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Alaska Highway
Natural Gas Policy Council

Senate President Rick Halford

Alaska Highway Natural Gas Policy Council
TIMELINE

(All dates/locations subject to change)

March 1 – **Full council meeting** kick-off in Anchorage

March 23 – **Full council meeting**/workshop in Anchorage

April 5 – **Full council meeting**/workshop in Anchorage
immediately followed by subcommittee meetings

April 18 – Public hearing in Fairbanks

May 17 – Public hearing in Kenai

May 24 – **Full council meeting**/public hearing in Anchorage

June 14 – Public hearing in Tok/Delta

July 19 – **Full council meeting**/public hearing in Barrow
(members not in Barrow can participate via videoconference from Anchorage)

August 2 – Public hearing in Southeast

August 23 – Public hearing in Valdez

September 17 – **Full council meeting** in Anchorage

November 8 – **Final full council meeting** in Anchorage

Other important dates:

October 1 – Written reports due from subcommittees

October 30 – First draft of final report complete

November 30 – Final report presented to Governor Knowles

Revised 4/16/01

Alaska Highway Natural Gas Policy Council
COMMITTEE STRUCTURE

Council Mission: To promote an Alaska Highway Natural Gas Pipeline project to the lower 48 that also enables creation of a natural gas business in Alaska.

Alaska Hire/Buy/Build – Mike Navarre, chair
Jerry Hood, Rhonda Boyles, Rosemarie Maher, Jake Adams, Peg Tileston
- Use of the Alaska labor pool by contractors and subcontractors
- Use of Alaska businesses
- Training and readiness of Alaskans for jobs on a gas project
- Socio-economic impacts

State's Royalty Share – Bill Corbus, chair
Dave Rose, Ron Duncan, Grace Schaible, Mike Navarre, Ed Rasmuson, Mike O'Connor, Ken Thompson
- Best uses of the state's royalty share: in-kind vs. in-value
- Ensure fair return to the state
- Costs and benefits of the state taking delivery of royalty share
- State promotion and facilitation of project financing – state ownership
- Review other states' policies for best practices
- Evaluation of state tax structure

Federal/International Action – Charlie Cole, chair
Esther Wunnicke, Bob Penney, Jon Rubini, Jeff Feldman, George Wuerch
- Federal permitting/access
- Federal agency lead
- Canadian permitting/access
- Other contractual considerations
- Domestic markets – Competing sources/sharing of the market
- Canadian national and territorial relations

Access to the gas/In-state gas consumption– Ken Thompson, chair
Rosemarie Maher, Rhonda Boyles, Al Adams, Brian Davies, Jim Jansen, Jerry Hood, Bob Penney
- Demand for in-state natural gas
- Promotion or attraction of investment for in-state distribution and value-added processing
- Best practices valuation/net-back pricing methodology
- Ensuring access to natural gas for local communities
- Benefits of natural gas development to rural Alaska

Linking other future opportunities/markets: GTL, LNG, NGL – Carl Marrs, chair
Jack Roderick, Lee Gorsuch, Jeff Feldman, George Ahmaogak, Ken Thompson
- Options for projects utilizing gas-to-liquids and liquid natural gas
- Best use of natural gas liquids
- Asian/West Coast markets
- Allowing for expanded uses

Environmental Considerations– Peg Tileston, chair
Brian Davies, Esther Wunnicke, Lee Gorsuch, Grace Schaible
- Environmental impacts and necessary protection measures
- Doing it right

The Governor's Alaska Highway Natural Gas Policy Council Members

First	Last	Company	Address	City	Zip	Work	Fax	Email
Al	Adams	North Slope Borough	3000 C St., Suite 200	Anchorage	99503	561-5144	562-1940	aadams_anchorage@co.north-slope.ak.us
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Lee	Gorsuch	University of Alaska, Anchorage	3211 Providence Drive, ADM 216	Anchorage	99508-4675	786-1437	786-6123	afelg@uaa.alaska.edu
Jerry	Hood	Teamsters, Local 959	520 East 34th Avenue	Anchorage	99503	565-8102	565-8199	jlhood@akteamsters.com
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Rosemarie	Maher	Doyon, Limited	1 Doyon Place, Suite 300	Fairbanks	99701	452-4755	459-2060	info@doyon.com
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Alaska Highway Natural Gas Policy Council

AGENDA

Organizational Meeting – Thursday, March 1, 2001
Anchorage Sheraton Hotel – 10:30 a.m. to 2:00 p.m.

I. Welcoming remarks from Council Co-Chairs Jim Sampson/Frank Brown

II. Opening remarks from Governor Tony Knowles

III. Opening remarks from Lt. Governor Fran Ulmer

IV. Presentation from Department of Natural Resources Commissioner Pat Pourchot (see April 18th meeting)

V. Presentation from Cambridge Energy Research Associates

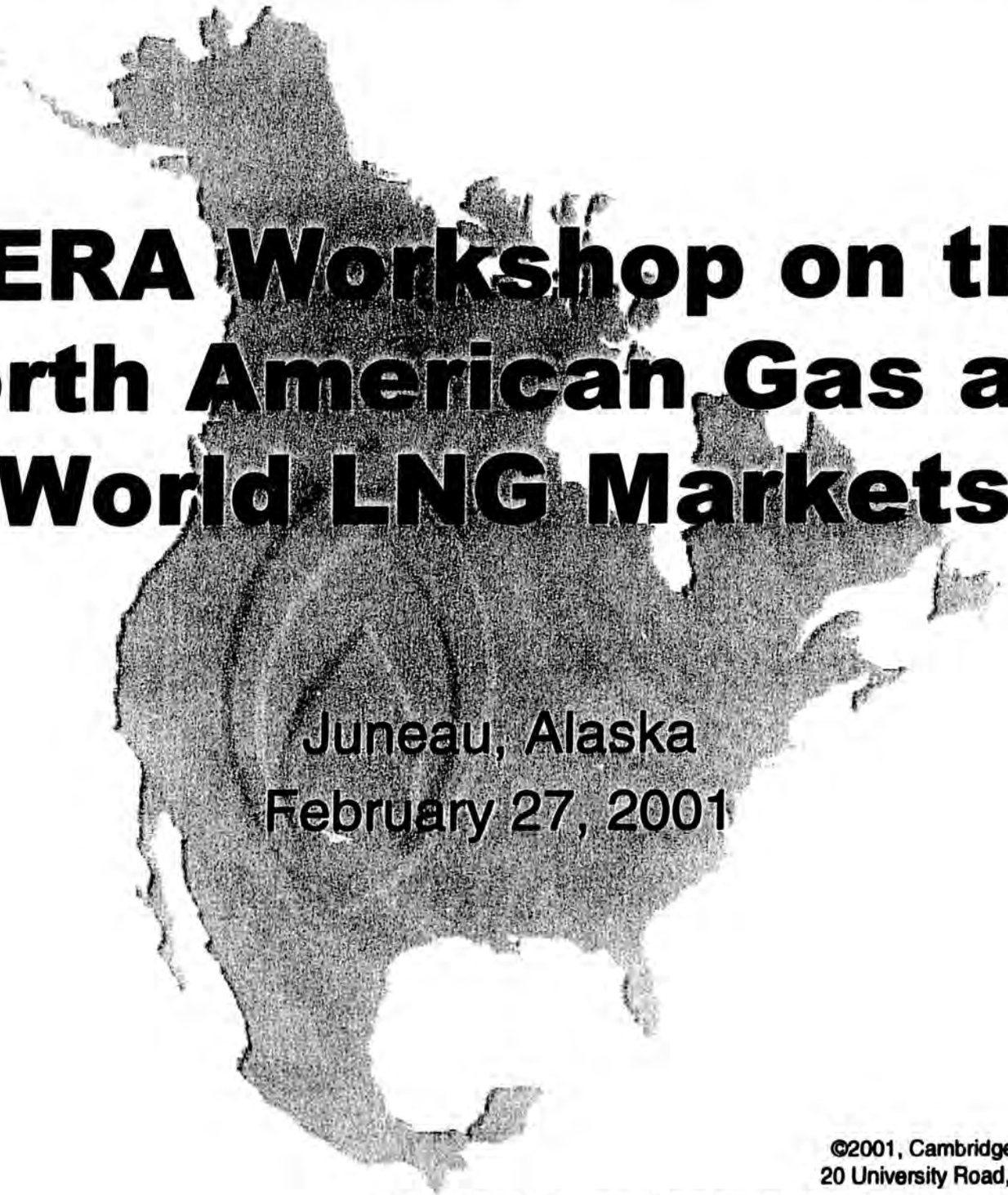
VI. Ten-minute break

VII. Working lunch and council member self-introductions

VIII. Establish organizational structure

IX. Establish timeline and public hearing schedule

X. Closing remarks from Council Co-Chairs Jim Sampson/Frank Brown



CERA Workshop on the North American Gas and World LNG Markets

Juneau, Alaska
February 27, 2001

CERA

North American Gas Market Overview

CERA

Winter 2000/01: A Market Exposed

Supply Response

- Little help this winter
- Canada: Still struggling to grow
- LNG: limited new gas

Storage

- October 31:record low in the United States
- Early winter: held in reserve?
- March 31: how low can it go?

Weather

- Potential demand rebound of 3–4 Bcf per day
- The 900 Bcf wild card

Power Market Development

- Building marginal winter demand
- Competition for space in the pipes

New Infrastructure

- Alliance; but little gas to follow
- M&N fills, no help to NY
- Rockies projects proliferate

CERA

Source: Cambridge Energy Research Associates.

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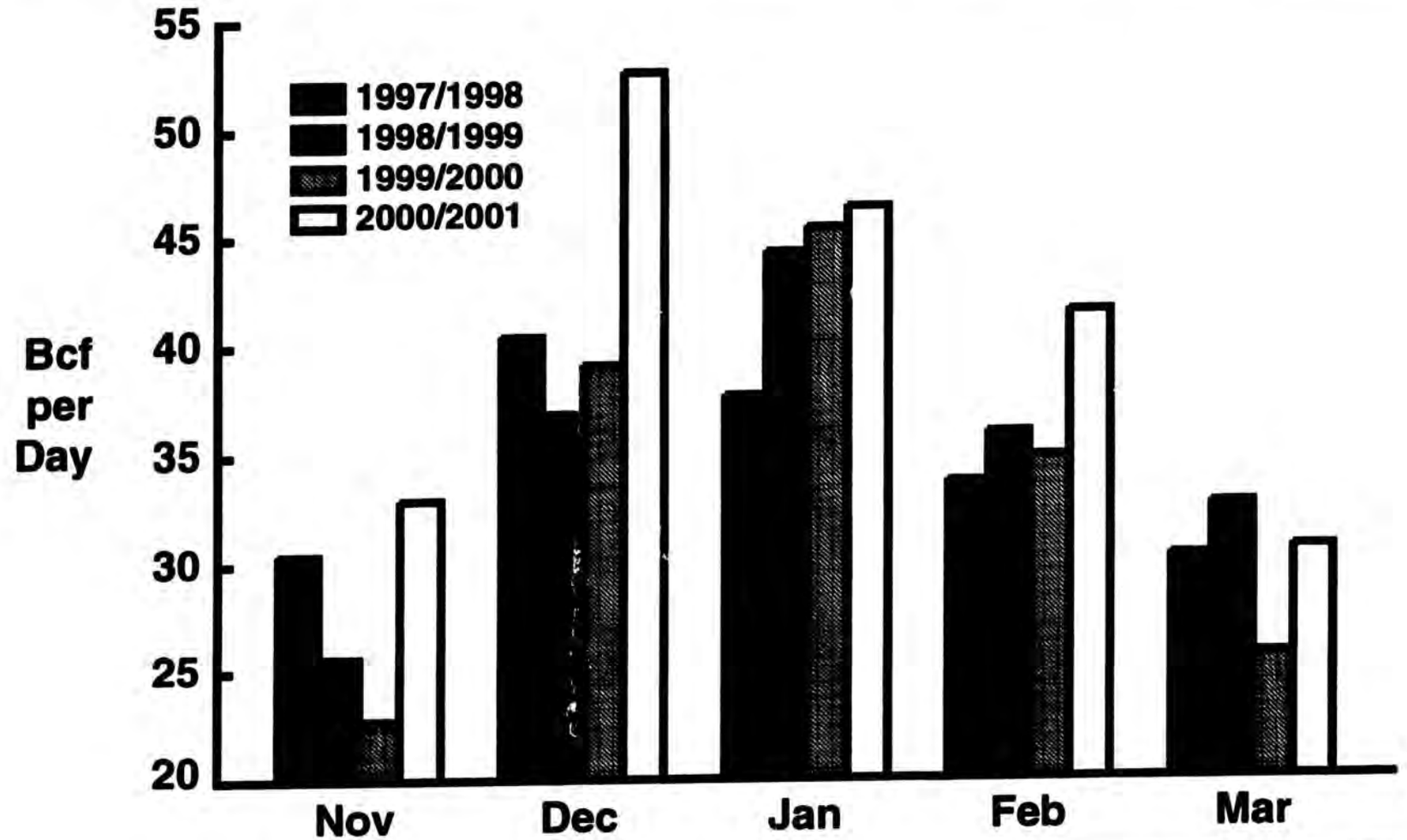
After the Spike - Winter Gas Heating Demand



Source: Cambridge Energy Research Associates
Notes: Includes residential and commercial demand. Winter of 2000/2001 assumes 15-year normal weather

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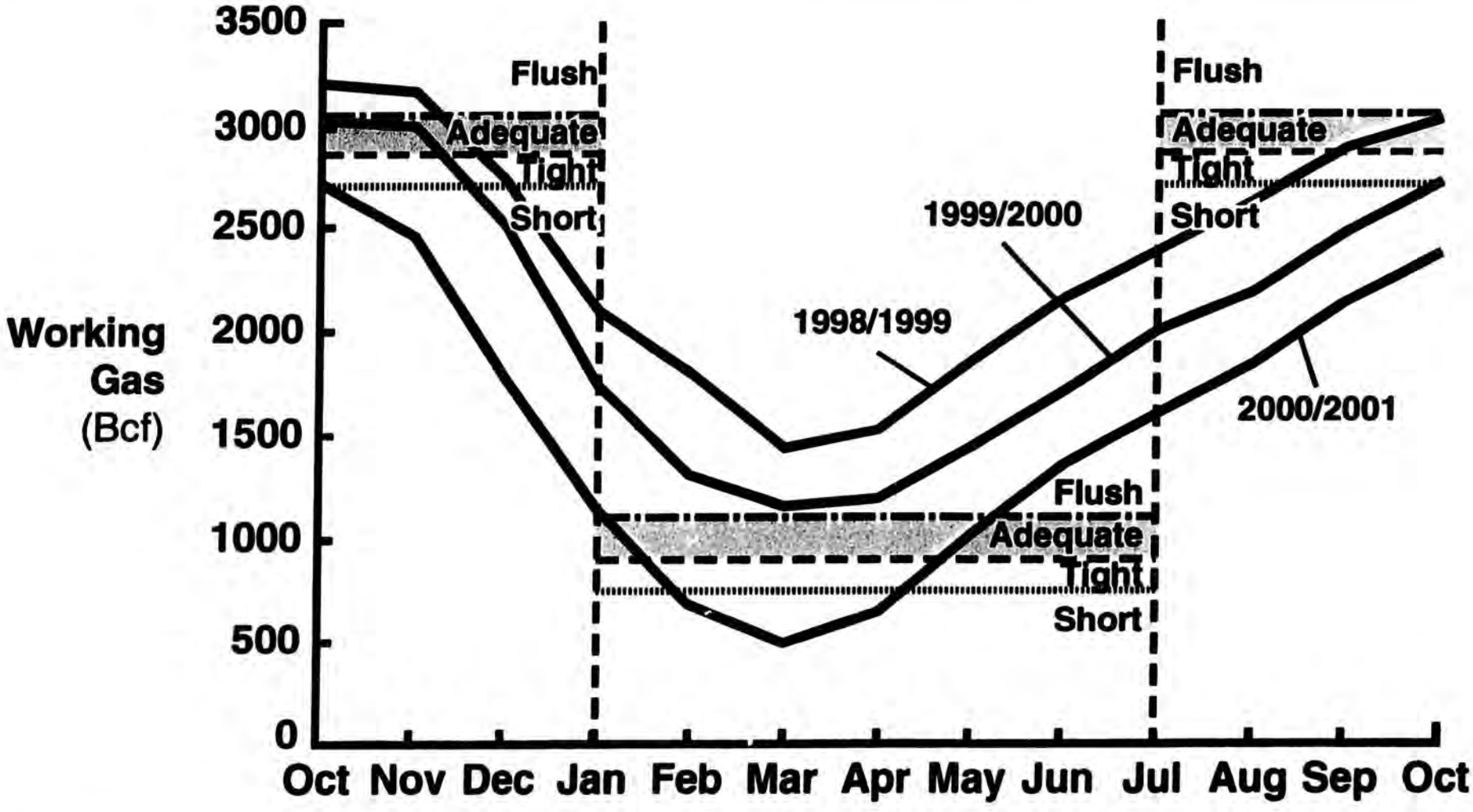
The Storage Cushion Deflates: Supply Declines Drive Down Inventories



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Source: Cambridge Energy Research Associates.

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2001 and Beyond: Supply Recovery, Demand Pressure

Supply Response

- Increased rig activity drives L-48 rebound of 0.8 to 1.0 Bcf per day
- Deep water ramps up
- Canadian supply builds
- LNG: limited new gas until 2003

Storage

- Recovery from historic lows
- Driving price volatility
- Injection pressure—again

Power Generation

- Ongoing development > 10,000 MW per year
- Competition with injections
- Demand pressure >1 Bcf per day
- Link to economic growth

Infrastructure and Regulation

- Projects advance, but little built until 2002
- LNG: same
- New prices reawaken old questions
- A retail shakeout?

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Source: Cambridge Energy Research Associates.

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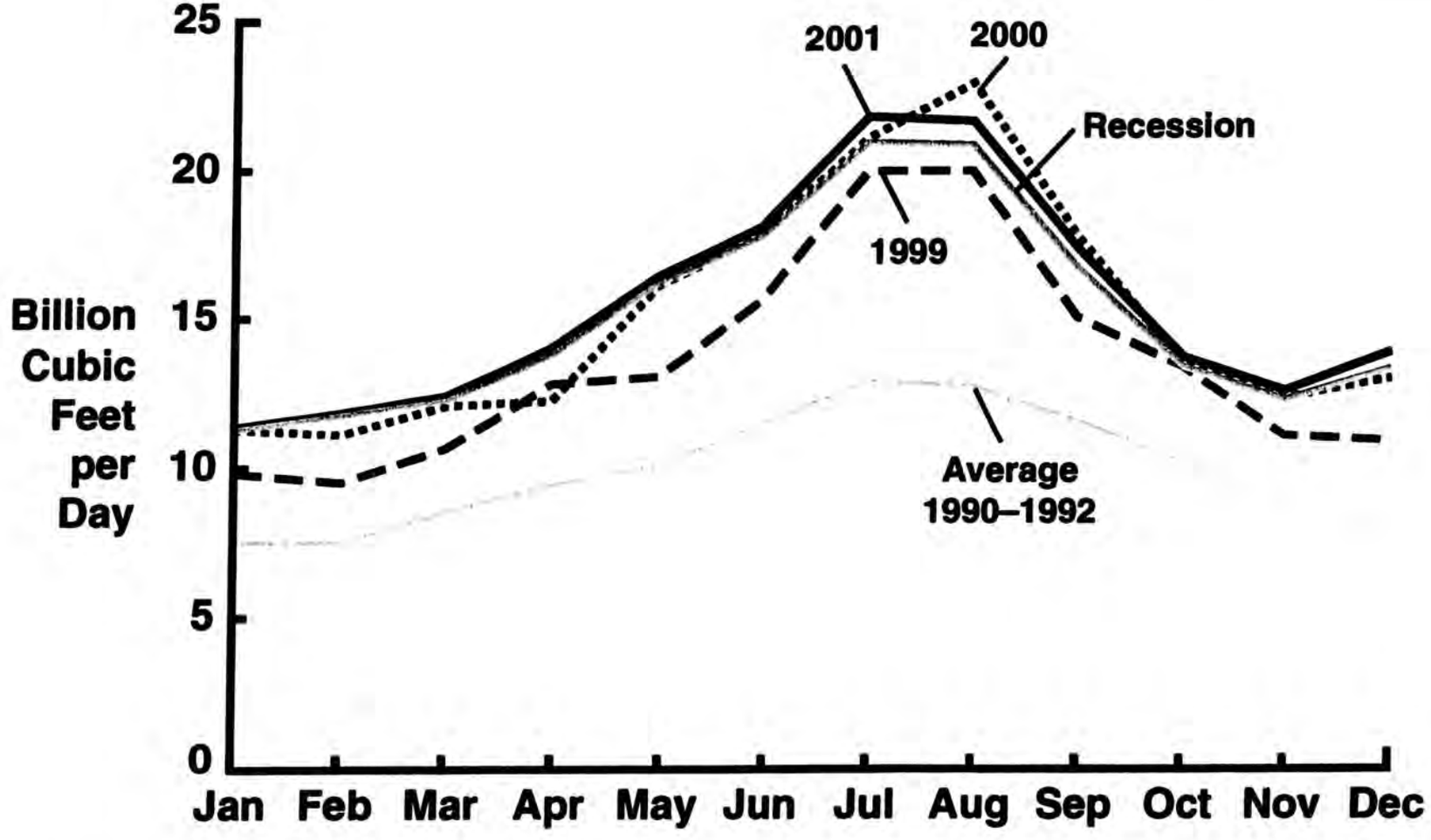
Recession versus Continued Growth: Gas Demand for Power Generation



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Source: Cambridge Energy Research Associates.

