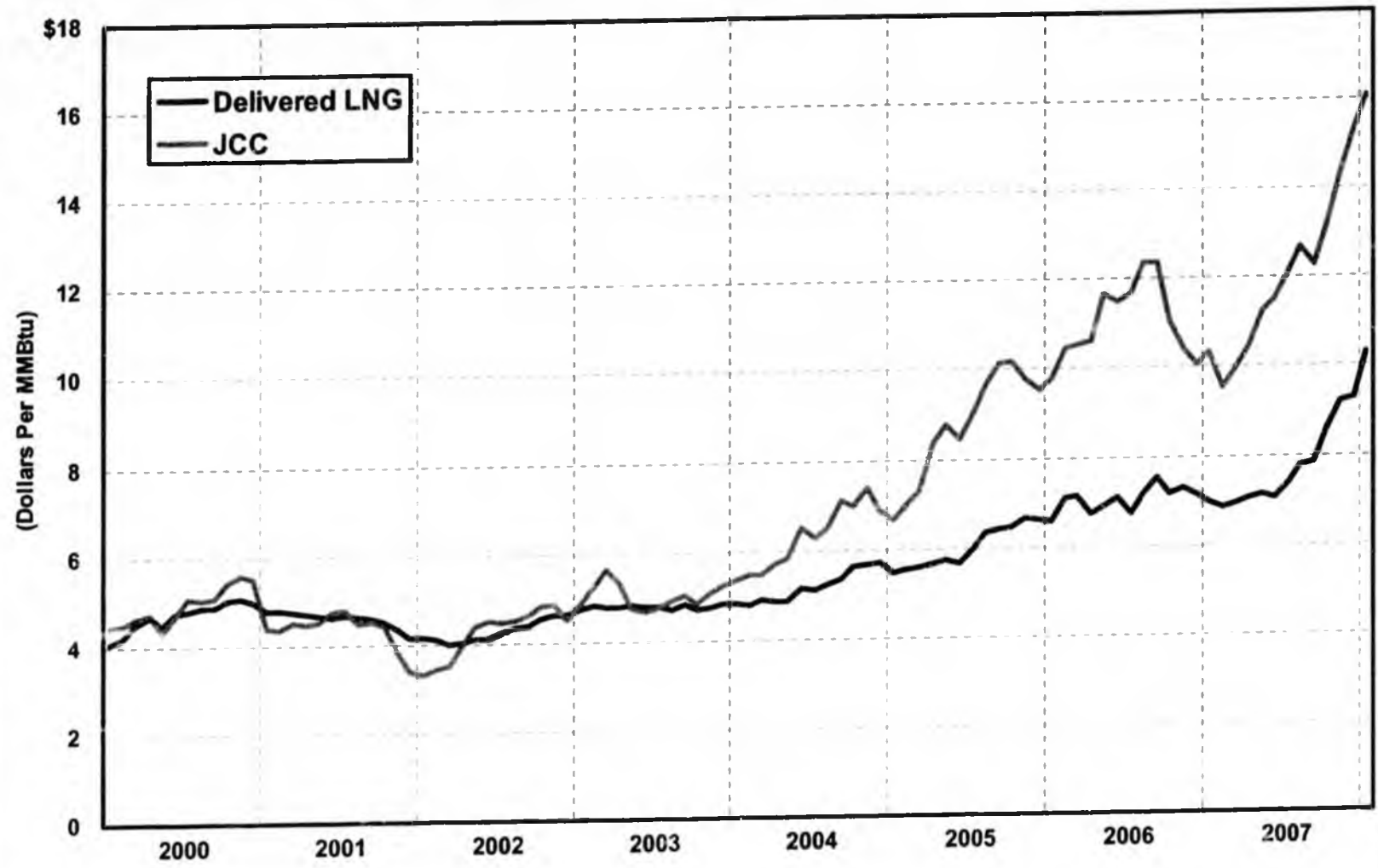
# U.S. Natural Gas and Crude Oil Prices (1994 - 2008)



# Historical Relationship Between Oil and Gas Prices in the U.S.

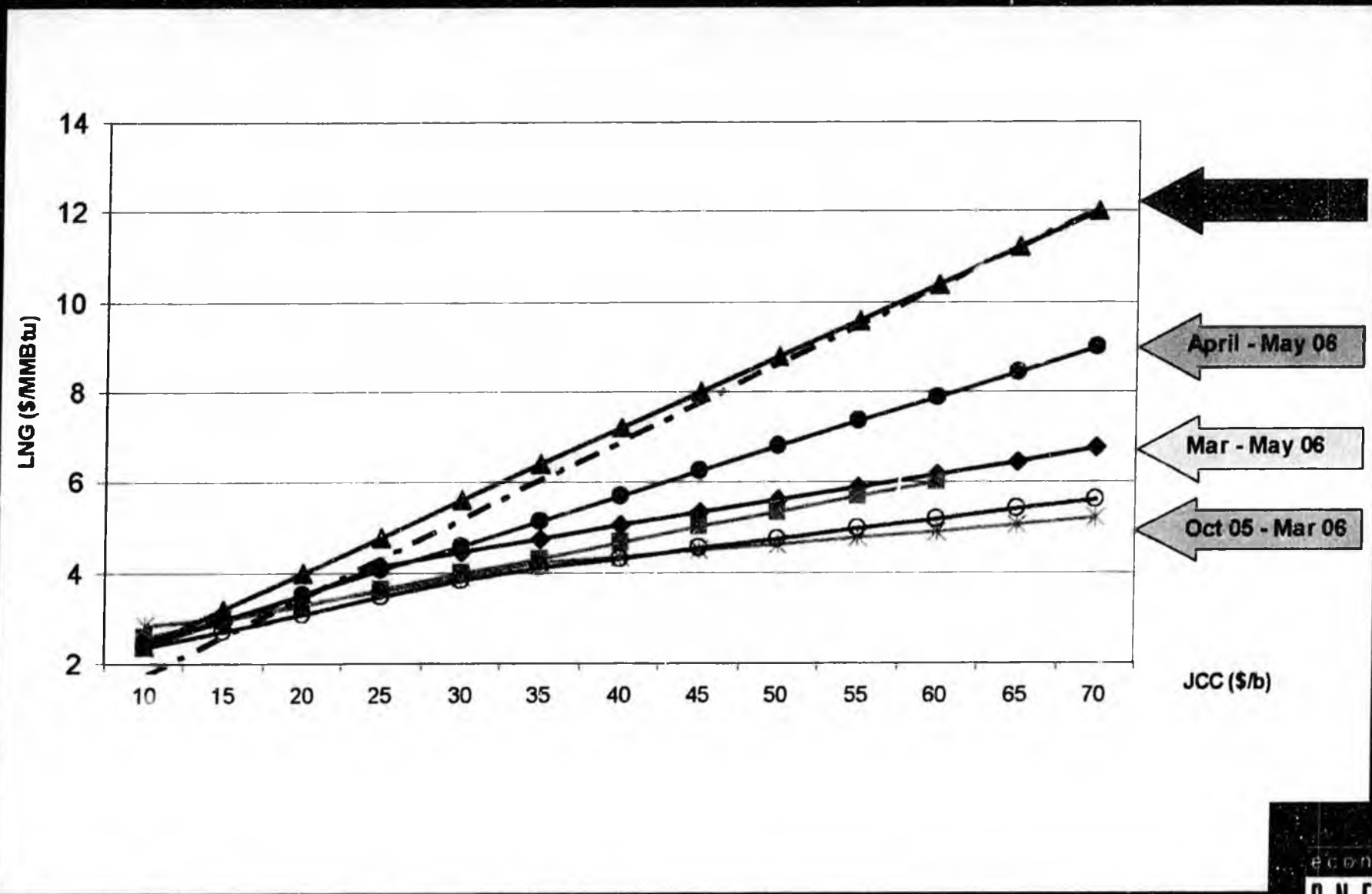


# Japanese Crude Oil and Gas Prices (2000 - 2008)



# Evolution of LNG Pricing in Asia

(Relationship of Gas to Oil Prices Seen in Recent Contracts)