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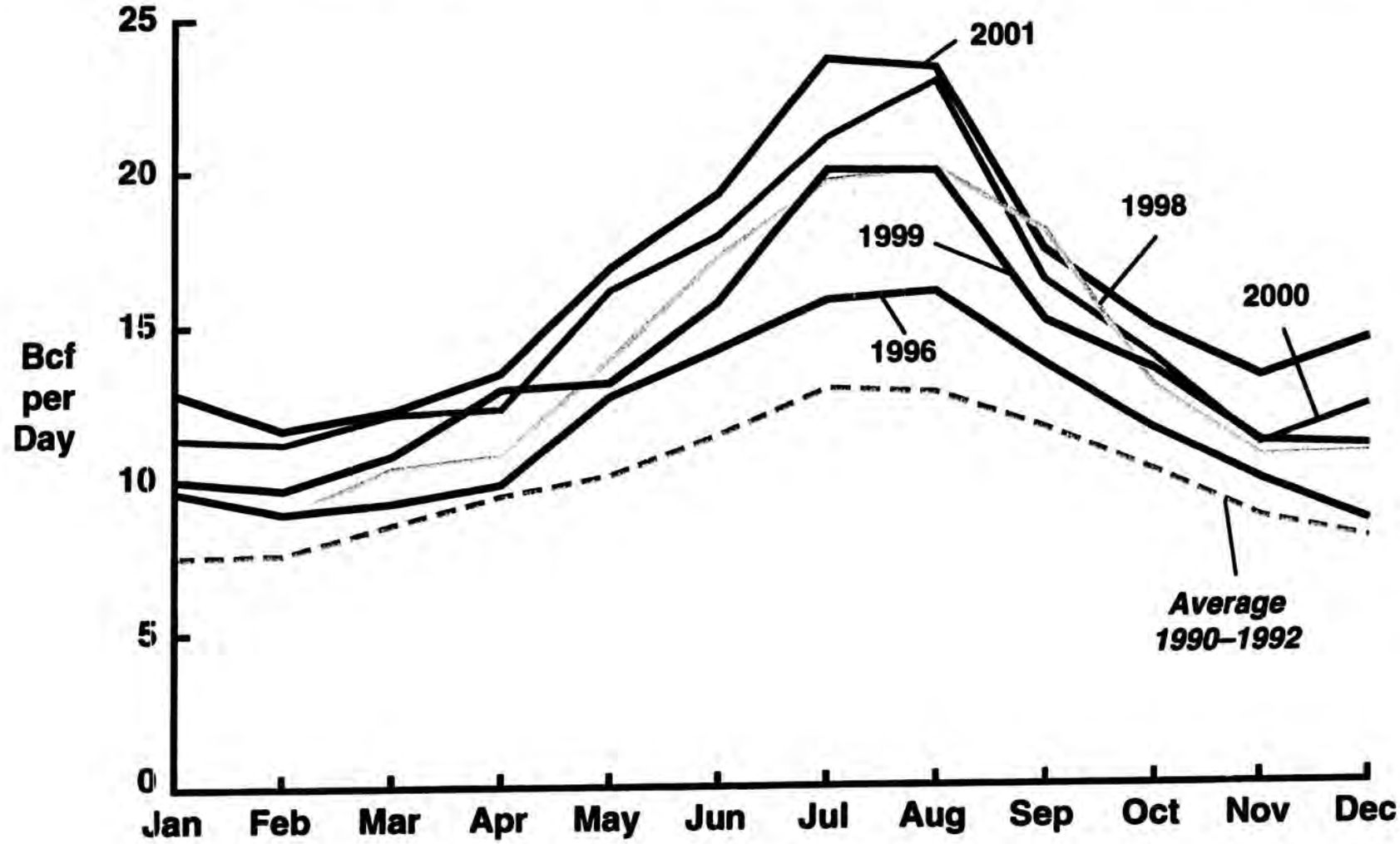
The US Summer Power Peak: Gas Demand for Power Generation



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Source: Cambridge Energy Research Associates.

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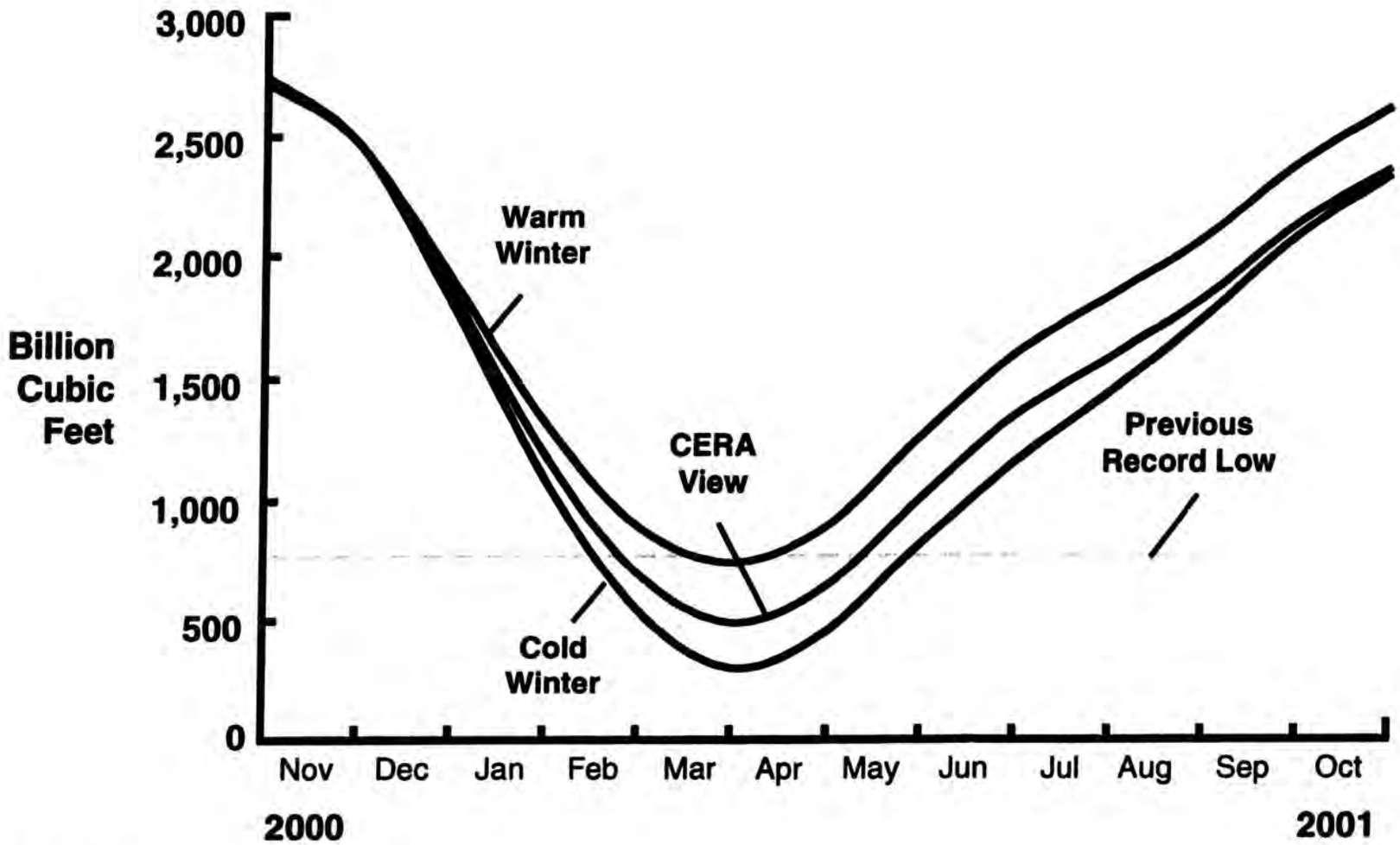
The Winter and Beyond— Depleted Storage in the United States Keeps the Pressure On



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Source: Cambridge Energy Research Associates.

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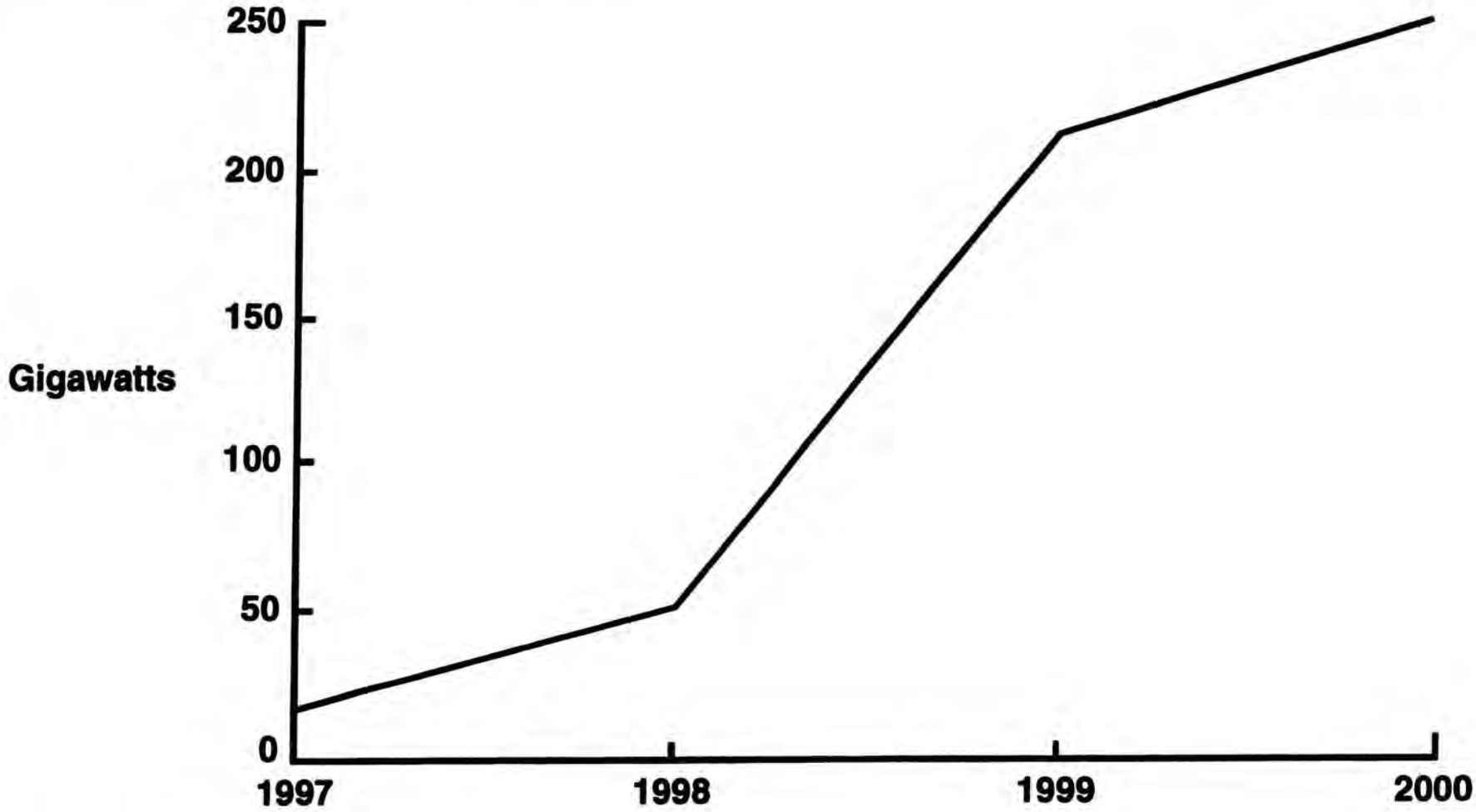
North American Generating Capacity under Development, 1997–2000



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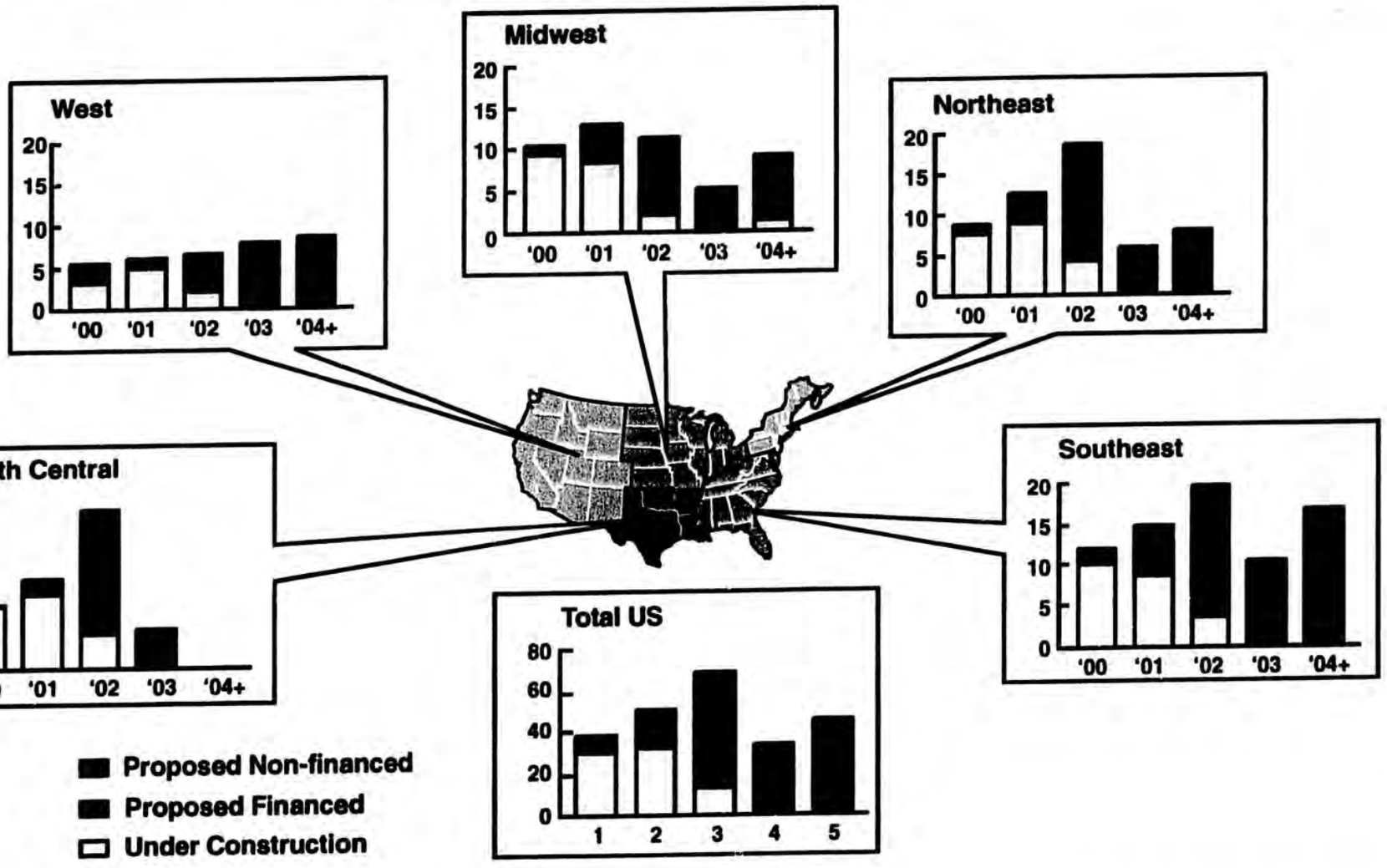
Source: Cambridge Energy Research Associates

Pressure in the Pipelines: The Potential Gas-fired Power Build by Region (gigawatts)



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Source: Cambridge Energy Research Associates.

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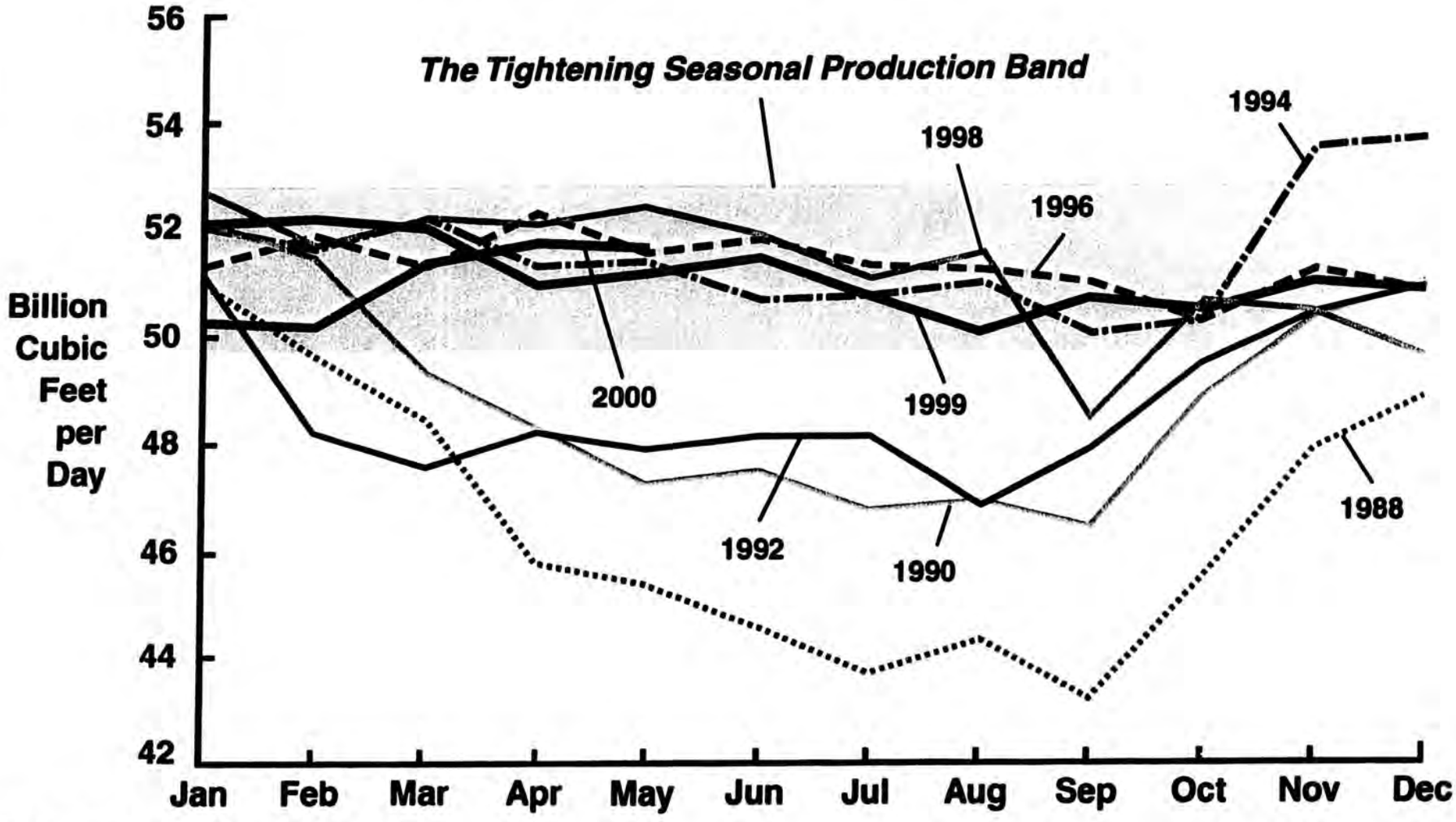
Flattening Seasonal US Production Constrains the Seasonal Supply Response



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Source: Cambridge Energy Research Associates.