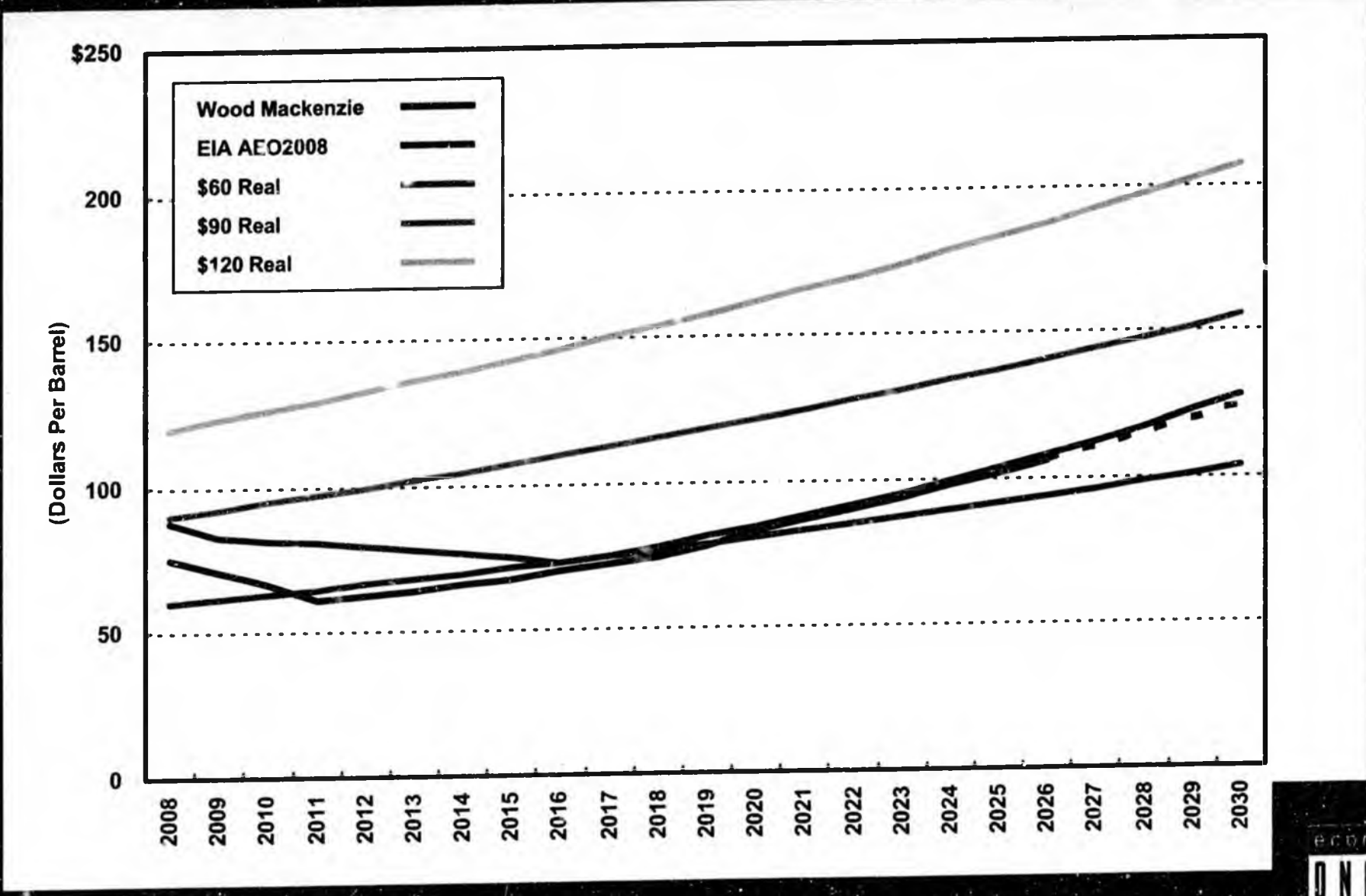


Source: Facts Global Energy, "Evaluating Natural Gas Import Options for the State of Hawaii", April, 2007.



# Oil and Gas Price Forecasts

# Oil Prices Used in Analyses



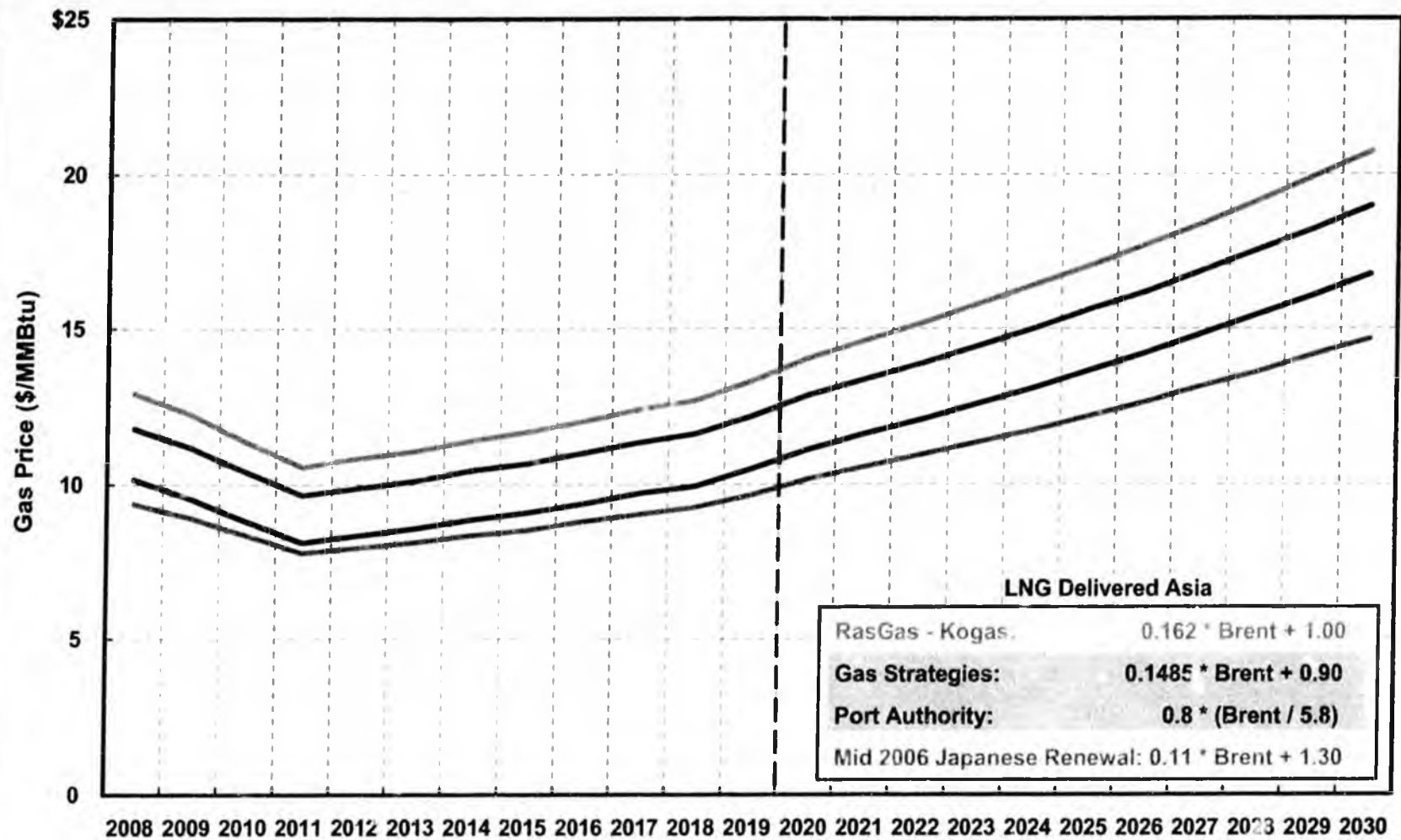
Note: 2.5% annual price inflation.



## Prospects for Asian LNG Prices

- **There is a wide range of prices depending on contract vintage**
- **Recent contracts have reflected stronger links to oil**
- **Many contracts are on a provisional basis as previously (low-priced) formulas have expired or are not applicable at current oil price levels**
- **Relatively high priced opportunities in Asia will attract gas supplies to that region**
  - **Increasingly competitive among suppliers**
  - **Opportunities for buyers**
  - **Price will be dependent on the supply situation at the time of contracts**