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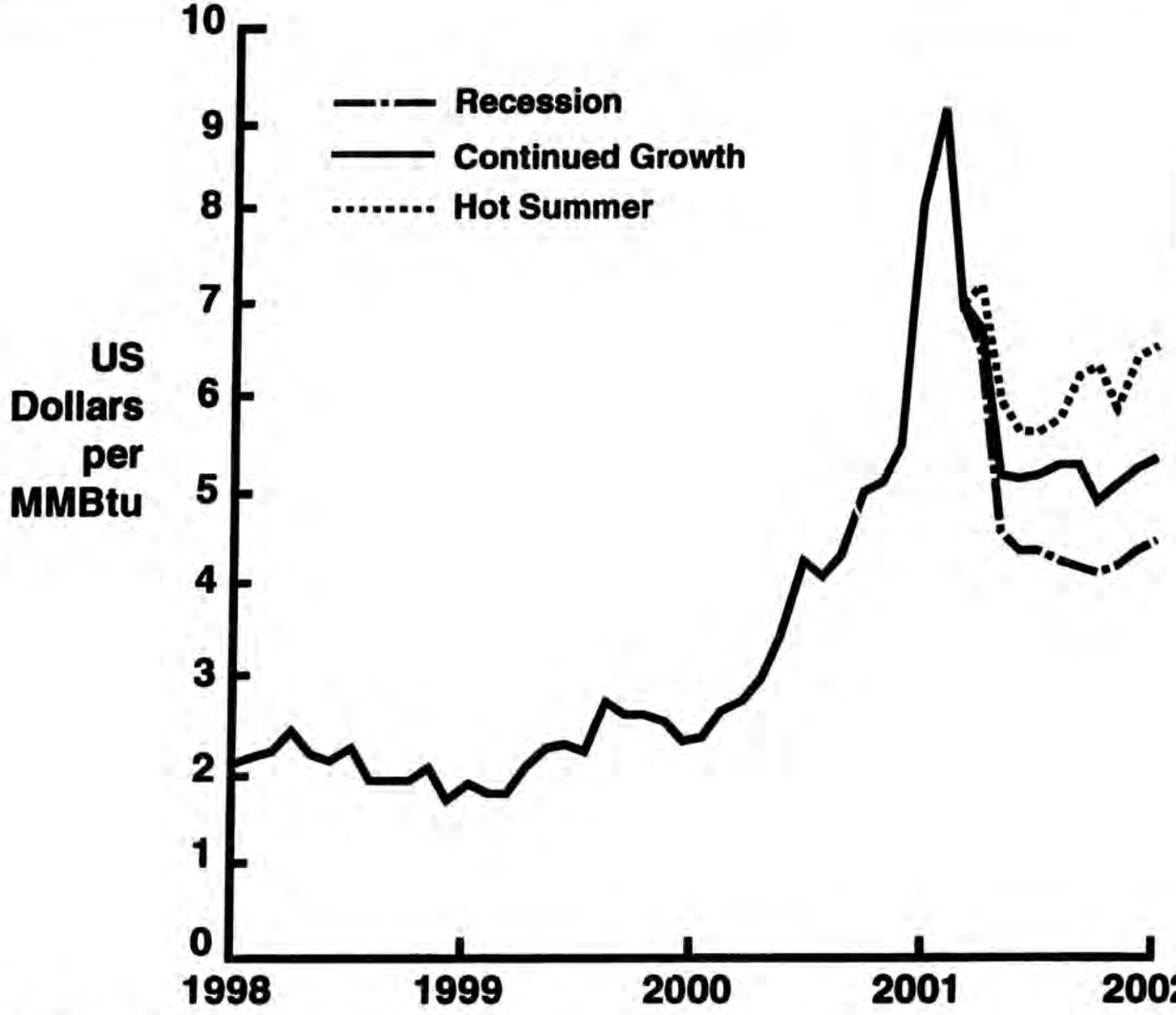
Henry Hub Price Projections



2001 Average		
Hot Summer:		
$4.23	$6.49	
Continued Growth:		
$4.23	$5.80	$3.91
Recession:		
$4.23	$5.15	

CERA

Source: Cambridge Energy Research Associates.

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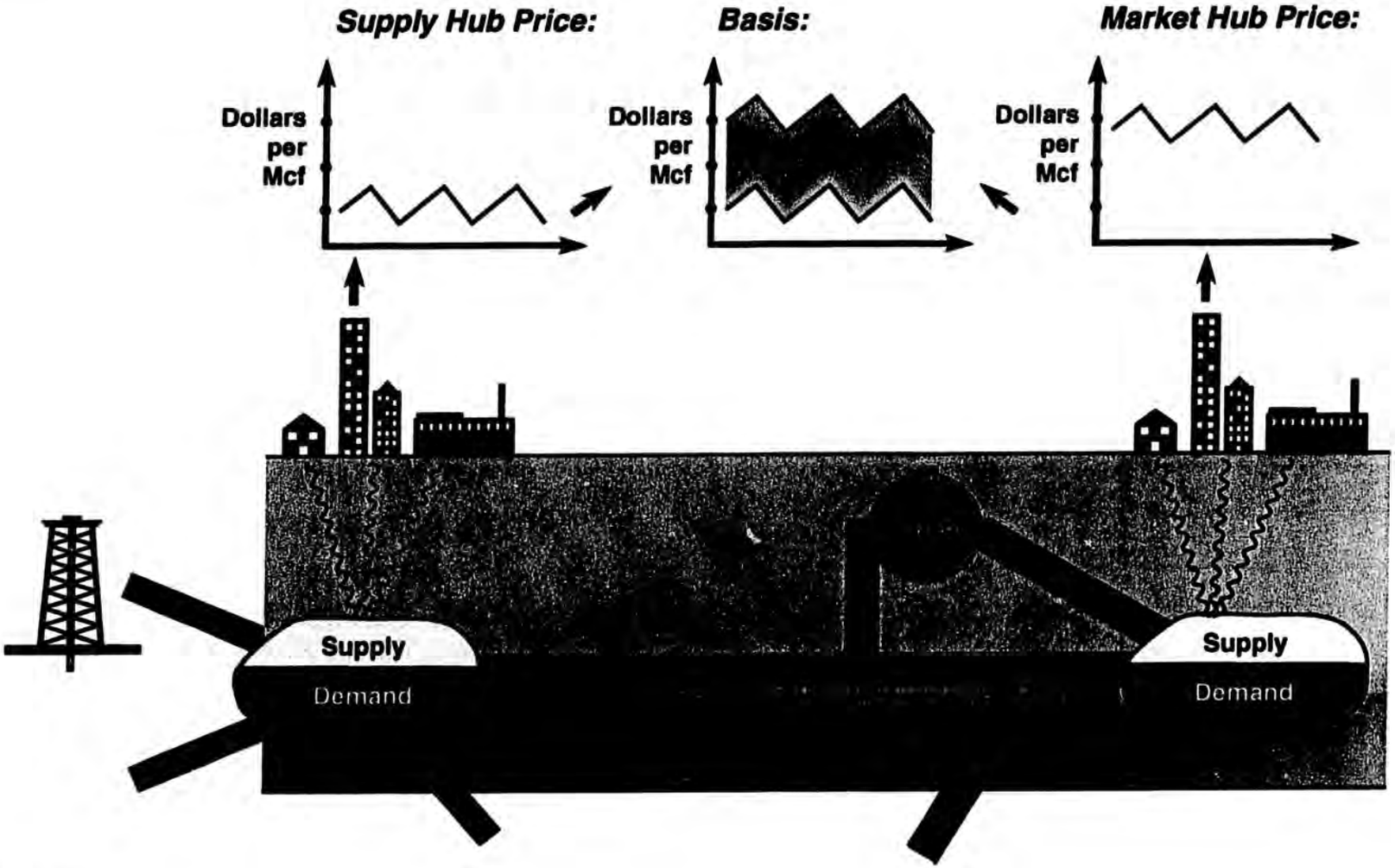
The Fundamental Drivers of Basis



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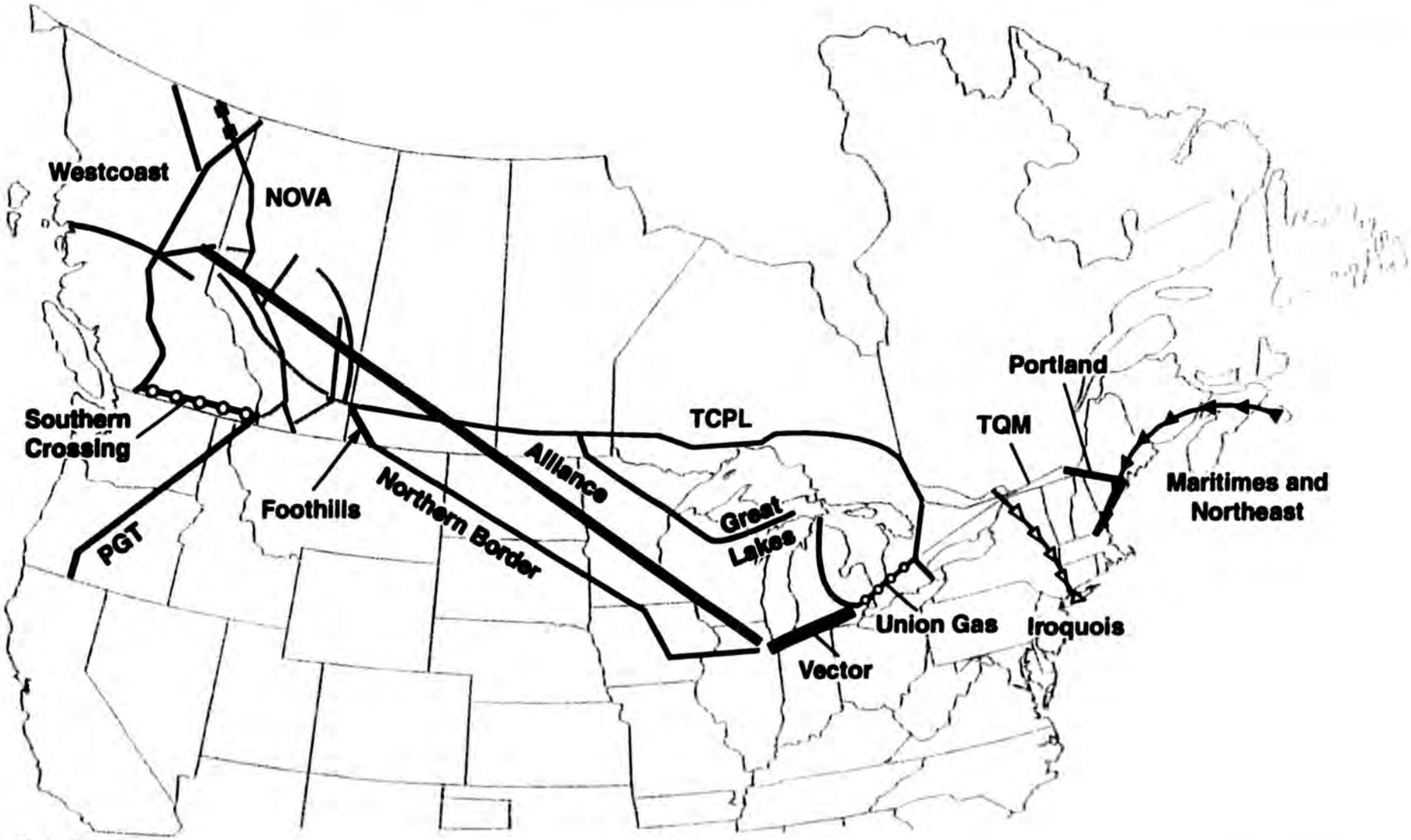
Source: Cambridge Energy Research Associates

Canadian Natural Gas Pipeline Infrastructure



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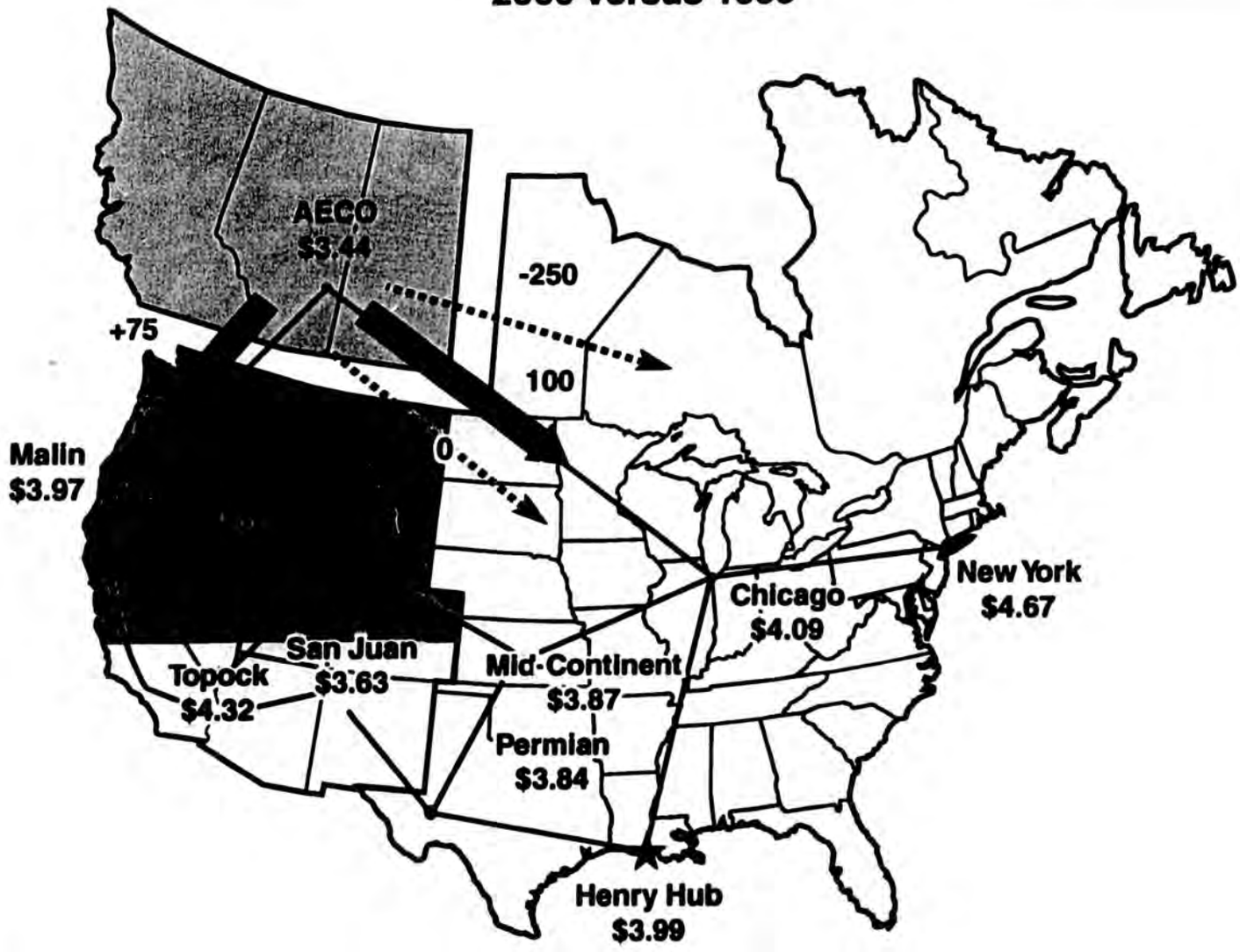
Source: Cambridge Energy Research Associates.

Changes in Export Flows
(MMcf per day; US dollars per MMBtu) (1 of 2)

2000 versus 1999



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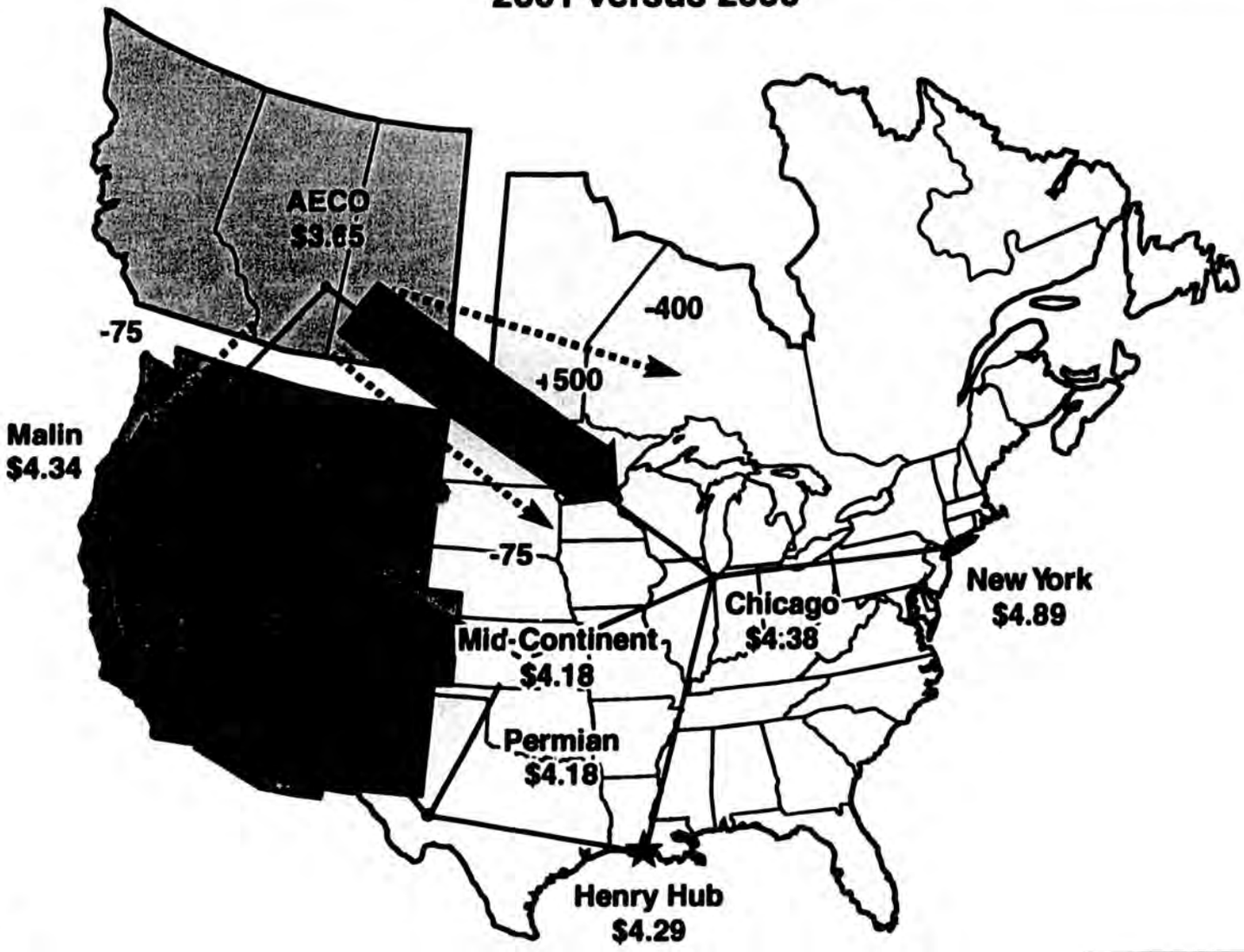
Changes in Export Flows
(MMcf per day; US dollars per MMBtu) (2 of 2)

2001 versus 2000



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Source: Cambridge Energy Research Associates

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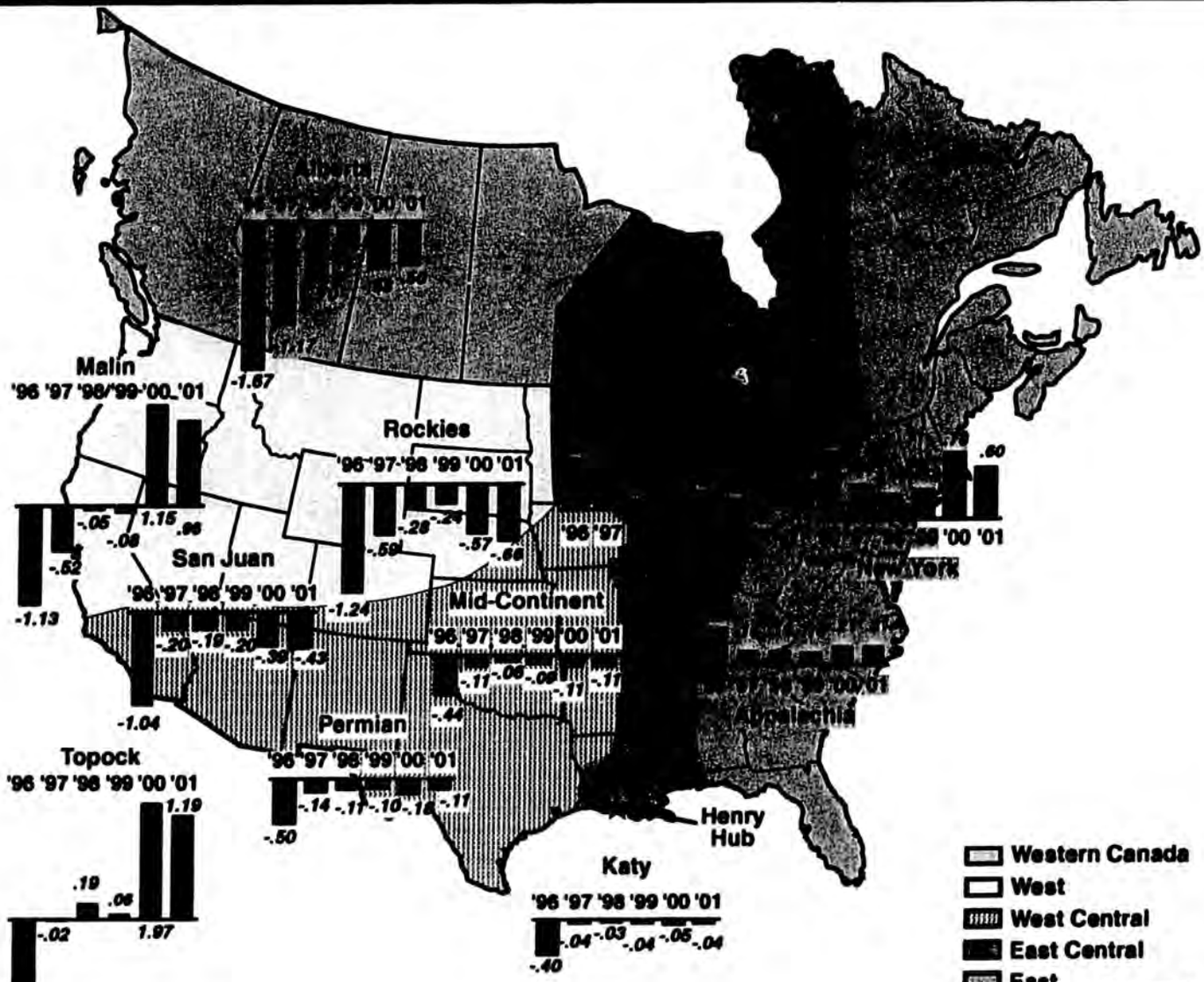
Natural Gas Key Regions of Basis Differentials: Price Differentials to Henry Hub (US dollars per MMBtu)