# Gas Price Forecasts Used in Analyses (Using Wood Mackenzie Oil Price Forecast)

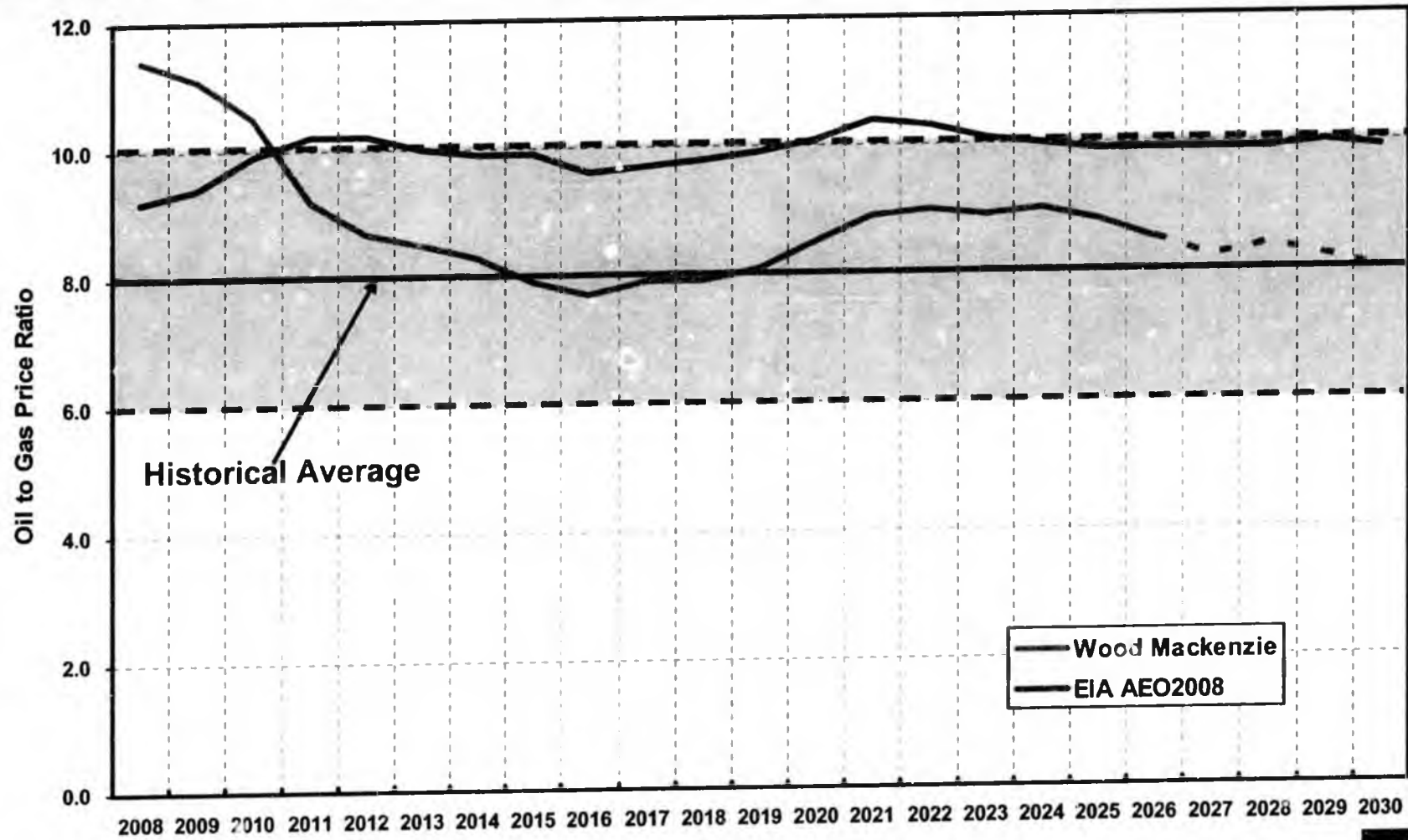


= More Likely Price Scenarios

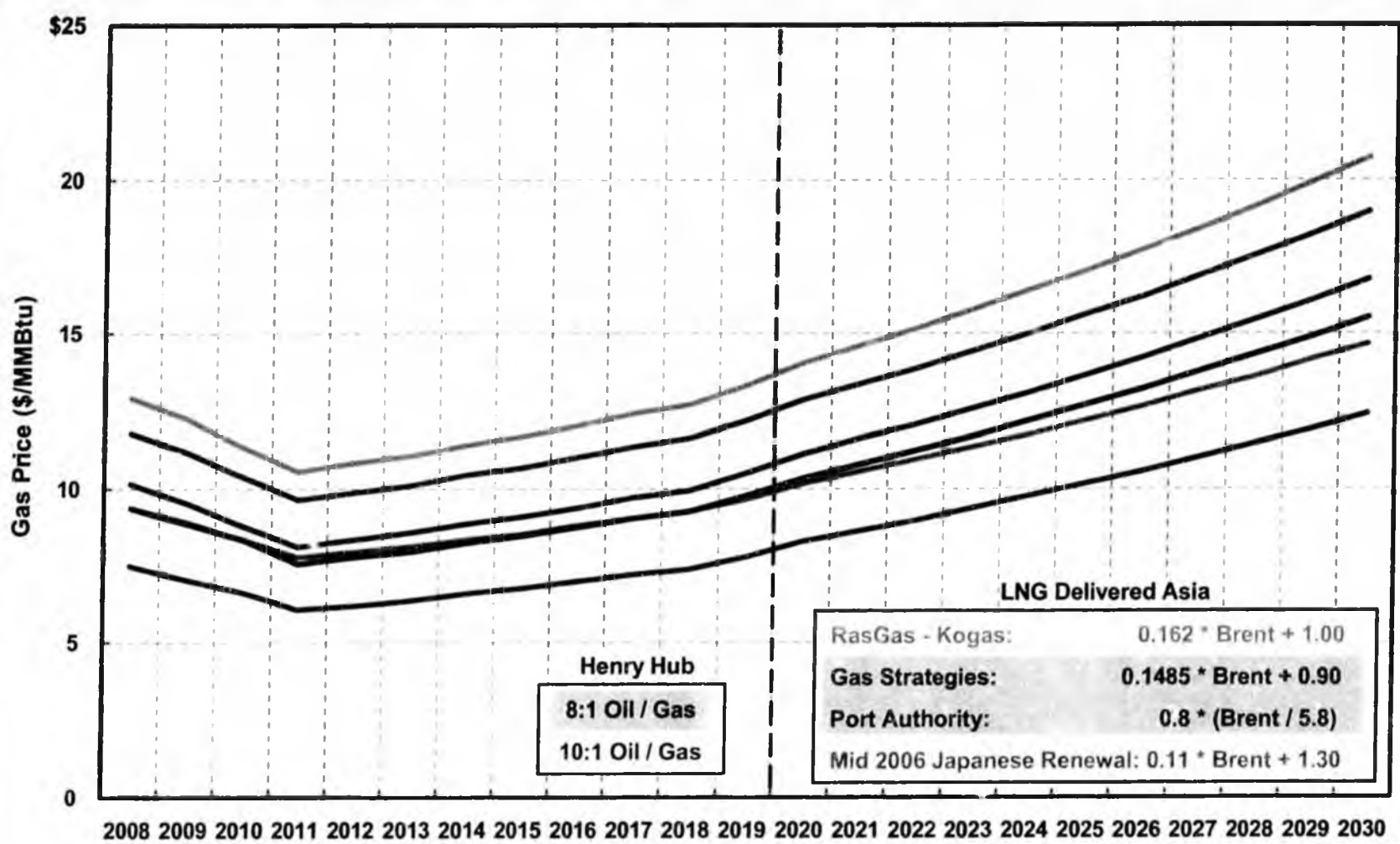
## Prospects for U.S. Gas Prices

- **Historically, gas has been priced between 1/6 & 1/10 the value of oil, with the long run average near 1/8**
- **The recent run-up in oil prices & relatively abundant domestic production of natural gas have kept that relationship above historical levels**
- **Many see the oil/gas relationship returning to more historical levels (i.e. convergence) as:**
  - **Domestic supplies decline & become more costly to produce**
  - **LNG imports are drawn to higher priced regions (e.g. Asia)**
  - **Greenhouse/carbon emission concerns put coal out of favor & put natural gas in favor as the fuel of choice for electricity generation**

# Ratio of Forecasted U.S. Oil and Gas Prices



# Gas Price Forecasts Used in Analyses (Using Wood Mackenzie Oil Price Forecast)



**More Likely Price Scenario(s)**



# **Assumptions Used in Comparative Netback Analyses**

# Assumptions Used in Comparative Netback Analyses

- |   |  |
|---|--|
| ➤ <b>First Gas</b>                            | <b>2020</b>  |
| ➤ <b>Capitalization</b>                       | <b>70% Debt; 30% Equity (pre-operation)<br/>75% Debt; 25% Equity (post-operation)</b>  |
| ➤ <b>Debt Costs</b>                           | <b>5.5% Guaranteed; 7.0 % Non-Guaranteed</b>   |
| ➤ <b>Equity Returns</b>                       | <b>14%</b>   |
| ➤ <b>Capex/Opex</b>                           | <b>Administration (Westney): GTP &amp; pipeline segments<br/>Port Authority (Bechtel): LNG plant<br/>Sensitivity at higher costs</b> |
| ➤ <b>Fuel Use</b>                             | <b>Administration (Westney) for GTP/pipeline segments<br/>Port Authority (Bechtel) for LNG plant</b>                                 |
| ➤ <b>Shipping Costs</b>                       | <b>Port Authority: Approximately \$0.75/MMBtu + Fuel</b>   |
| ➤ <b>Gas Composition &amp; NGL Extraction</b> | <b>1.118 MMBtu / mcf<br/>Full Extraction @ Alberta<br/>Partial Extraction @ Valdez (LNG case)</b>                                    |

# Comparison of Capital Costs for LNG Project (2.7 bcf/d LNG Project)

	<u>Port Authority (Bechtel)</u>	<u>Administration (Westney)</u>
<b>GTP</b>	<b>\$3.4Bn</b>	<b>\$5.0Bn</b>
<b>Pipeline</b>	<b>\$13.1Bn</b>	<b>\$11.5Bn</b>
<b>Total GTP/Pipeline</b>	<b>\$16.5Bn</b>	<b>\$16.5Bn</b>
<b>LNG Plant</b>	<b>\$7.9Bn (\$470/mmta)</b>	<b>\$12.7Bn (\$755/mmta)</b>
<b>Grand Total</b>	<b>\$24.4Bn</b>	<b>\$29.2Bn</b>