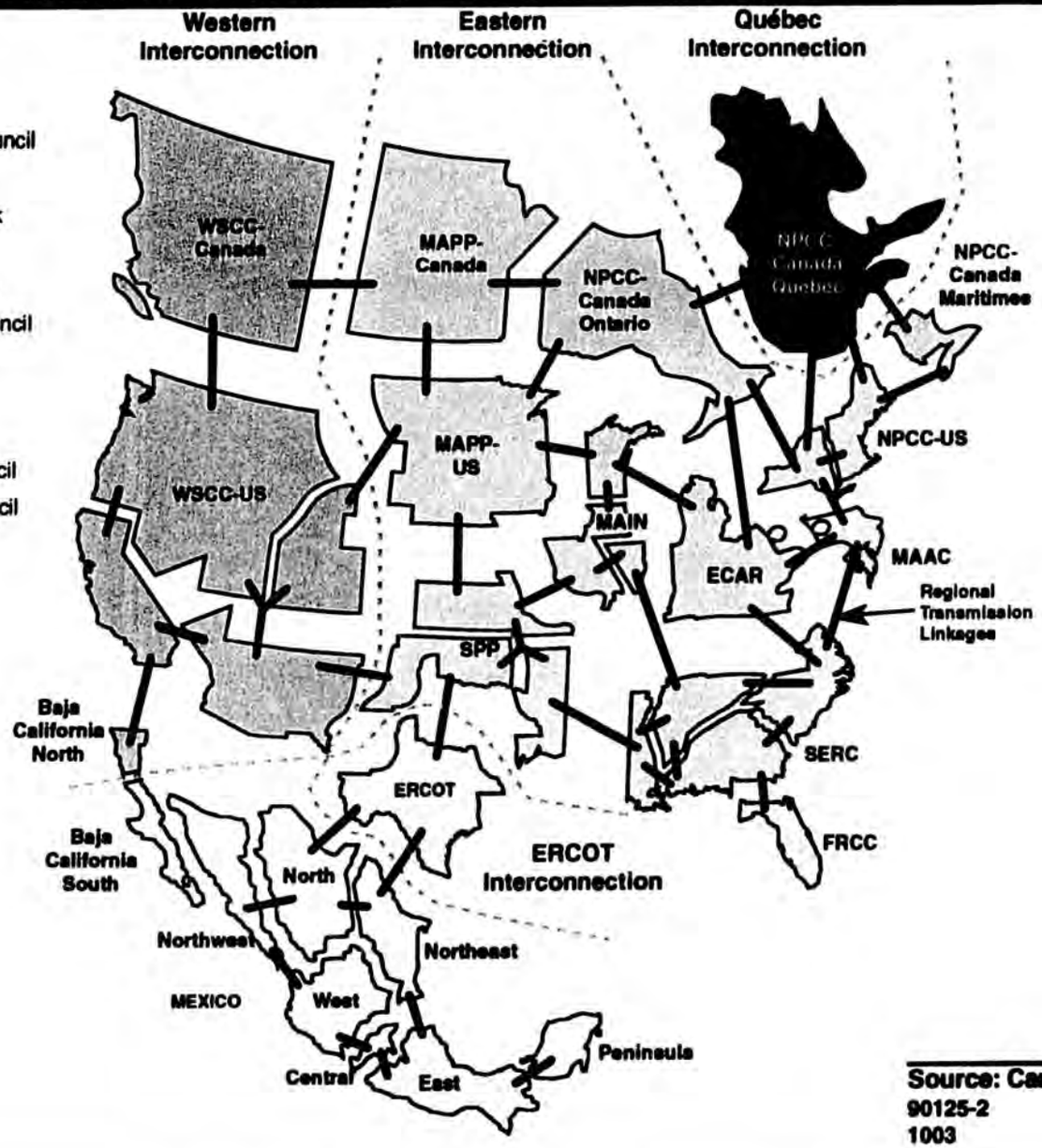


CERA

Source: Cambridge Energy Research Associates
Note: Supply Realignment case.

How Big Is the Market? Balkanization in Bulk Power Systems

SERC: Southeastern Electric Reliability Council
MAAC: Mid-Atlantic Area Council
MAIN: Mid-America Interconnected Network
SPP: Southwest Power Pool
ERCOT: Electric Reliability Council of Texas
WSCC: Western Systems Coordinating Council
ECAR: East Central Area Reliability Coordination Agreement
MAPP: Mid-Continent Area Power Pool
NPCC: Northeast Power Coordinating Council
FRCC: Florida Reliability Coordinating Council



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Source: Cambridge Energy Research Associates.
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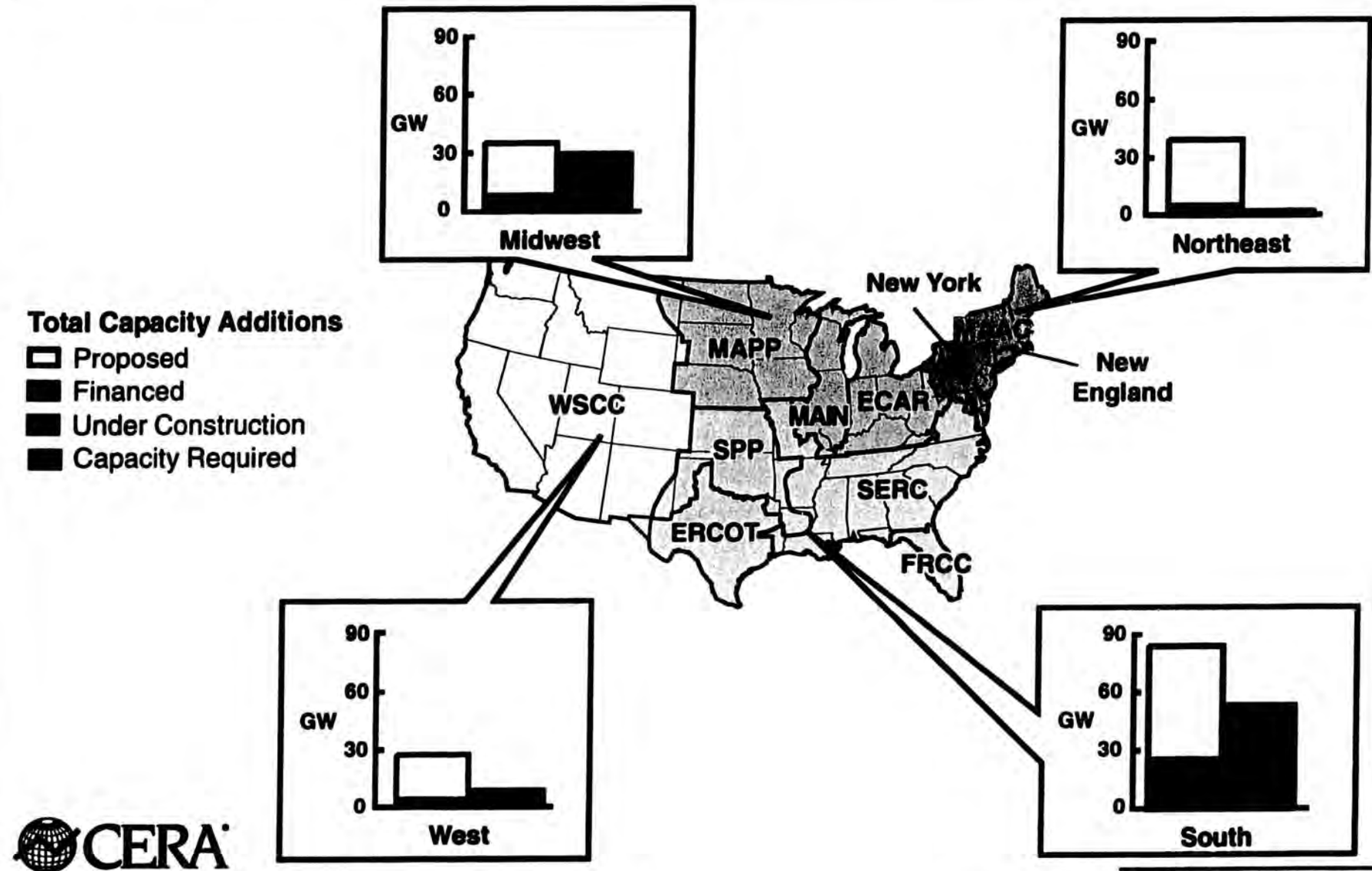
New Electric Capacity Requirements versus Proposed Capacity Additions, 2000–2005



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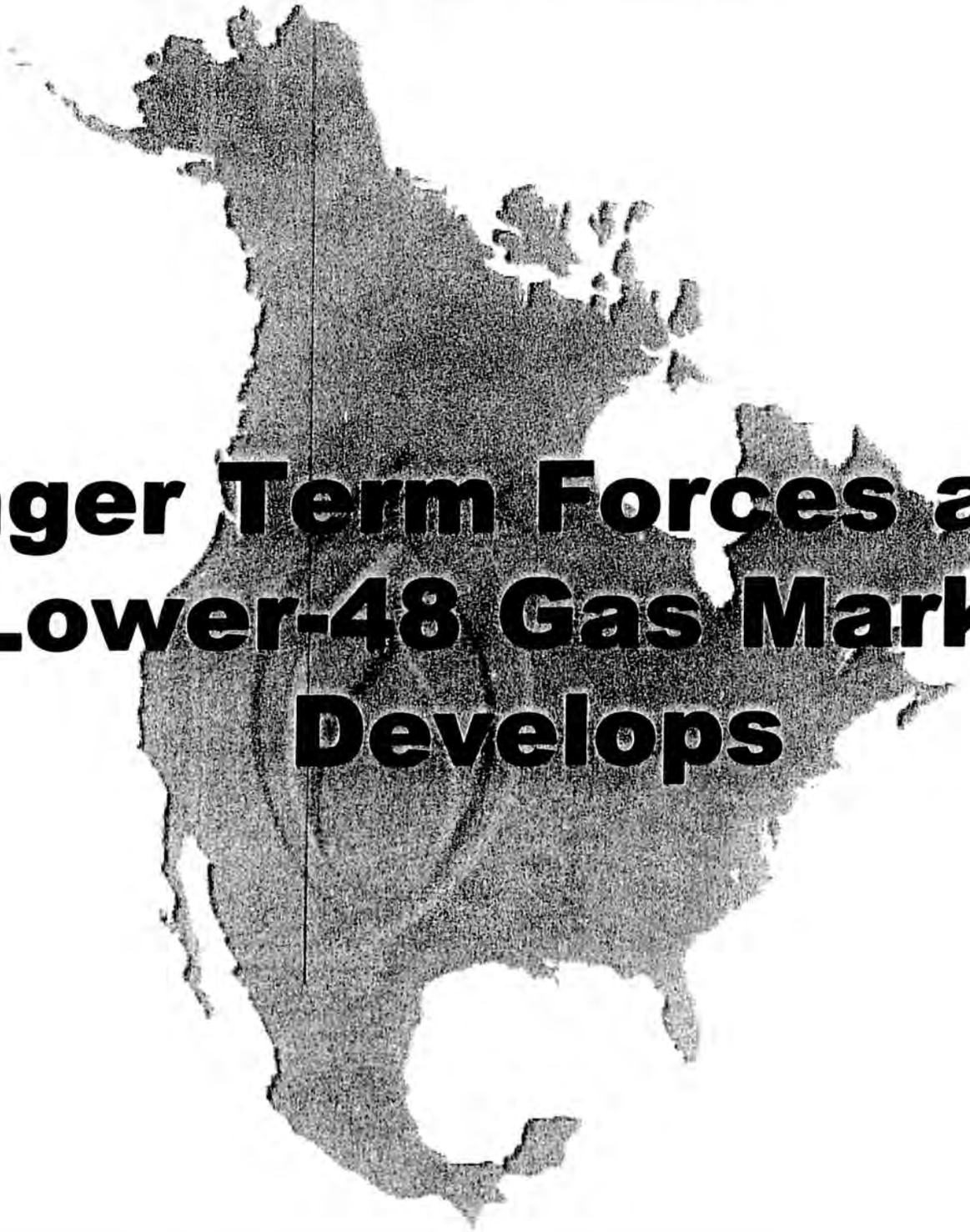
Source: Cambridge Energy Research Associates.



Longer Term Forces as the Lower-48 Gas Market Develops

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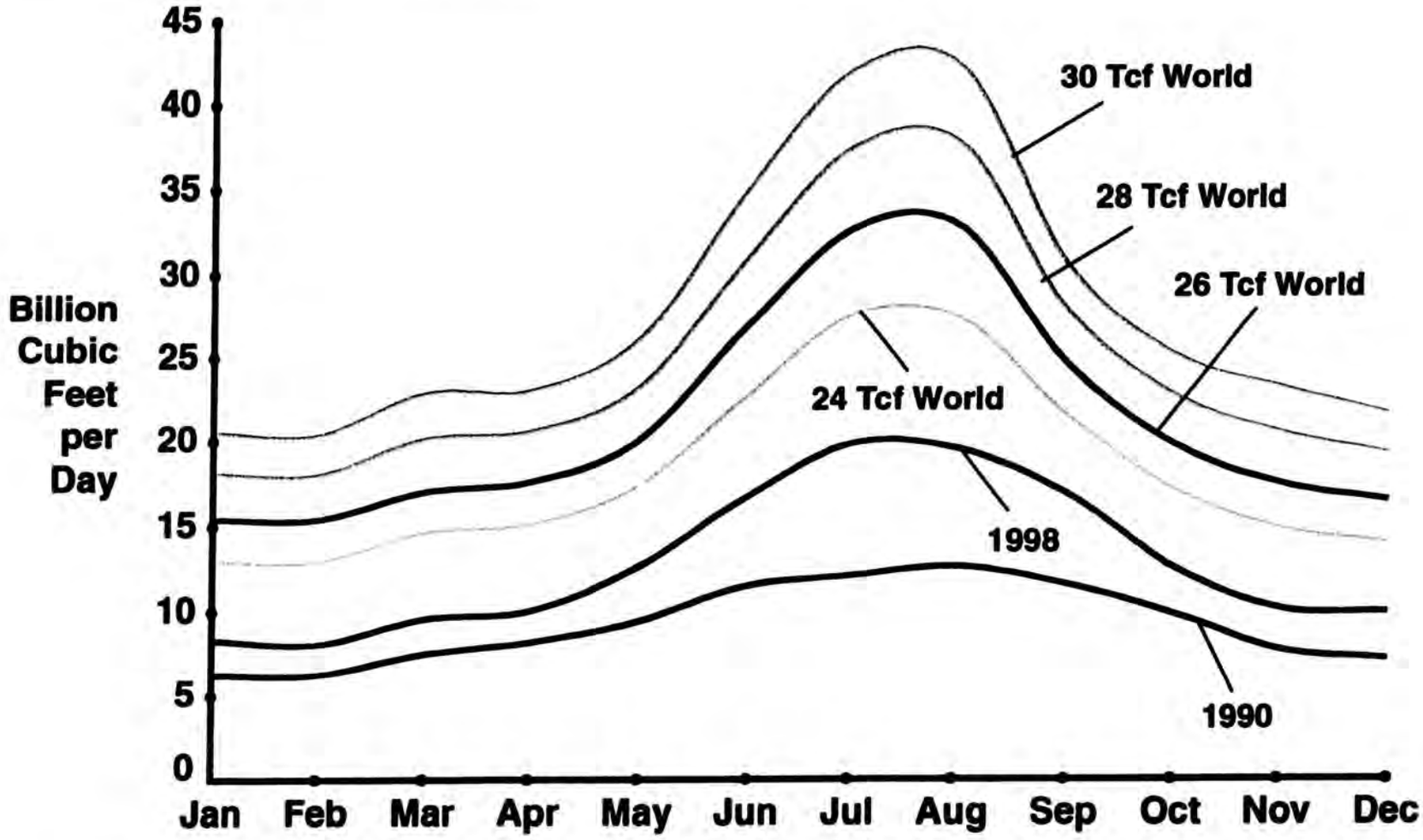
The Rise of the Summer Power Peak in the 30 Tcf World



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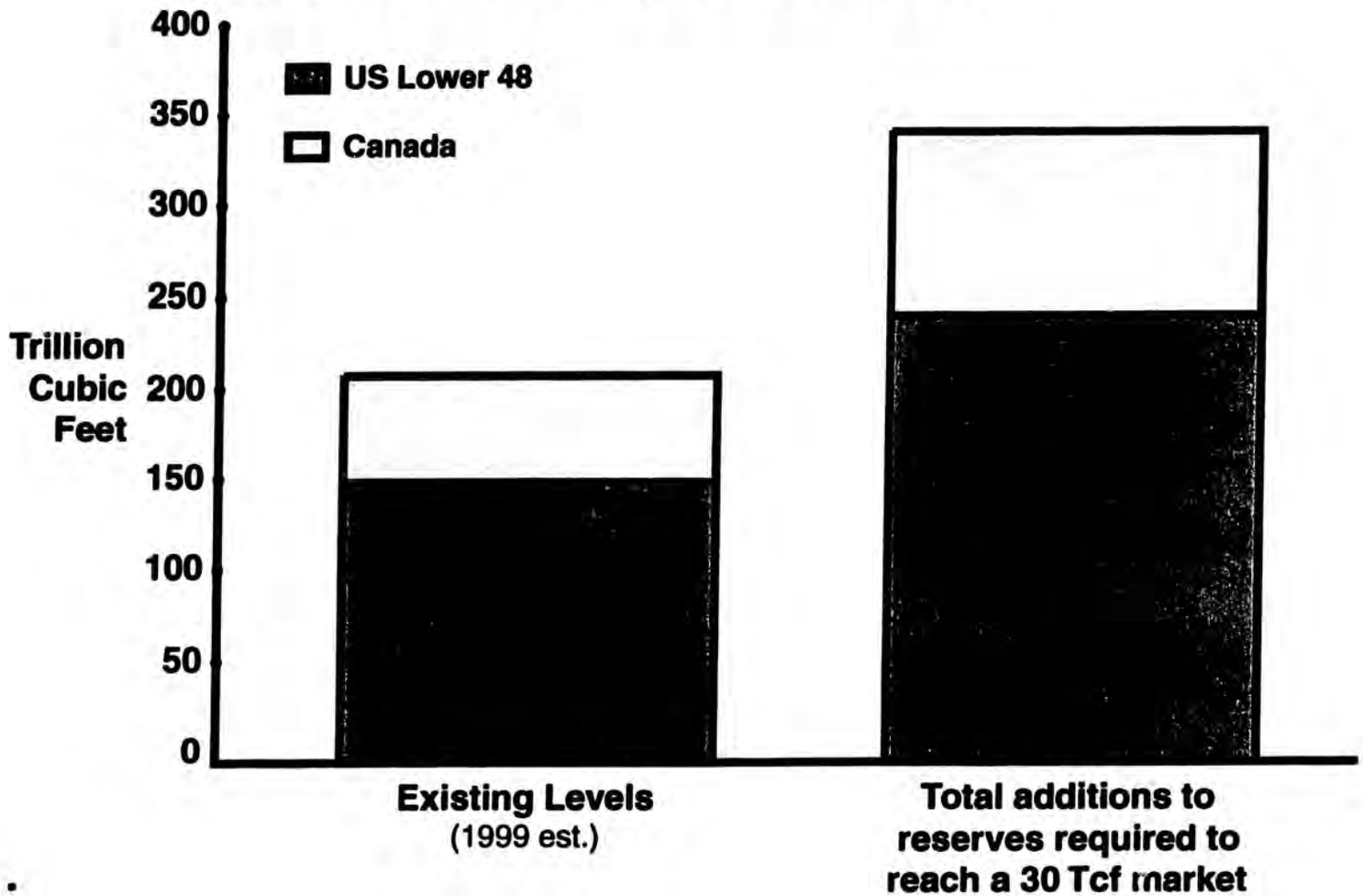
Source: Cambridge Energy Research Associates

The Challenge of Reaching 30 Tcf (1 of 2)

Reserve Additions Required, 2000 to 2010



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Source: Cambridge Energy Research Associates.

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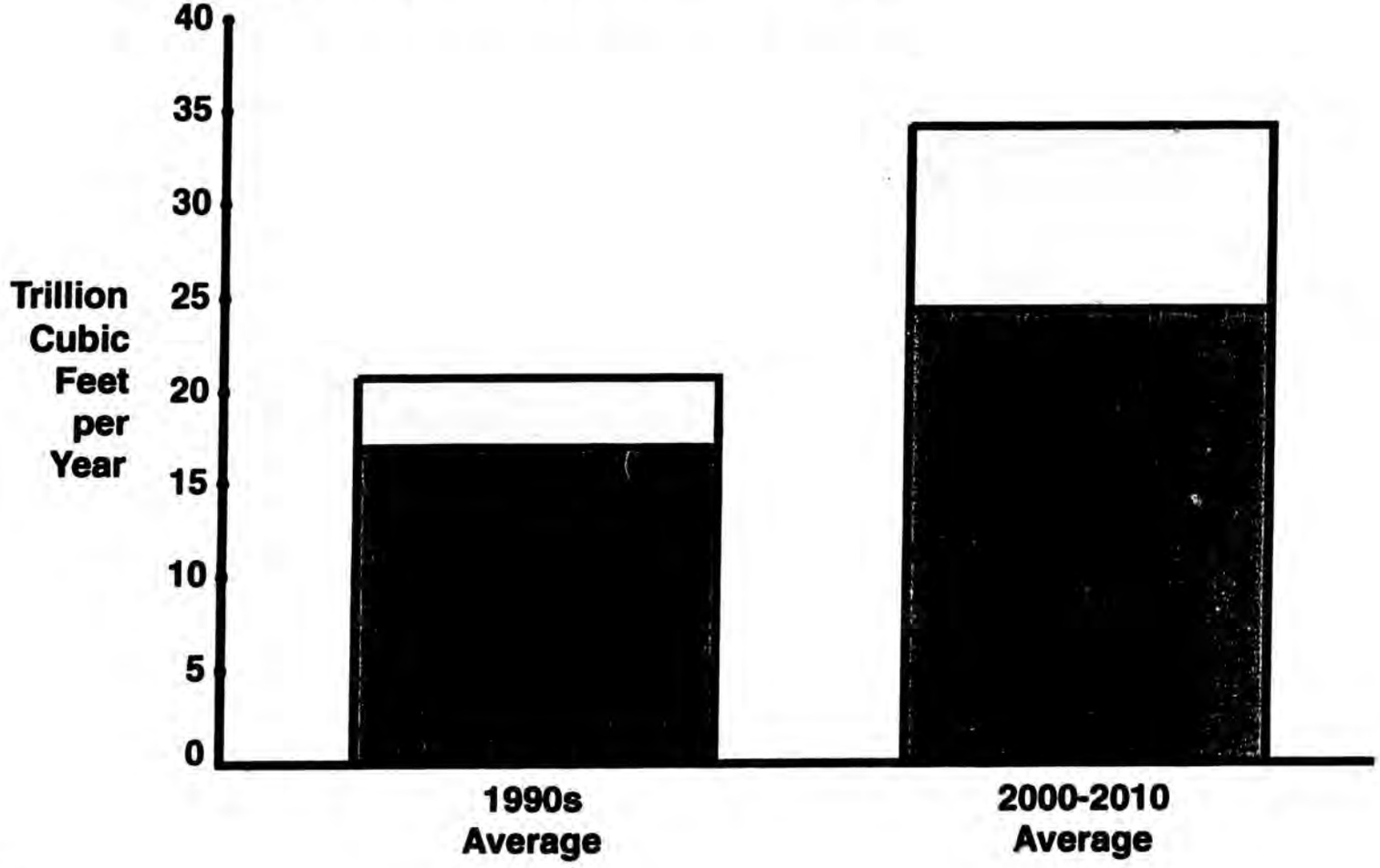
The Challenge of Reaching 30 Tcf (2 of 2)

Required Reserve Additions per Year



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Source: Cambridge Energy Research Associates

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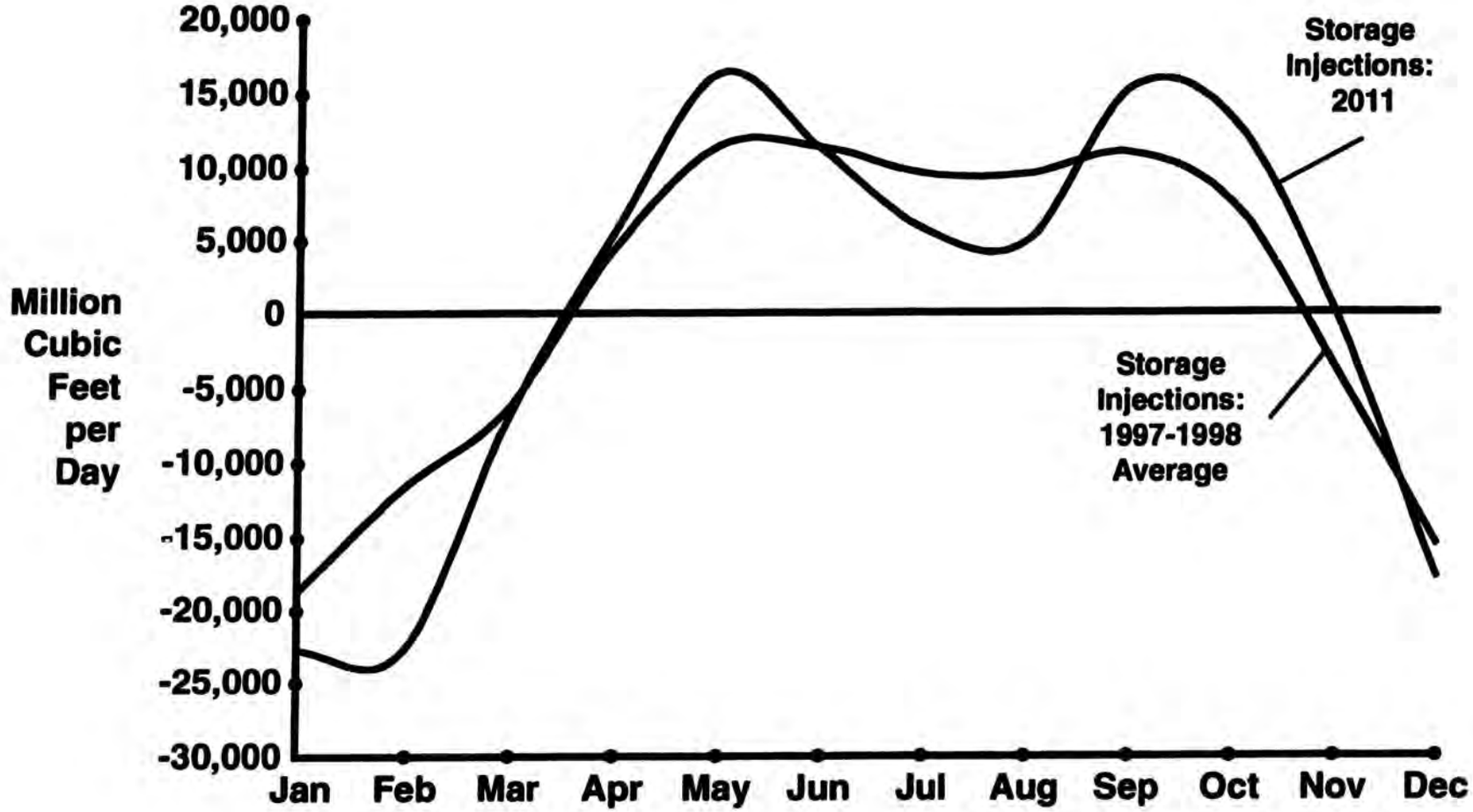
Changing Storage Injection Patterns in a 30 Tcf World: US Lower-48



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Source: Cambridge Energy Research Associates.
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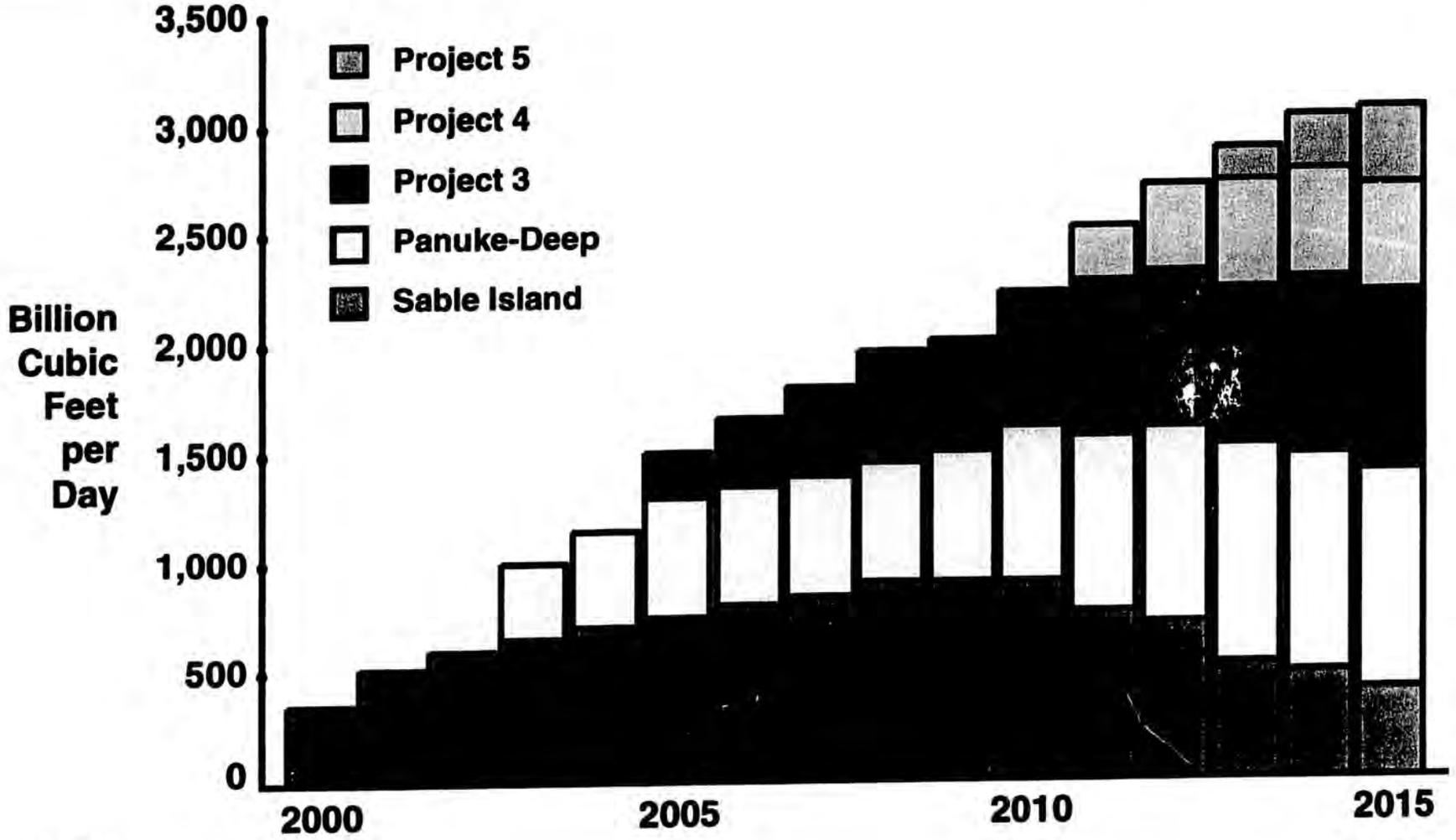
Scotian Shelf Supply Build



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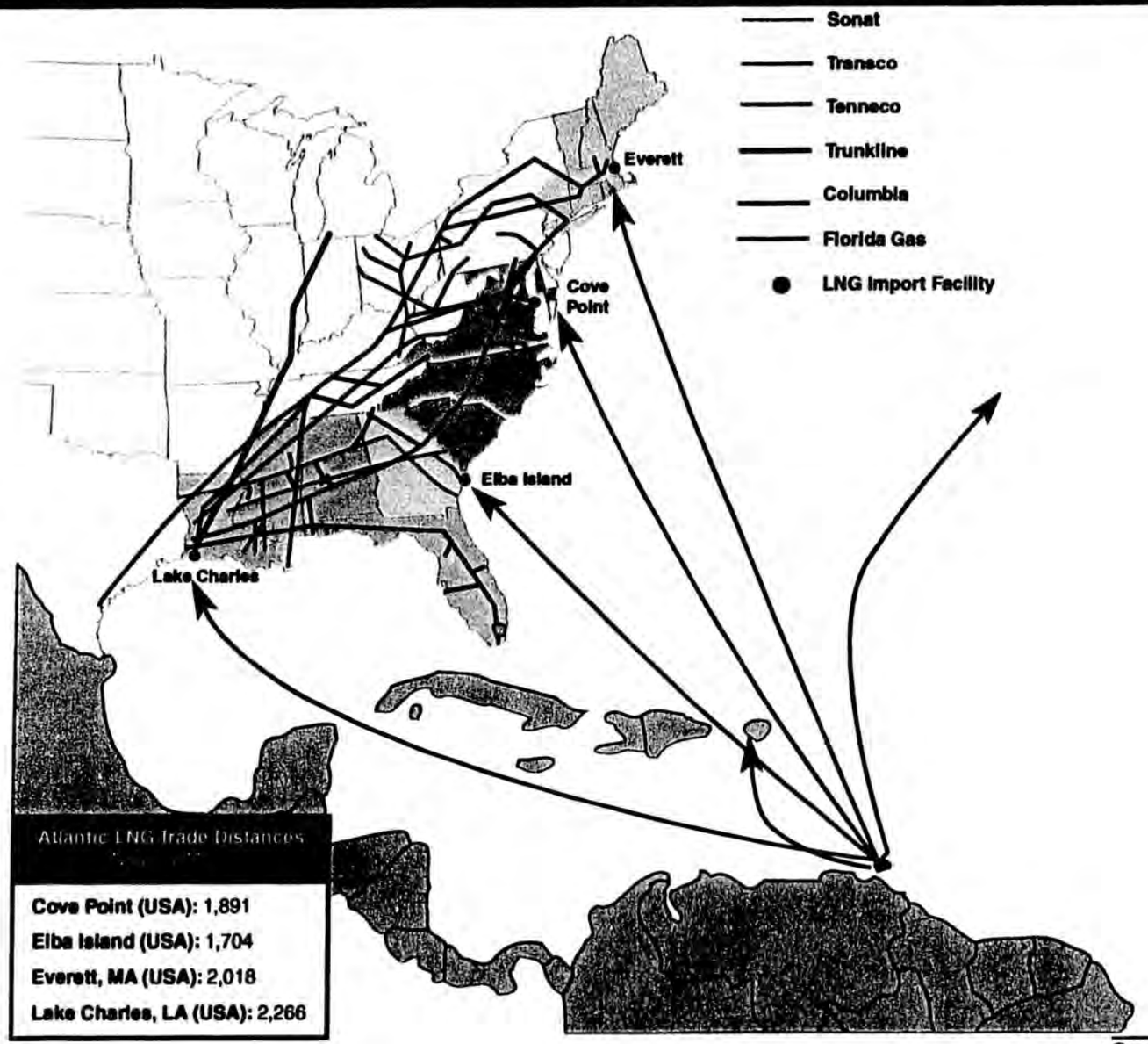
Source: Cambridge Energy Research Associates.

Potential US LNG Destinations for Atlantic LNG



Atlantic LNG Trade Distances

Cove Point (USA): 1,891
Elba Island (USA): 1,704
Everett, MA (USA): 2,018
Lake Charles, LA (USA): 2,266

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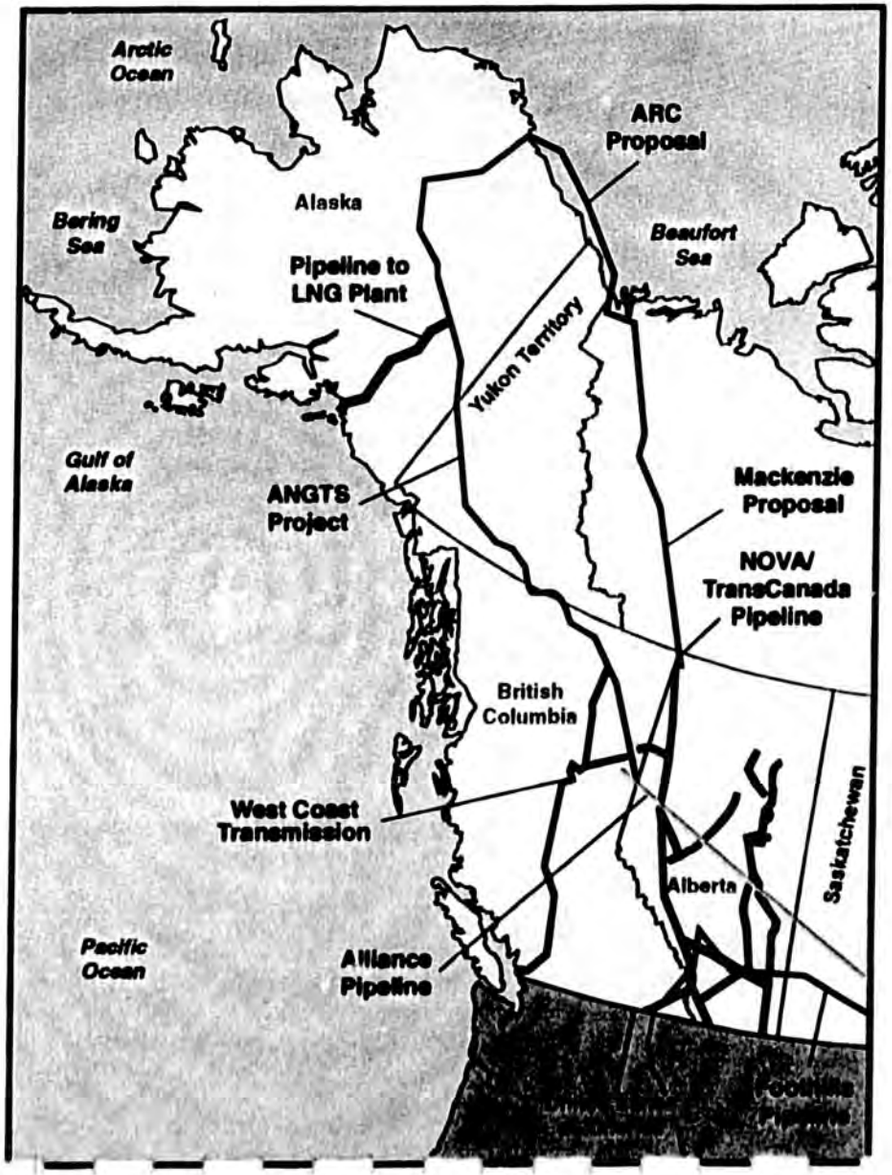
Source: Cambridge Energy Research Associates
00520-5

Arctic Gas Pipeline Alternatives



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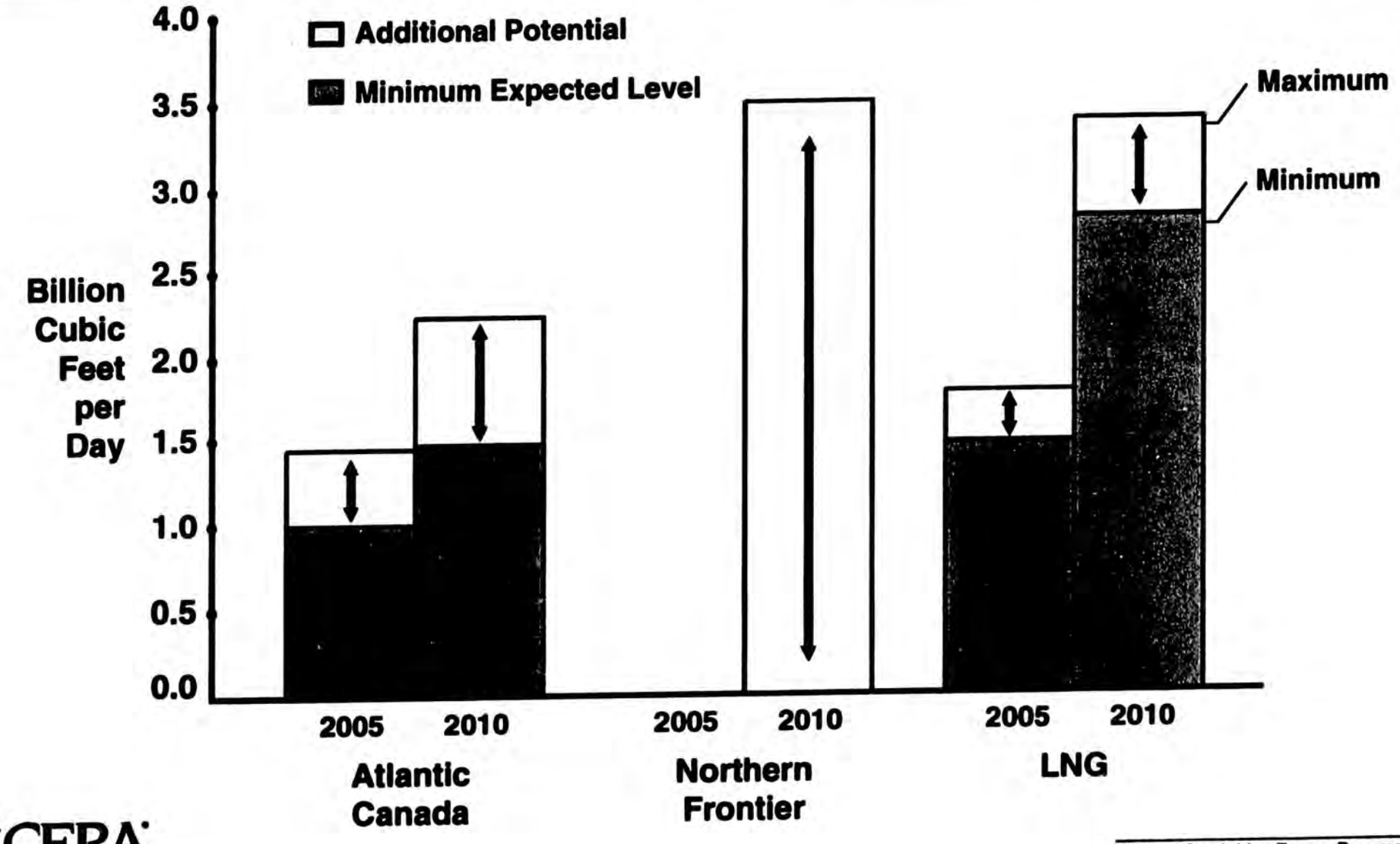
Source: Cambridge Energy Research Associates

The Range of Production Levels from Frontier Areas



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Source: Cambridge Energy Research Associates.