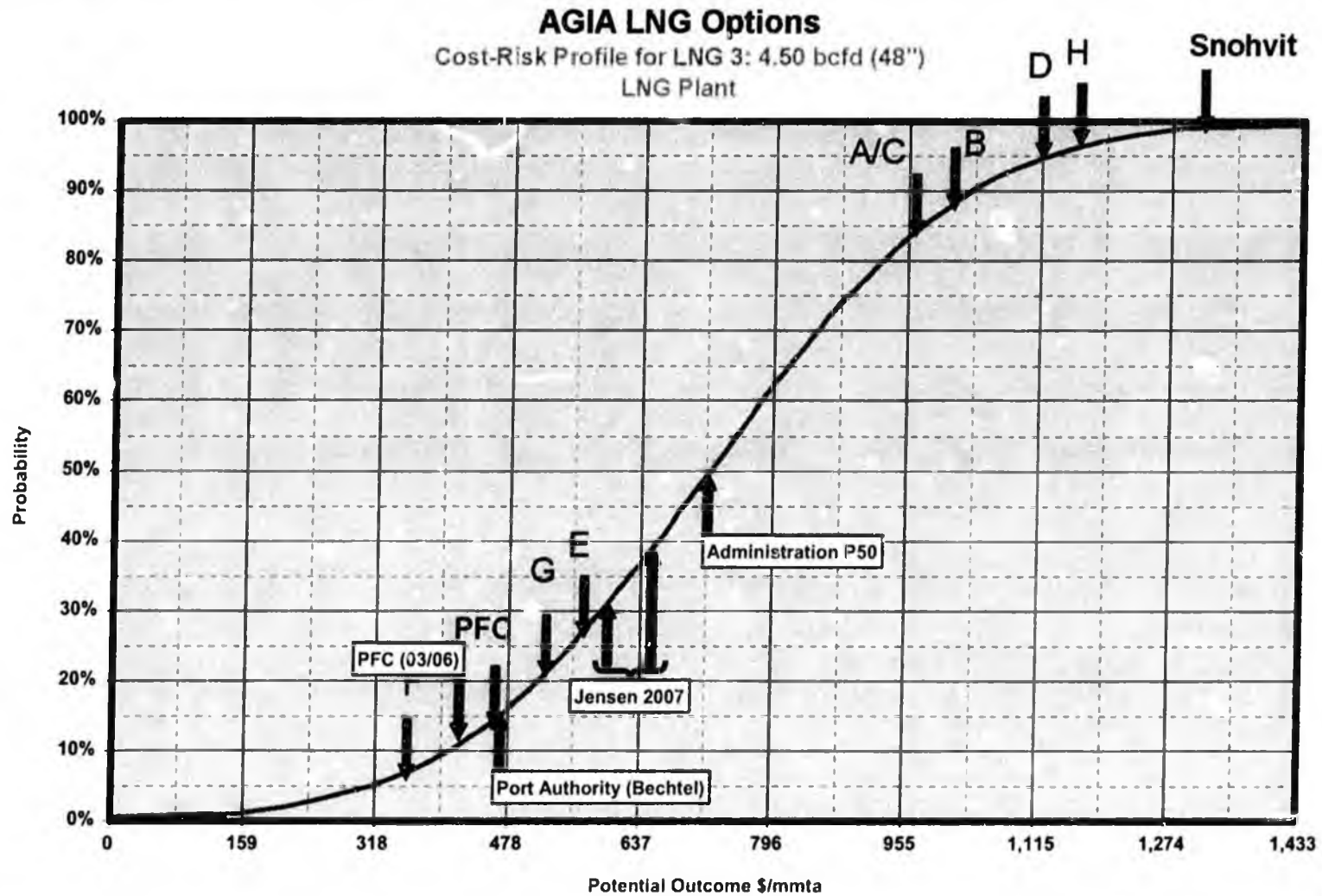
# Capital Costs Used in Netback Analyses

	LNG Project		Pipeline Project	
	2.7 bcf/d	4.5 bcf/d	3.5 bcf/d	4.5 bcf/d
(Billion \$2007)				
	(1)	(2)	(3)	(4)
<b>GTP</b>	\$5.0	\$8.3	\$6.5	\$8.3
<b>Pipeline</b>				
Alaska	11.5	12.6	10.2	10.9
Canada	-	-	11.6	12.6
<b>Total Pipeline</b>	<b>\$11.5</b>	<b>\$12.6</b>	<b>\$21.7</b>	<b>\$23.5</b>
<b>LNG Plant (Bechtel)</b>	7.9	13.7*	-	-
<b>LNG Plant (Westney)</b>	12.7	21.1	-	-
<b>Total (Bechtel LNG)</b>	<b>\$24.4</b>	<b>\$34.6*</b>	<b>\$28.2</b>	<b>\$31.8</b>
<b>Total (Westney LNG)</b>	<b>\$29.2</b>	<b>\$42.0</b>	<b>\$28.2</b>	<b>\$31.8</b>

\* Based on \$470/mt.

# LNG Plant Costs

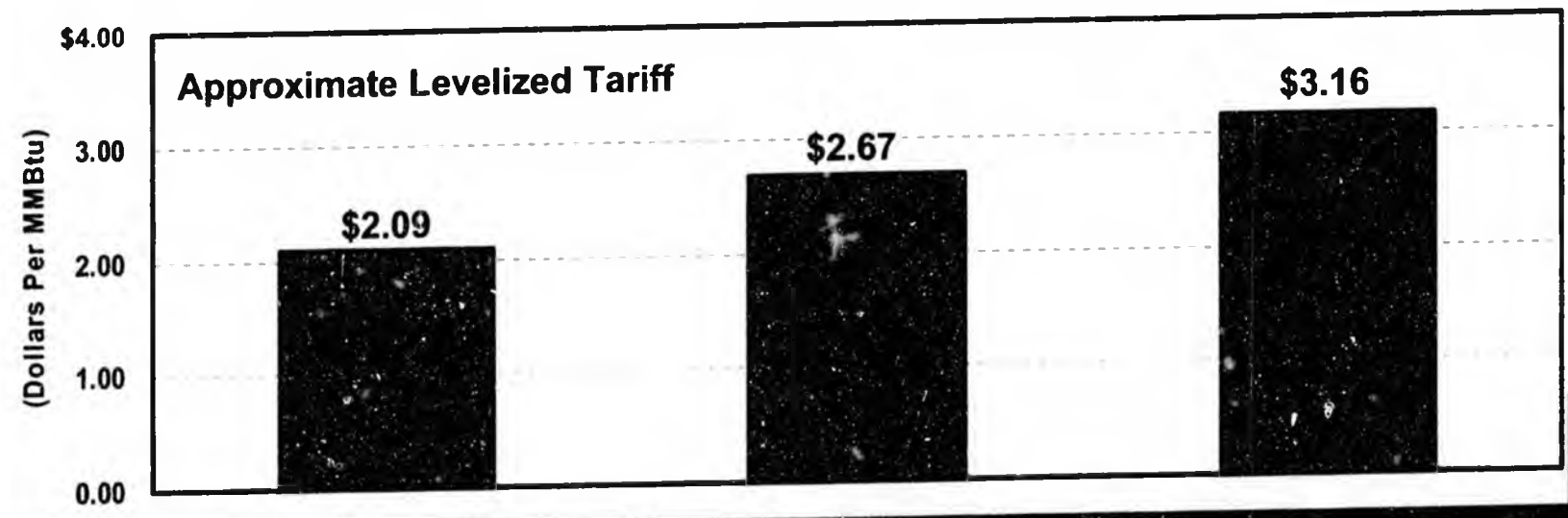
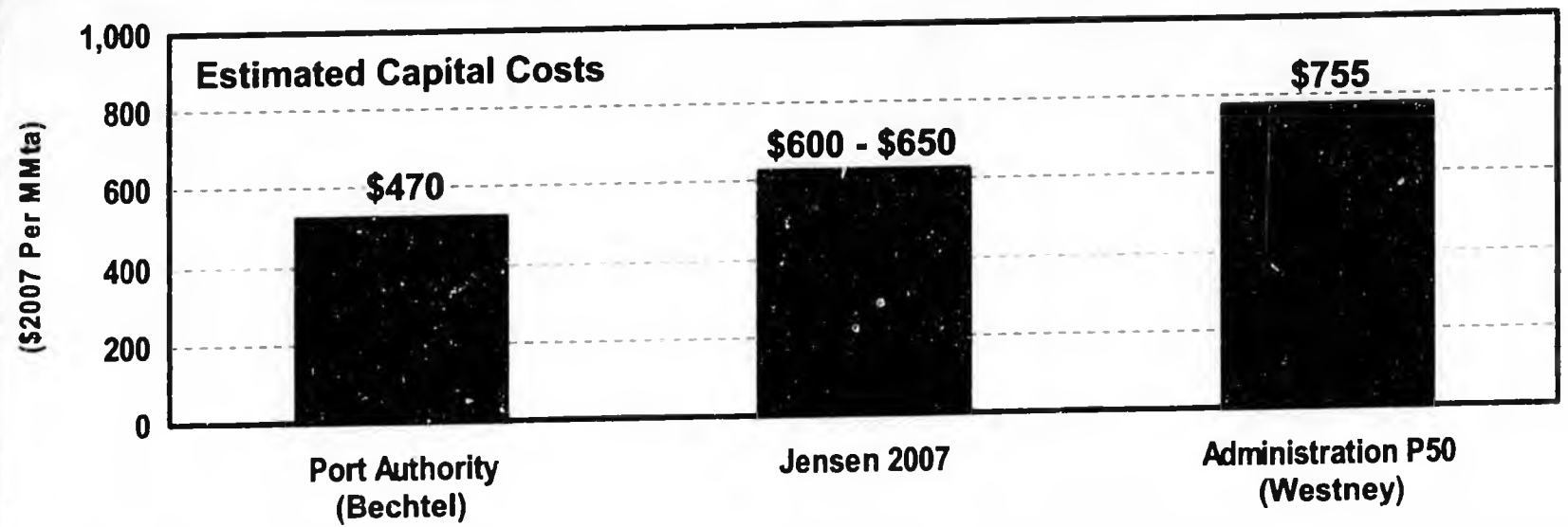
# LNG Plant Costs Per Administration (Westney) (\$2007 per mmta)