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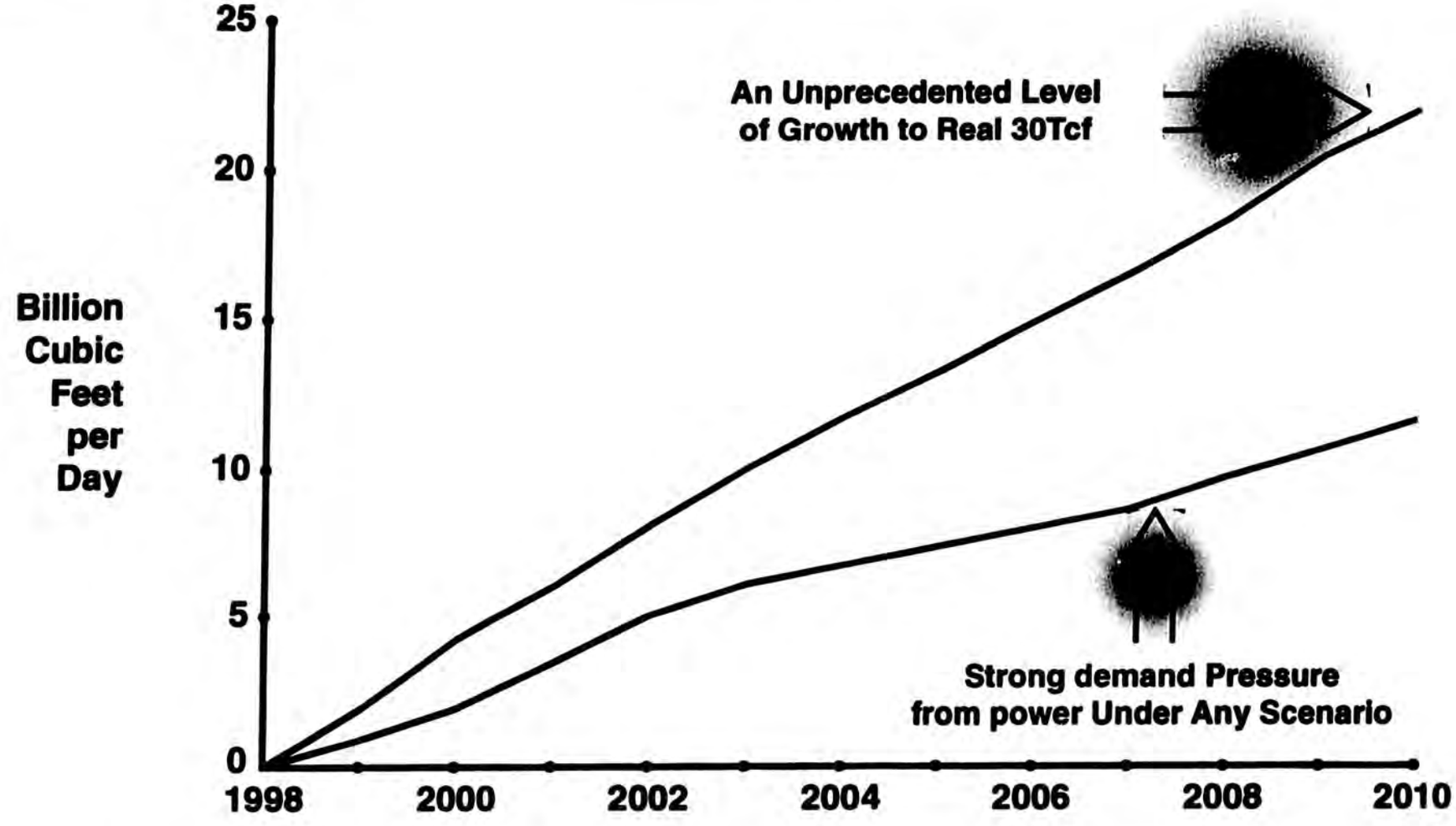
30 Tcf: More Plausible Than Probable—The Range of Natural Gas Demand Growth Relative to 1998



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Source: Cambridge Energy Research Associates

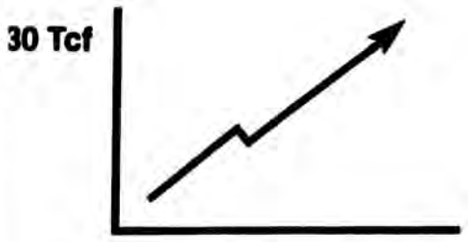
Northern Gas Pipeline Development Risks (1 of 2)

Gas Pricing

- Sustained Minimum $2.50 to $3.00 Needed

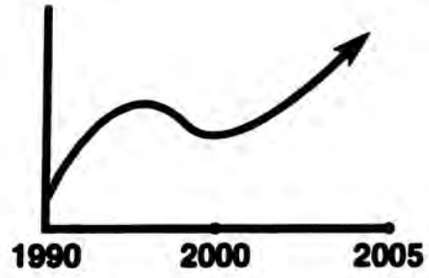
Political Intervention

- US and Canadian Government Positions on International Agreement
- Potential Delays Due Native Settlements Issue
- "In-fighting" Between Regional Governments



Market Growth

- Continued Economic Growth Essential
- Fits with a 30 Tcf World
- Contraction from high Prices Detrimental



Supply Growth

- Resurgence from Other Regions Detrimental
- Coalbed Methane from Western Canada Negative Factor

Downstream Capacity

- Excess Capacity Out of the West
- New Capacity all the way to Markets

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10129

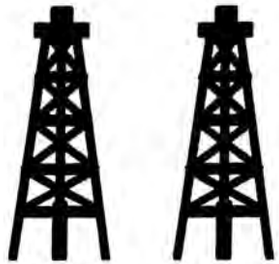
Source: Cambridge Energy Research Associates

00125-88

Northern Gas Pipeline Development Risks (2 of 2)

Construction Delays

- Weather
- Equipment
- Workers

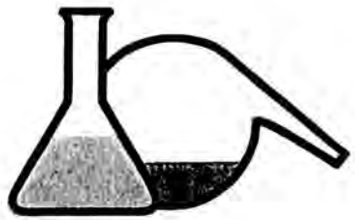


Resource Development

- Ultimate Capability
- New Sources

Risk Sharing

- Pipelines
- Producers
- Markets
- Financial Backing



Liquids

- Disposition
- Increase Economic Viability

Contracts

- Security
- Term Length
- Volume

CERA

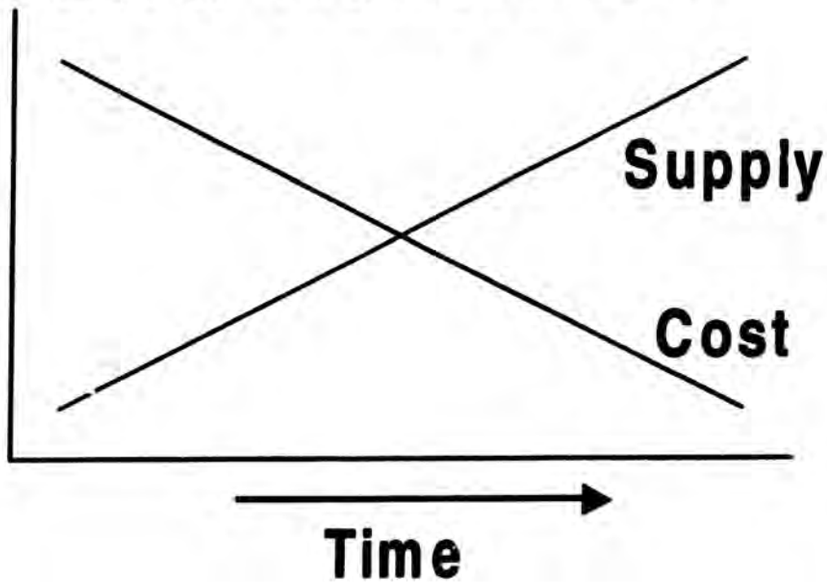
Source: Cambridge Energy Research Associates

LNG Market Potential: Key Drivers

CERA

Why Now?

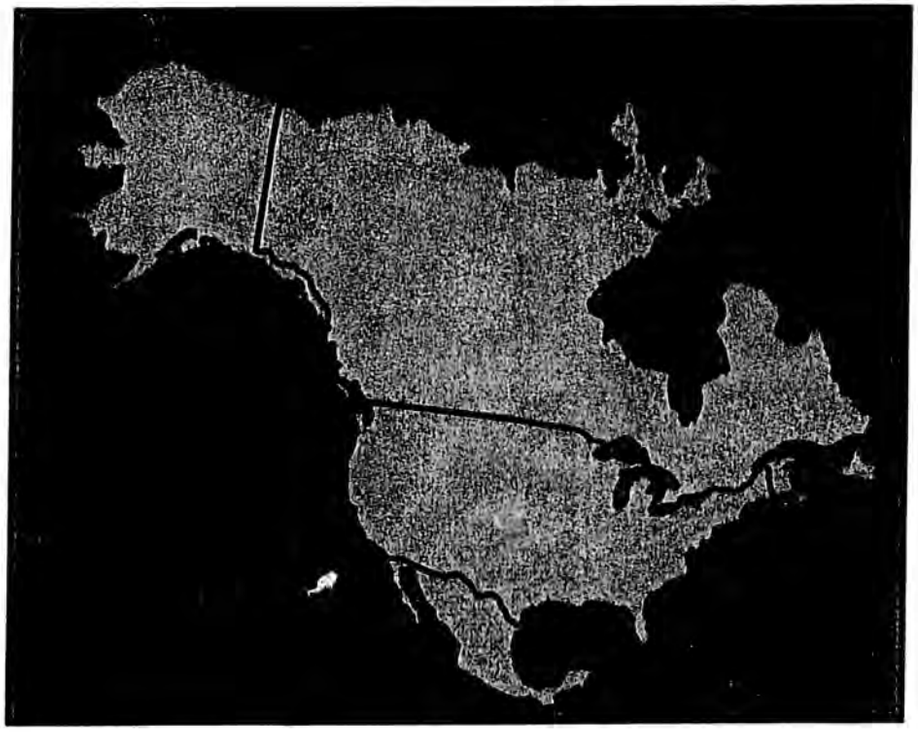
LNG Transitions



- **Fundamental changes are taking place in**
  - LNG costs
  - Available supplies
  - Industry structure
- **How will changes unfold in the future?**

CERA

Why Now?



- **High US prices and tight North American supplies have reinvigorated US LNG imports, but will these conditions last?**

CERA

10129

Why Now?

- **Economic recovery and new markets mean strong growth in Asia, but how strong?**

CERA

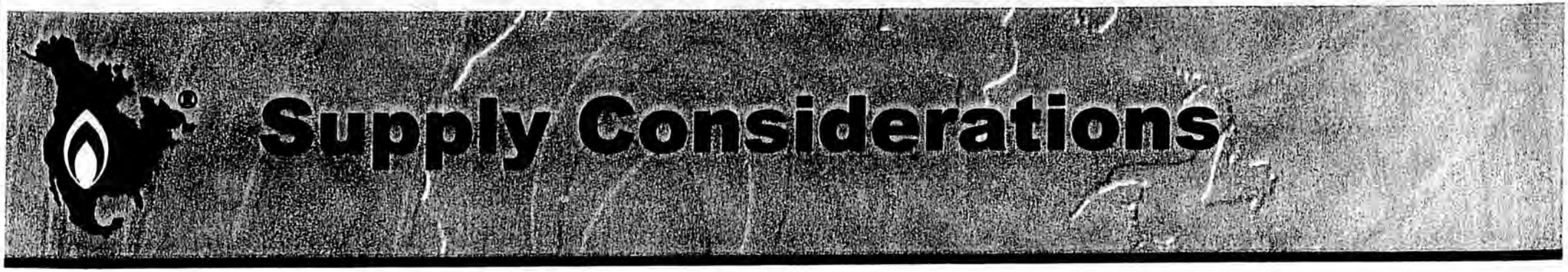
World LNG Facilities

- Existing LNG projects and those under expansion or initial development
- LNG projects possible by 2005–2010
- LNG projects approved, but not under development
- G Proposed GTL project
- Countries likely to require initial LNG imports

January 2001

CERA

10129

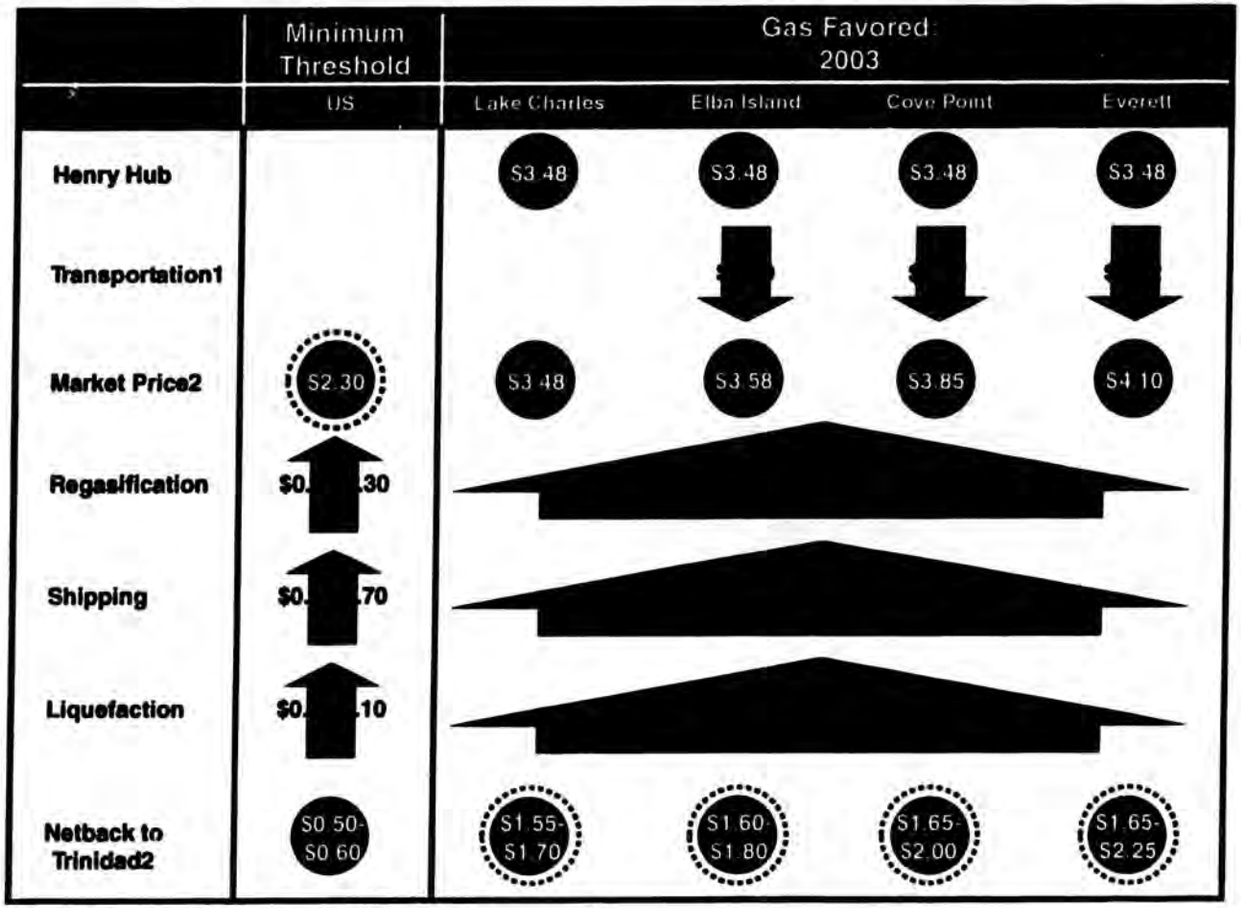


Supply Considerations

- Geography
- Supply Diversification/Security Concerns
- Associated Gas Pressures
- Liquids Revenue Stream
- Gas Monetization

CERA

The LNG Value Chain



Source: Cambridge Energy Research Associates.

Notes: 1. These figures represent annual average spot differentials between the Henry Hub and the respective citygates (Atlanta, Washington DC, and New England).

Notes: 2. All cost figures are CERA estimates. This schematic analysis omits any charges for transporting the regassified fuel to the relevant market hubs (this could range from $0.05 to $0.25 per MMBtu) as well as any marketing fees.

00426-11

CERA

10129

US LNG Import Facilities

Cove Point, MD (Reopening 2002/03)	
Operator:	**Cove Point LNG** (Williams)
Vaporization Capacity	1 Bcf per day (750 allocated for imports)
Storage Capacity	5 Bcf (expanding to 7.5 Bcf)
Number of Tanks	4
Tanker Berths	2
Draft	11 meters
Pipeline Connections	Columbia Gas, Transcontinental

Everett, MA (Operating)	
Operator:	**Distrigas LNG** (Tractebel)
Vaporization Capacity	435 MMcf per day (expanding to 600 MMcf per day in mid-2001)
Trucking Capacity	100 MMcf per day
Storage Capacity	3.6 Bcf
Number of Tanks	2
Tanker Berths	1
Draft	11 meters
Pipeline Connections	Algonquin, Tennessee

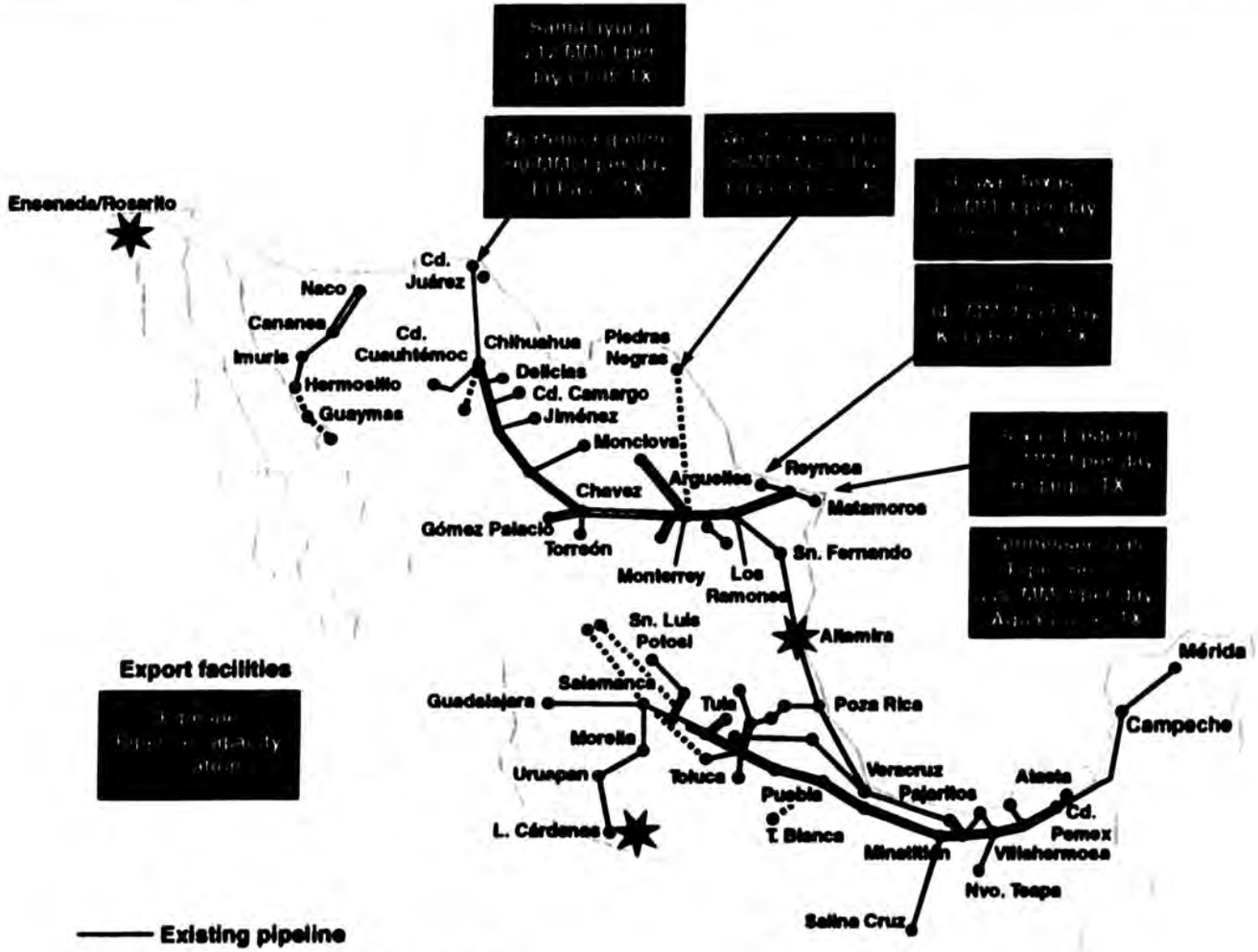
Lake Charles, LA (Operating)	
Operator:	**Trunkline LNG** (CMS)
Vaporization Capacity	700 MMcf perday (expanding to 1Bcf per day in mid-2001)
Storage Capacity	6.3 Bcf
Number of Tanks	3
Tanker Berths	1
Draft	12 meters
Pipeline Connections	Trunkline, Gulf Coast Pipes

Elba Island, GA (Reopening 2002/03)	
Operator:	**Southern LNG** (El Paso)
Vaporization Capacity	440 MMcf per day (maximum sendout is 675 MMcf per day)
Storage Capacity	4 Bcf
Number of Tanks	3
Tanker Berths	1
Draft	12 meters
Pipeline Connections	Southern Natural Gas

CERA

Source: Cambridge Energy Research Associates

Mexican Potential



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Alaska Highway Natural Gas Policy Council
Workshop Agenda

Friday, March 23, 2001
Anchorage Sheraton Hotel – 10:00 a.m. to 3:30 p.m.

I. Call to order/opening remarks, 10:00-10:30

II. Presentation from North American Natural Gas Pipeline Group, 10:30-11:30

III. Presentation on the Canadian perspective, 11:30-12:15
Jeff Smith, Senior Vice Pres., Public Affairs, Hill and Knowlton, Ottawa

IV. Break/sandwich buffet, 12:15-12:45

V. Presentation on the Federal perspective, 12:45-1:45
Bob Loeffler, Senior Partner, Morrison and Foerster, Washington, DC

VI. Presentation on the State agency perspective, 1:45-2:30
A. Bill Britt, Coordinator, Joint Pipeline Office
B. Mark Myers, Director, Division of Oil and Gas

VII. Ten minute break, 2:30-2:40

VIII. Council Business – Sampson/Brown, 2:40-3:30
A. Approve public hearing/meetings schedule
B. Discuss public hearing format
C. Discuss subcommittee work

North American Natural Gas Pipeline Group

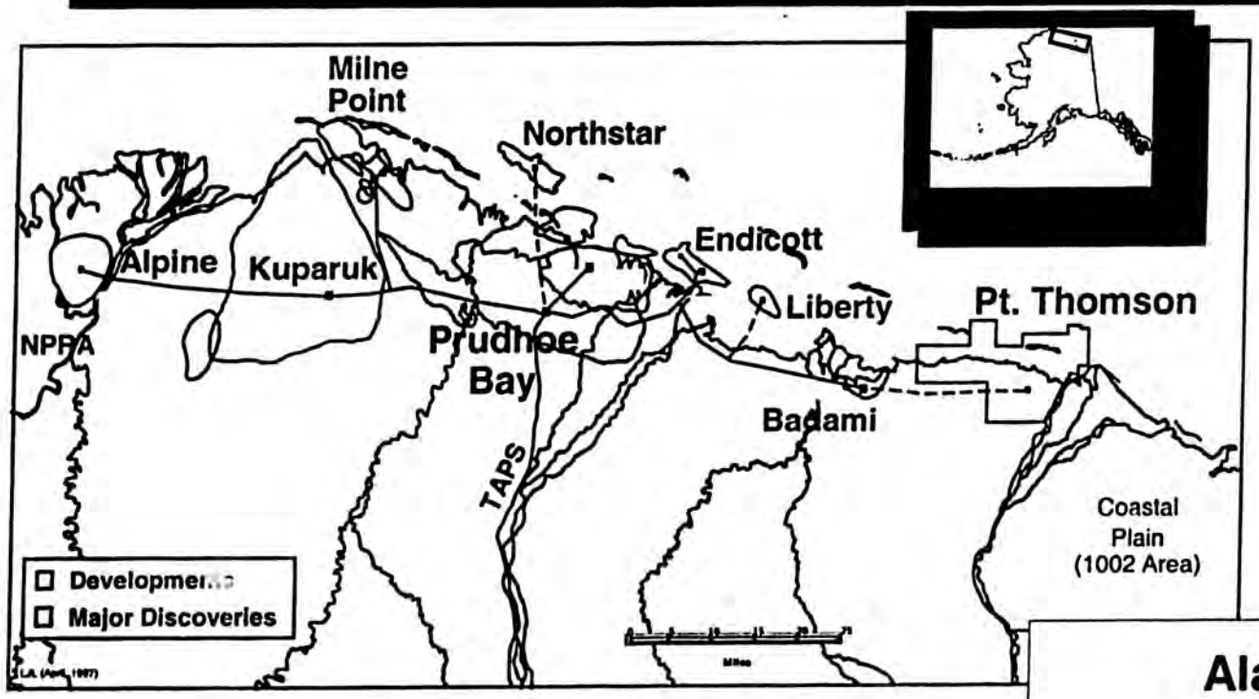
Joint Team Objectives

- Create an economic project (competitive cost of supply)
- Develop sufficient technical information to support FERC/NEB applications as soon as possible (target - year end 2001)
- Prepare for next phase of activity

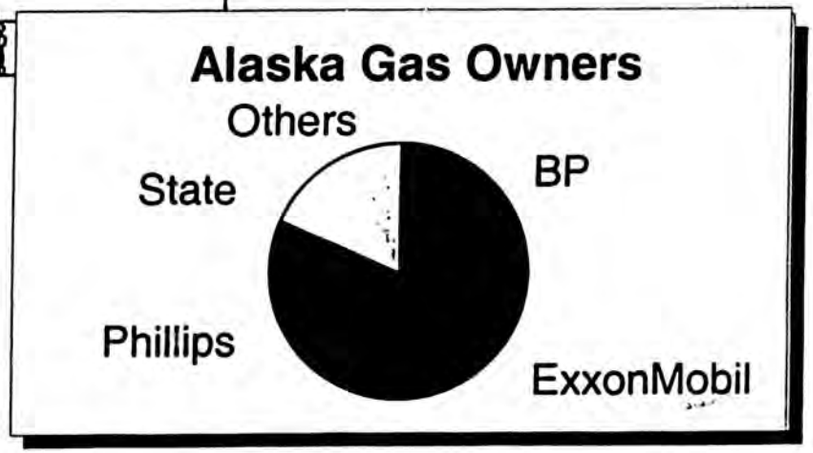
Safe and Environmentally Responsible

North American Natural Gas Pipeline Group

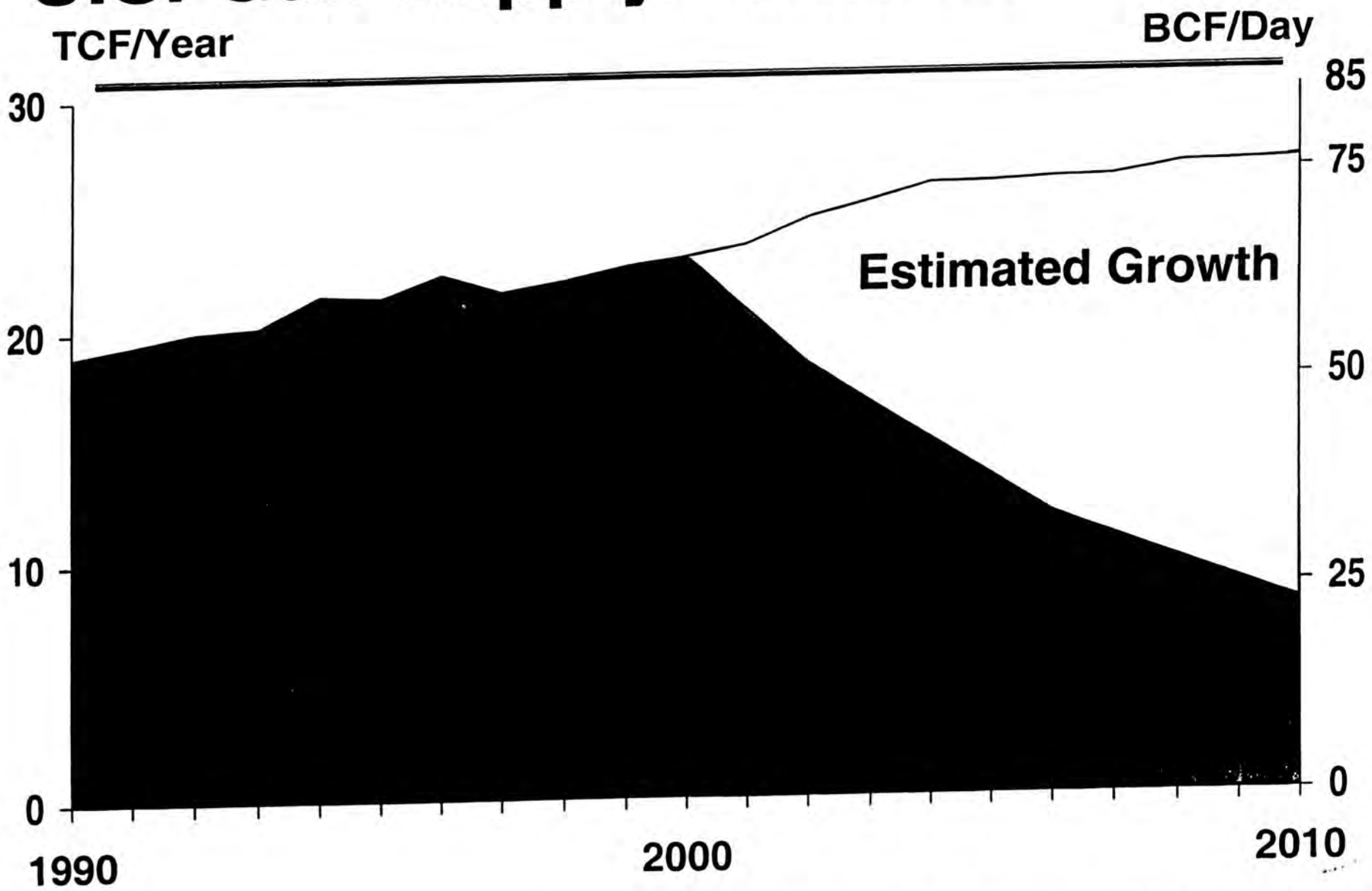
Alaska Gas Resources & Major Producers



- North Slope known resource ~ 35 Tcf
- Prudhoe Bay – 8 Bcf/d of production currently
- Reinjected into reservoir
- Ultimate resource estimates ~100 Tcf