Source: AGIA Analysis Technical Team, "LNG Project Costs/Schedule", June 9, 2008.



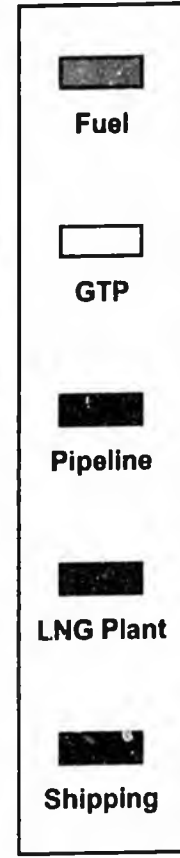
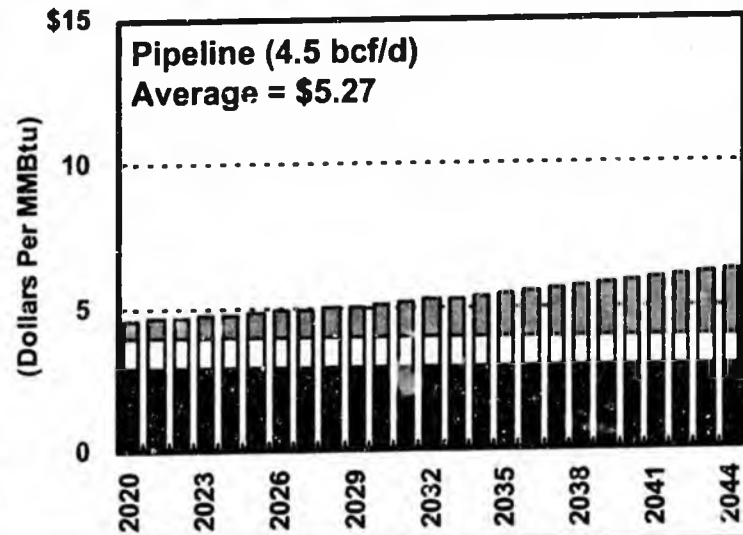
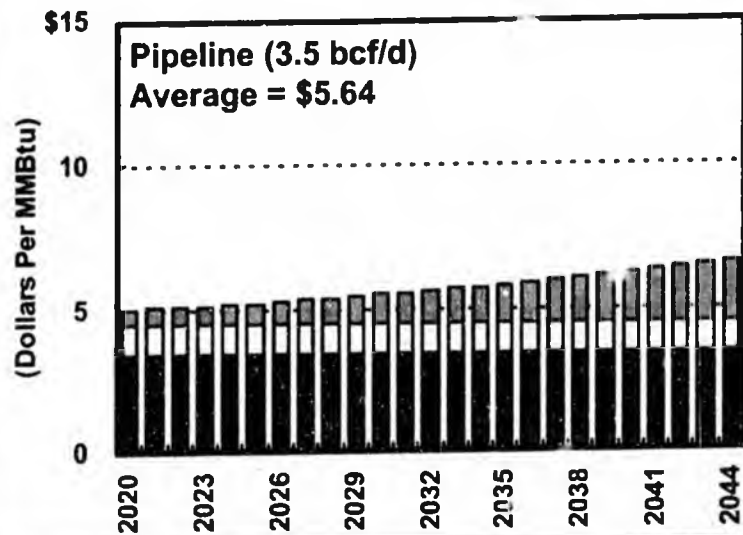
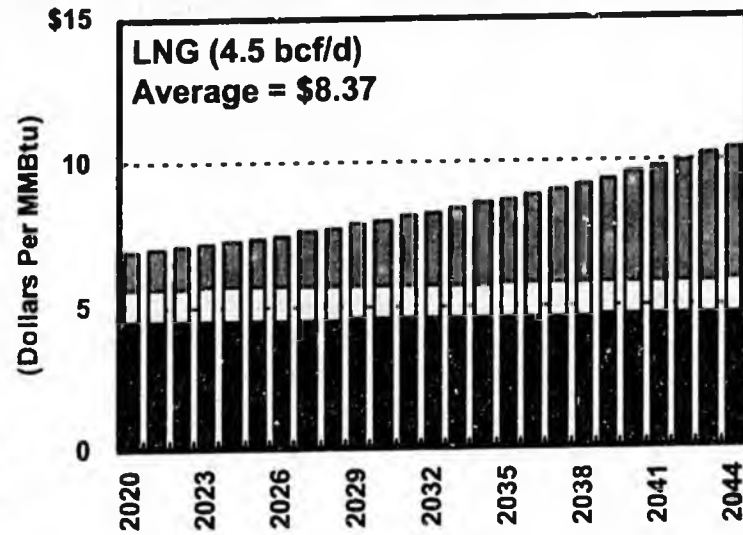
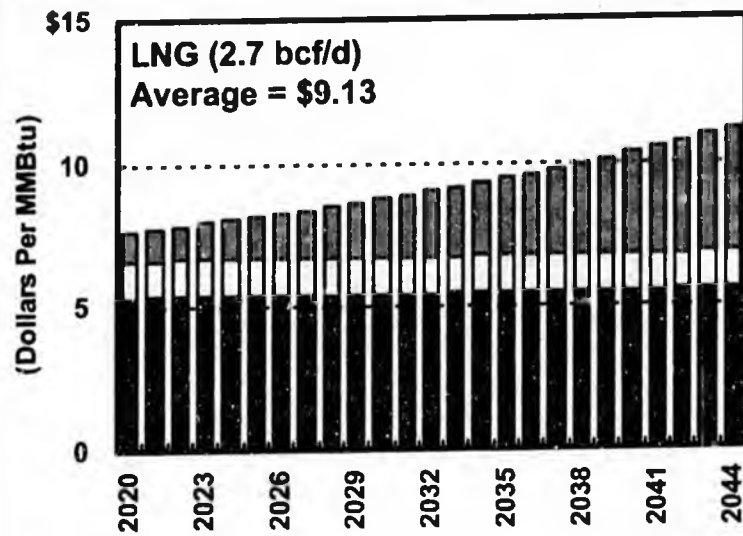
# Range of LNG Liquefaction Costs and Tariffs (2.7 bcf/d LNG Project)



# Comparison of Netback Elements

# Comparison of Potential Costs

## LNG Project v. Pipeline Project 2020 - 2044



Note: Oil Prices per Wood Mackenzie forecasts with 8:1 Oil/Gas Price Ratio;  
 LNG Plant cost of \$470/mmta per Port Authority application;  
 Asia Gas Price = 0.1485 x JCC + \$0.90 (Gas Strategies).

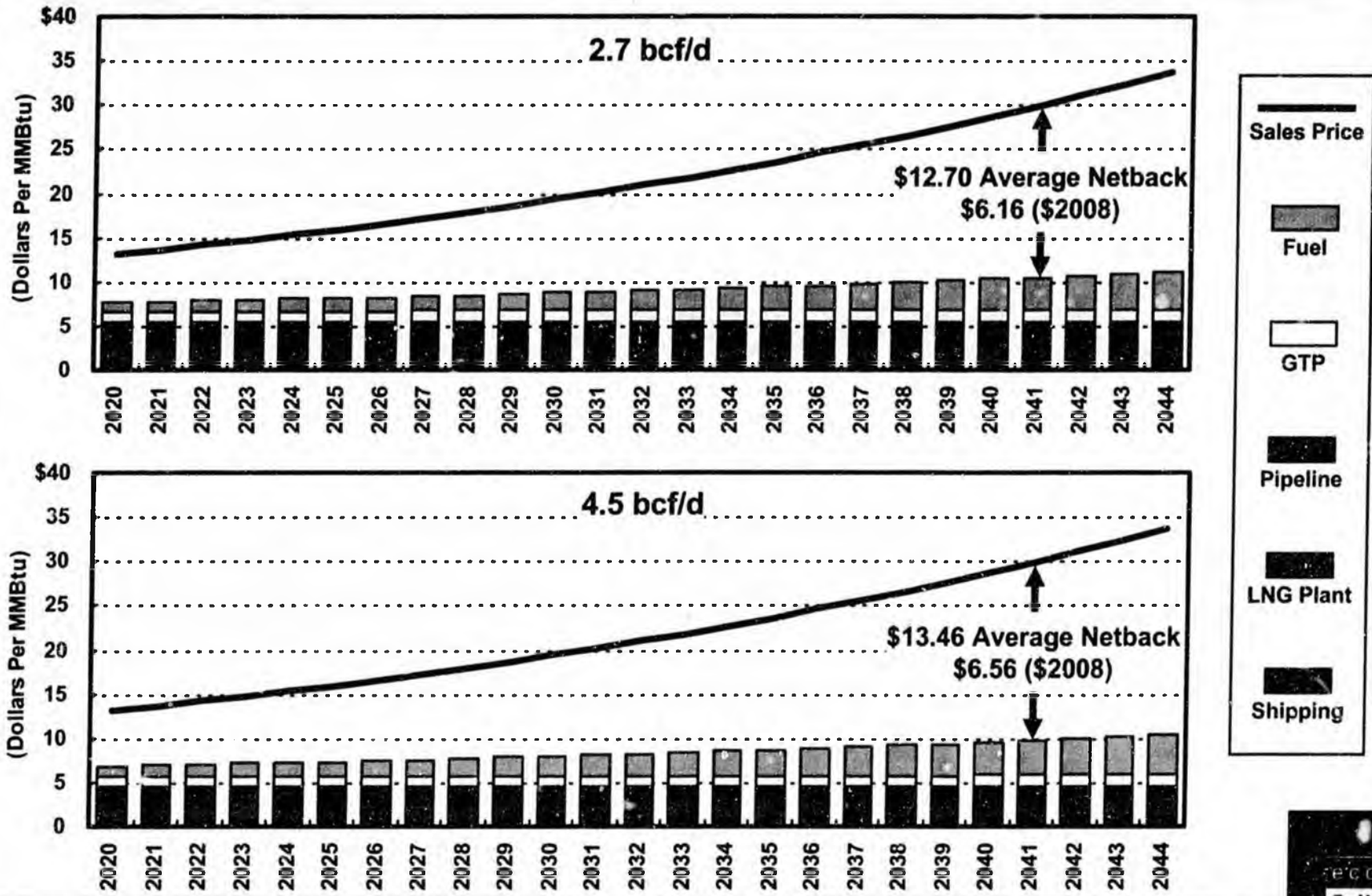


# Potential Netbacks



# Potential Netbacks for LNG Delivery to Asia

(Gas Strategies: Asia Gas' Price = 0.1485 x Brent + \$0.90)

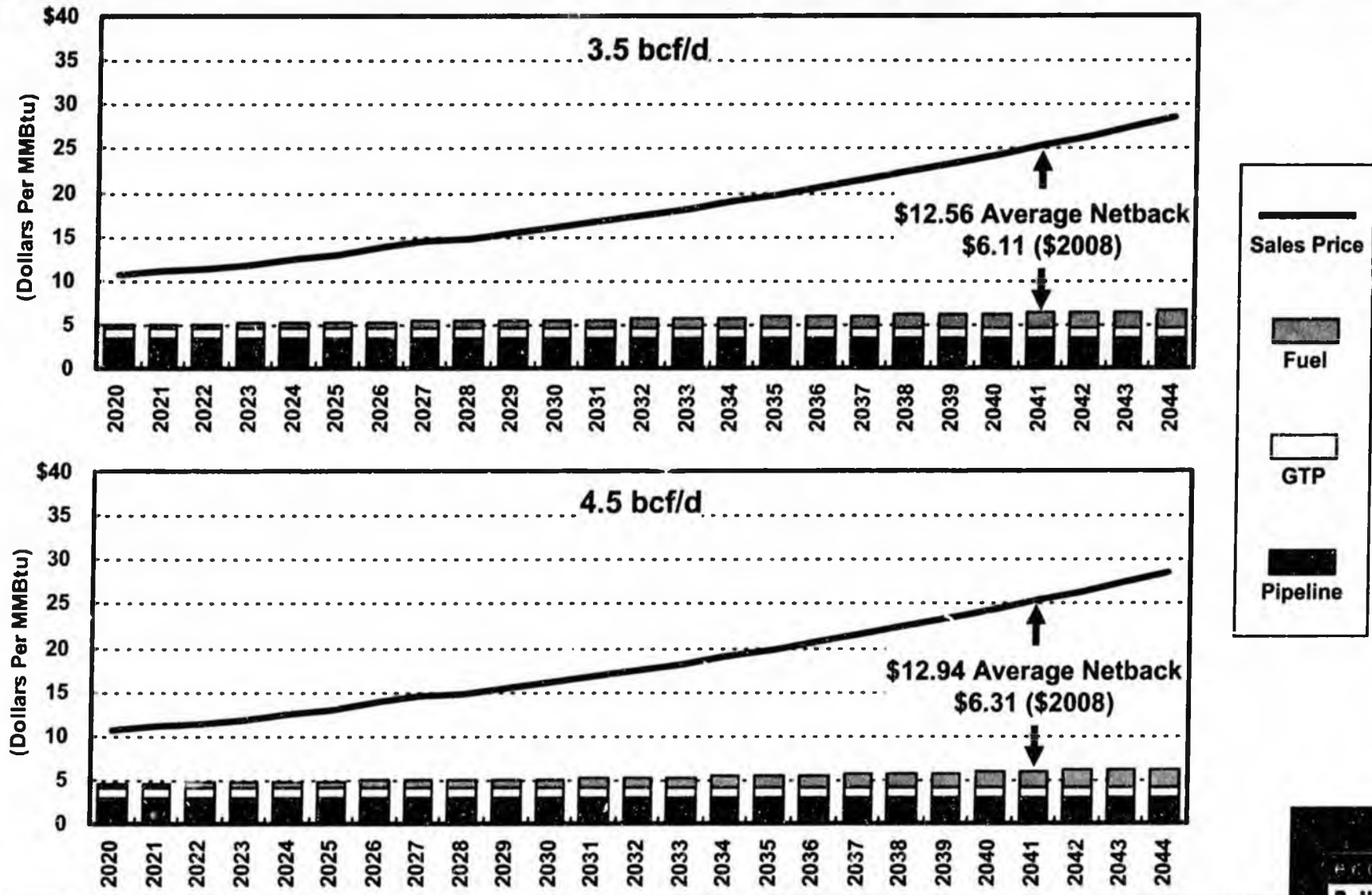


Note: Oil Prices per Wood Mackenzie forecasts;  
LNG Plant cost of \$470/mmta per Port Authority application.



# Potential Netbacks for AECO Pipeline Delivery

(8:1 WTI Oil/Henry Hub Gas Price Ratio)



Note: Oil Prices per Wood Mackenzie forecasts.



# **Comparison of Projected Netbacks**

**2.7 bcf/d LNG Project**

**v.**

**3.5 bcf/d Pipeline Project**

# Projected Netbacks Under Alternative Projects (Port Authority LNG Plant Costs -- \$470/mt)

## Oil Prices per Wood Mackenzie Estimates 2.7 bcf/d (LNG Project) v. 3.5 bcf/d (Pipeline Project) 2020 - 2044

	2.7 bcf/d LNG Project				3.5 bcf/d AECO Pipeline Delivery	
	High Price Asia Gas = 0.162 x Brent +\$1.00 (1)	Gas Strategies Asia Gas = 0.1485 x Brent +\$0.90 (2)	Port Authority Asia Gas = 0.8 x (Brent / 5.8) (3)	Low Price Asia Gas = 0.11 x Brent +\$1.30 (4)	8:1 Oil/Gas Price Ratio (5)	10:1 Oil/Gas Price Ratio (6)
Gas Sales Price (\$/MMBtu)	\$23.67	\$21.85	\$19.61	\$17.21	\$18.20	\$15.20
Delivery Costs (\$/MMBtu) (Including Losses)	(9.42)	(9.13)	(8.77)	(8.39)	(5.64)	(5.38)
Netback (\$/MMBtu)	\$14.25	\$12.70	\$10.84	\$8.82	\$12.56	\$9.82
Netback in \$2008 dollars (per MMBt)	\$6.93	\$6.16	\$5.22	\$4.25	\$6.11	\$4.75
	①	②	④	⑥	③	⑤
Total Netback Dollars						
In Nominal Dollars (\$Bn)	\$396.2	\$353.1	\$301.3	\$245.2	\$472.0	\$369.1
In \$2008 dollars (\$Bn)	192.7	171.3	145.1	118.1	229.5	178.5
NPV-10 (\$Bn)	35.1	31.0	25.6	20.9	41.8	31.9
	②	④	⑤	⑥	①	③

**② ④ ⑤ ⑥ = More Likely Price Scenario(s)**



# **Comparison of Projected Netbacks**

**2.7 bcf/d LNG Project**

**v.**

**4.5 bcf/d Pipeline Project**

# Projected Netbacks Under Alternative Projects

(Port Authority LNG Plant Costs → \$470/mt)

## Oil Prices per Wood Mackenzie Estimates 2.7 bcf/d (LNG Project) v. 4.5 bcf/d (Pipeline Project) 2020 - 2044

	2.7 bcf/d LNG Project				4.5 bcf/d AECO Pipeline Delivery	
	High Price Asia Gas = 0.162 x Brent +\$1.00 (1)	Gas Strategies Asia Gas = 0.1485 x Brent +\$0.90 (2)	Port Authority Asia Gas = 0.8 x (Brent / 5.8) (3)	Low Price Asia Gas = 0.11 x Brent +\$1.30 (4)	8:1 Oil/Gas Price Ratio (5)	10:1 Oil/Gas Price Ratio (6)
Gas Sales Price (\$/MMBtu)	\$23.67	\$21.83	\$19.61	\$17.21	\$18.20	\$15.20
Delivery Costs (\$/MMBtu) (Including Losses)	(9.42)	(9.13)	(8.77)	(8.39)	(5.26)	(4.99)
Netback (\$/MMBtu)	\$14.25	\$12.70	\$10.84	\$8.82	\$12.94	\$10.22
Netback in \$2008 dollars (per MMBt)	\$6.93	\$6.16	\$5.22	\$4.25	\$6.31	\$4.96
	①	③	④	⑥	②	⑤
Total Netback Dollars						
In Nominal Dollars (\$Bn)	\$396.2	\$353.1	\$301.3	\$245.2	\$625.0	\$493.5
In \$2008 dollars (\$Bn)	192.7	171.3	145.1	118.1	304.6	239.5
NPV-10 (\$Bn)	35.1	31.0	25.6	20.9	55.9	43.3
	③	④	⑤	⑥	①	②

**■ = More Likely Price Scenario(s)**