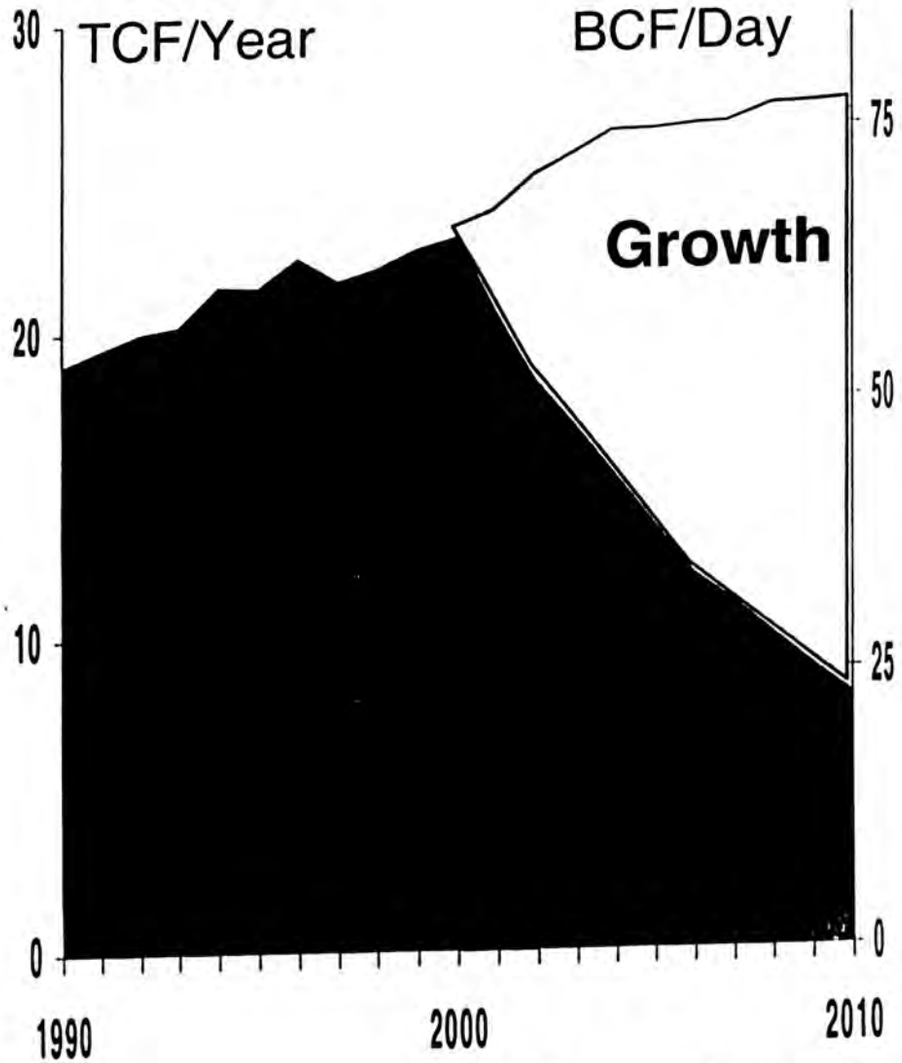


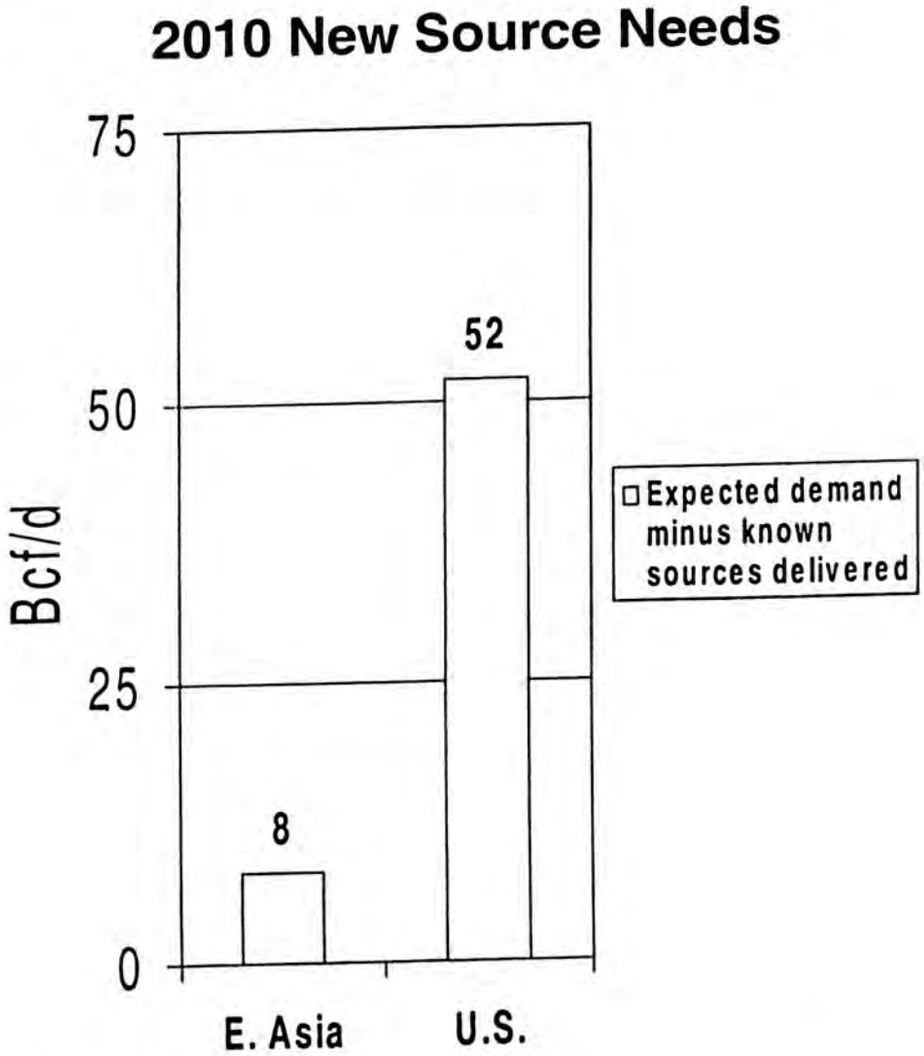
U.S. Gas Supply/Demand



Source: National Petroleum Council, December 1999

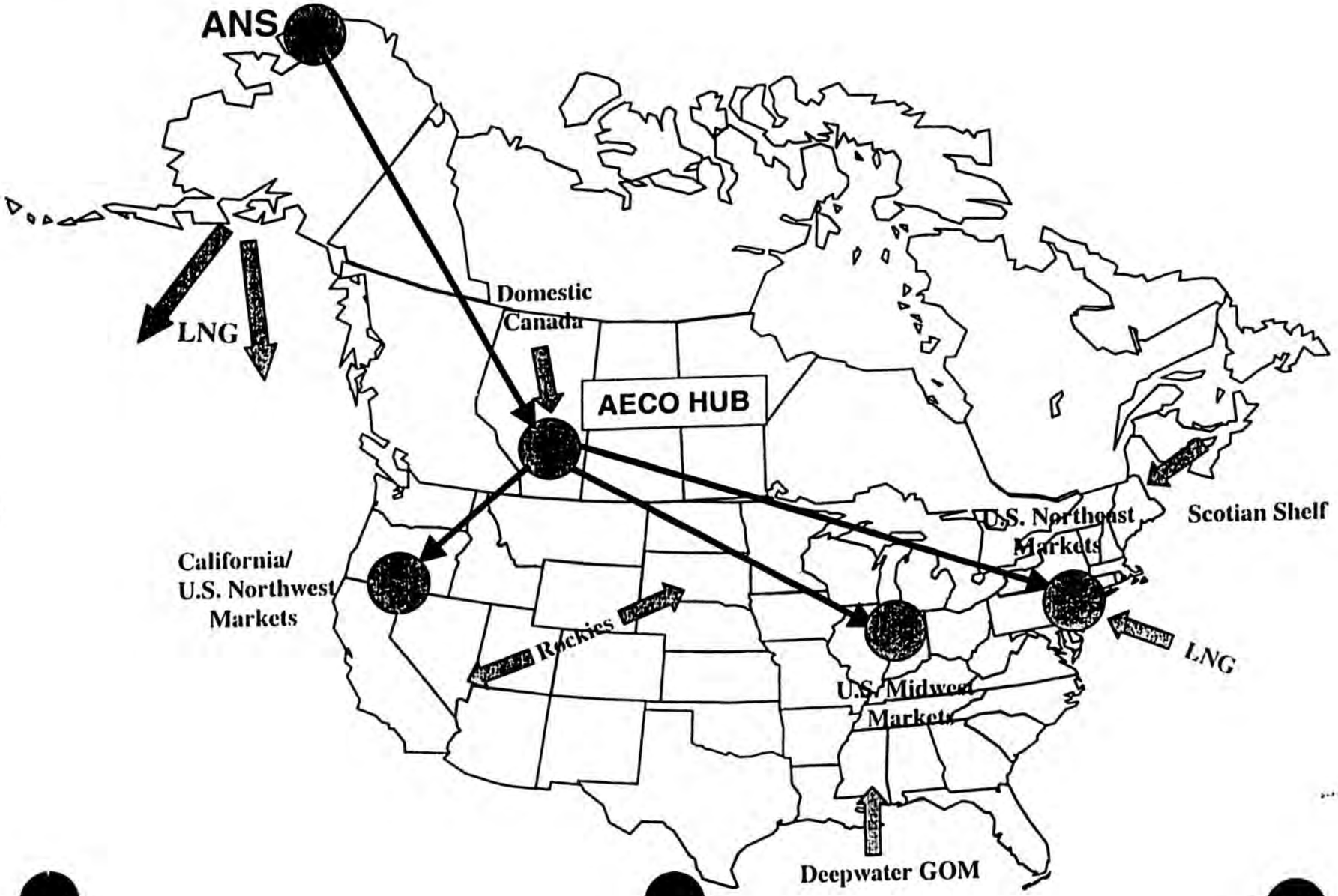
Supply/Demand - Asia Comparison



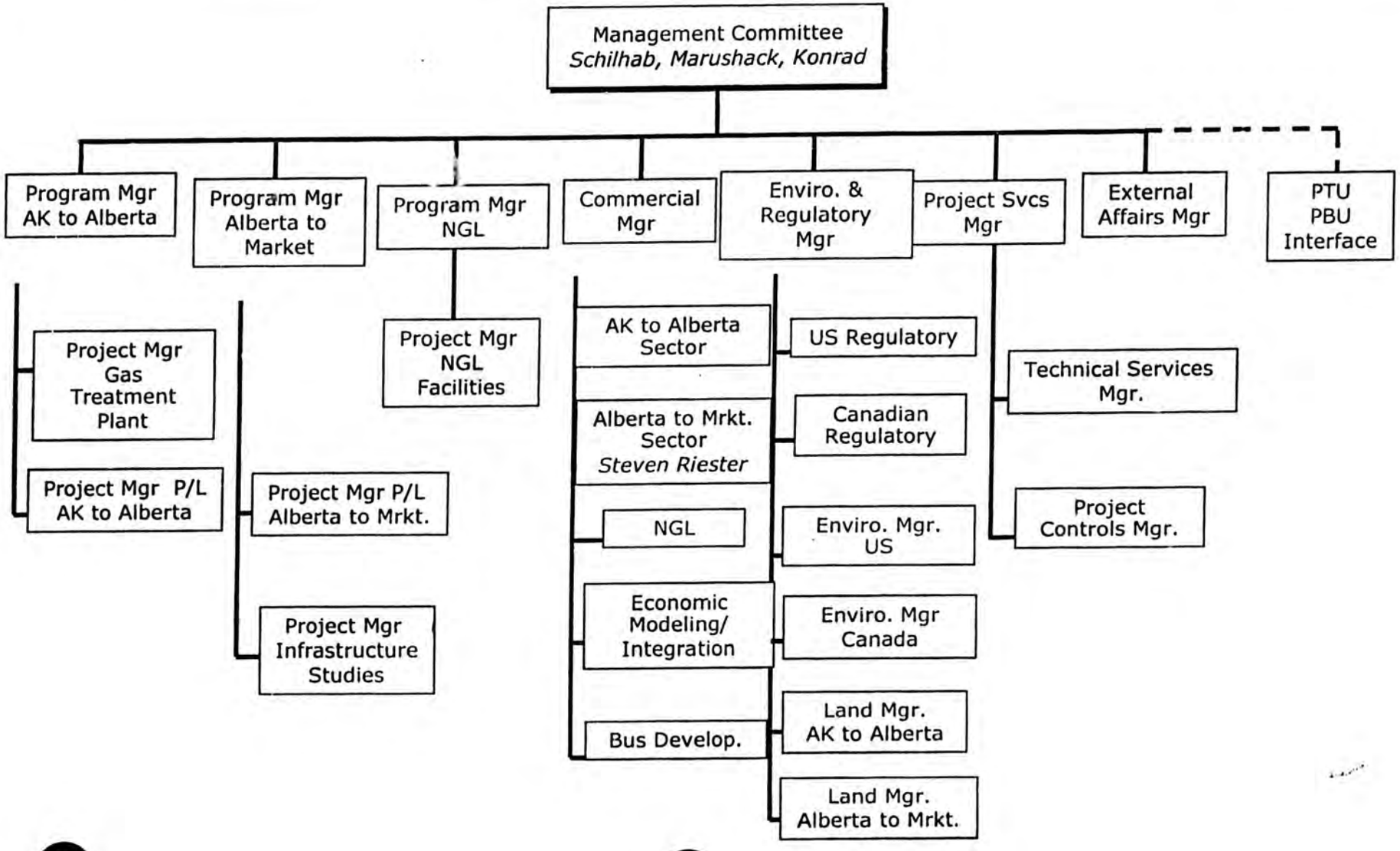


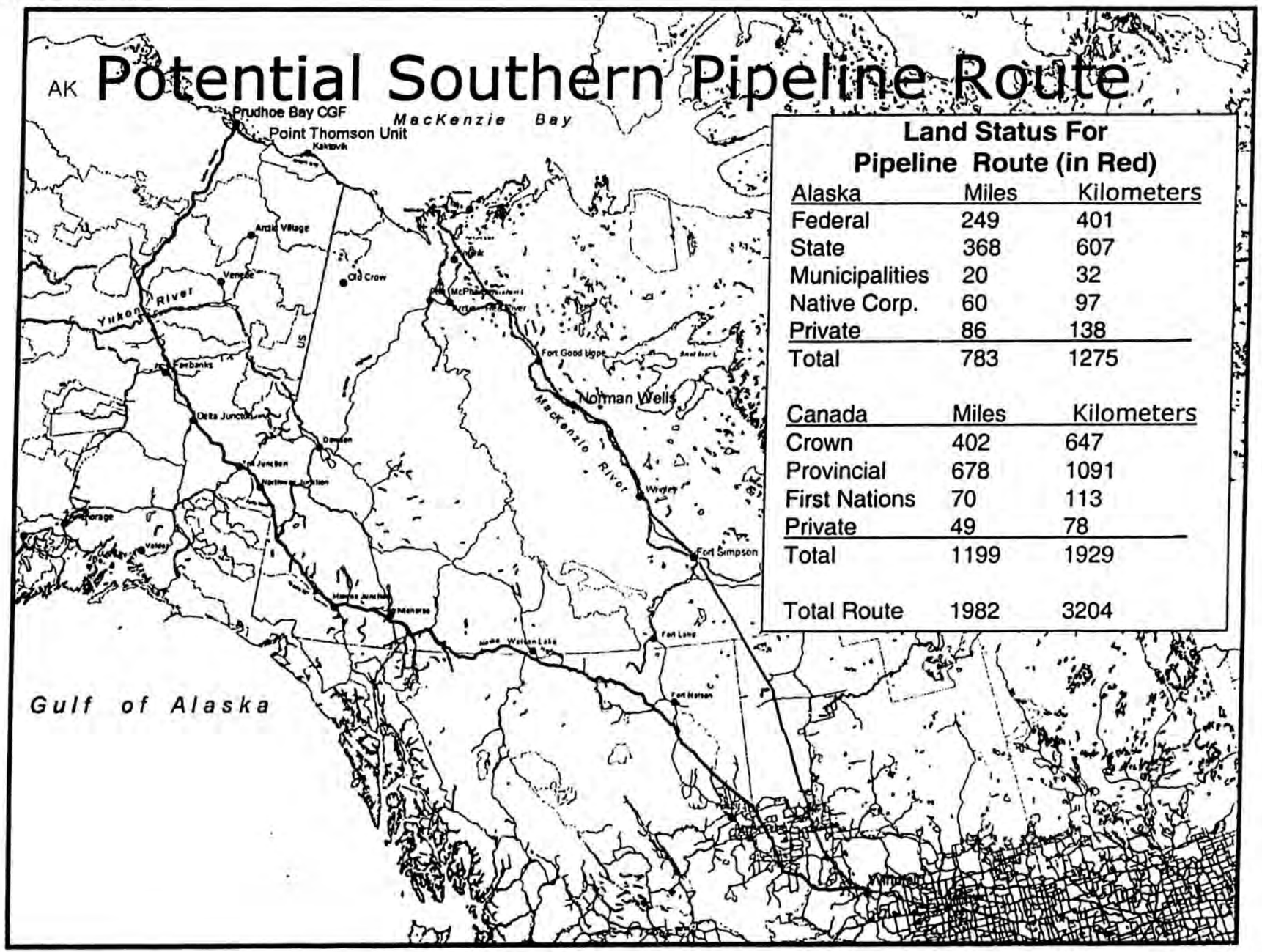
Source: NPC, December 1999 & Tokyo Gas, 2001

North American Gas Supplies/Markets



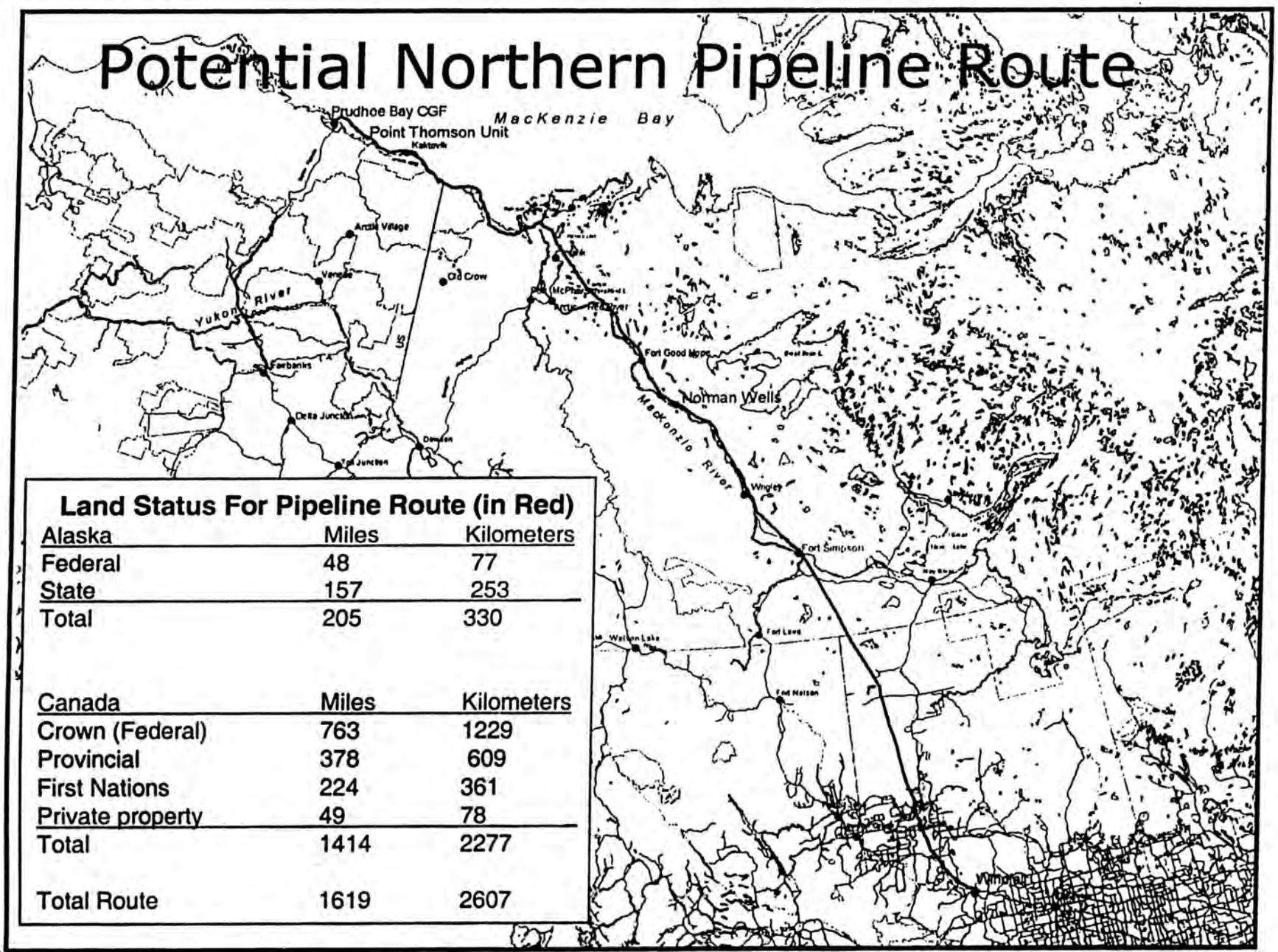
Joint Team Organizational Chart




AK
Potential Southern Pipeline Route
Prudhoe Bay CGF
Point Thomson Unit
MacKenzie Bay
Kaktovik
Arctic Village
Old Crow
Venetie
Yukon River
Fairbanks
Delta Junction
Dawson
Fort Good Hope
Norman Wells
Mackenzie River
Fort Simpson
Fort Liard
Fort Nelson
Gulf of Alaska
Land Status For
Pipeline Route (in Red)
Alaska | Miles | Kilometers
Federal | 249 | 401
State | 368 | 607
Municipalities | 20 | 32
Native Corp. | 60 | 97
Private | 86 | 138
Total | 783 | 1275
Canada | Miles | Kilometers
Crown | 402 | 647
Provincial | 678 | 1091
First Nations | 70 | 113
Private | 49 | 78
Total | 1199 | 1929
Total Route | 1982 | 3204

North American Natural Gas Pipeline Group

Potential Northern Pipeline Route



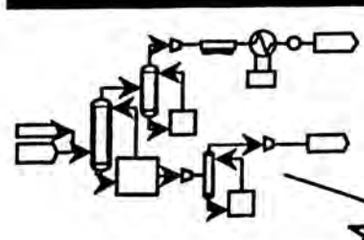
Land Status For Pipeline Route (in Red)

Alaska	Miles	Kilometers
Federal	48	77
State	157	253
Total	205	330

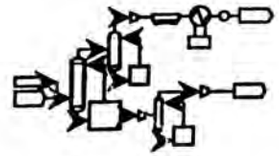
Canada	Miles	Kilometers
Crown (Federal)	763	1229
Provincial	378	609
First Nations	224	361
Private property	49	78
Total	1414	2277
Total Route	1619	2607

North American Natural Gas Pipeline Group

Major Scopes of Work (RFPs)



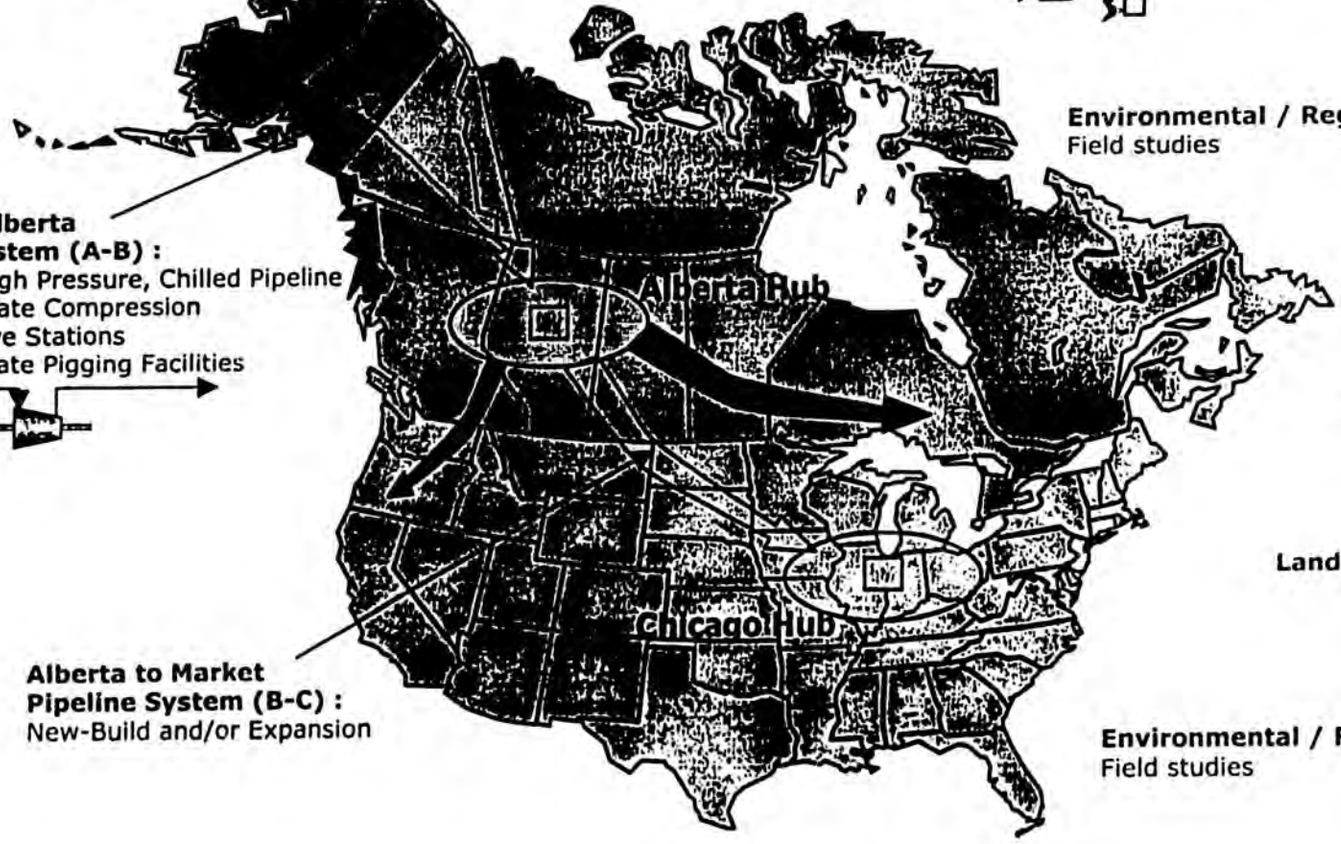
Gas Treatment Facility (Prudhoe Bay) :
Removal of Acid Gases - CO_2, H_2S
Compress / Chill gas to P/L entry conditions



NGL Extraction Facility:
Removal of C_2+

Environmental / Regulatory – Canada
Field studies

Alaska to Alberta Pipeline System (A-B) :
- Buried, High Pressure, Chilled Pipeline
- Intermediate Compression
- Block Valve Stations
- Intermediate Pigging Facilities



Land – Canada (2)

Land – US Lower 48
US Alaskan

Alberta to Market Pipeline System (B-C) :
New-Build and/or Expansion

Environmental / Regulatory – US
Field studies

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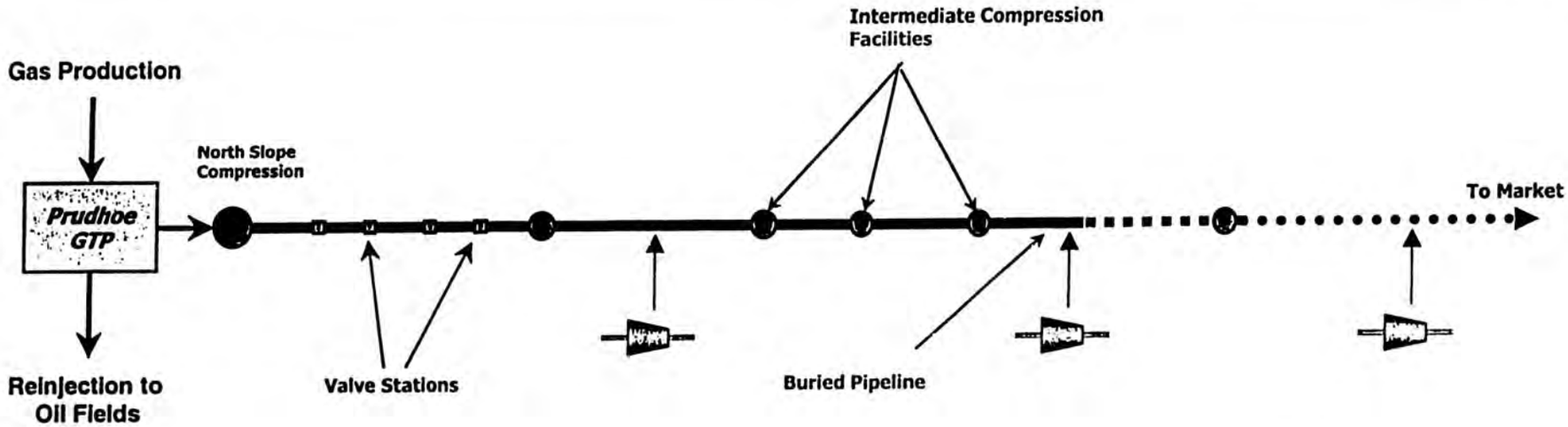
Conceptual Pipeline System Components



- Pipeline system is comprised of four main facilities:
  - Buried pipeline (~48", ~2500psi, high strength steel)
  - Intermediate compression facilities
  - Block valve stations
  - Intermediate pigging facilities

North American Natural Gas Pipeline Group

Applying 21st Century Technology

Attributes

- Advanced materials & design
- High Pressure operation
- Buried line with thermal control
- Fewer, more powerful compressor stations
- Advanced construction (trenching, welding, river crossings)
- Advanced communication & control systems
- Advanced monitoring and maintenance systems

Benefits

- Lower fuel consumption
- Reduced emissions
- Smaller footprint
- Reduced environmental impact
- Expansion capacity
- Lower cost of supply
- High reliability

North American Natural Gas Pipeline Group

Conceptual Pipeline Construction Plan

- Multiple construction spreads working over 3 year period.
- Onshore
  - Principally winter construction – especially in permafrost.
  - Pipeline buried except for few specific crossings.
  - Grade-only construction where soils allow.
  - Primarily snow pads where soil/vegetation require protection.
  - Gravel construction pads required where protection is required and slopes are excessive for snow pads.
- Offshore
  - Summer construction from lay vessels.
  - Primarily offshore supply from existing infrastructure.

North American Natural Gas Pipeline Group

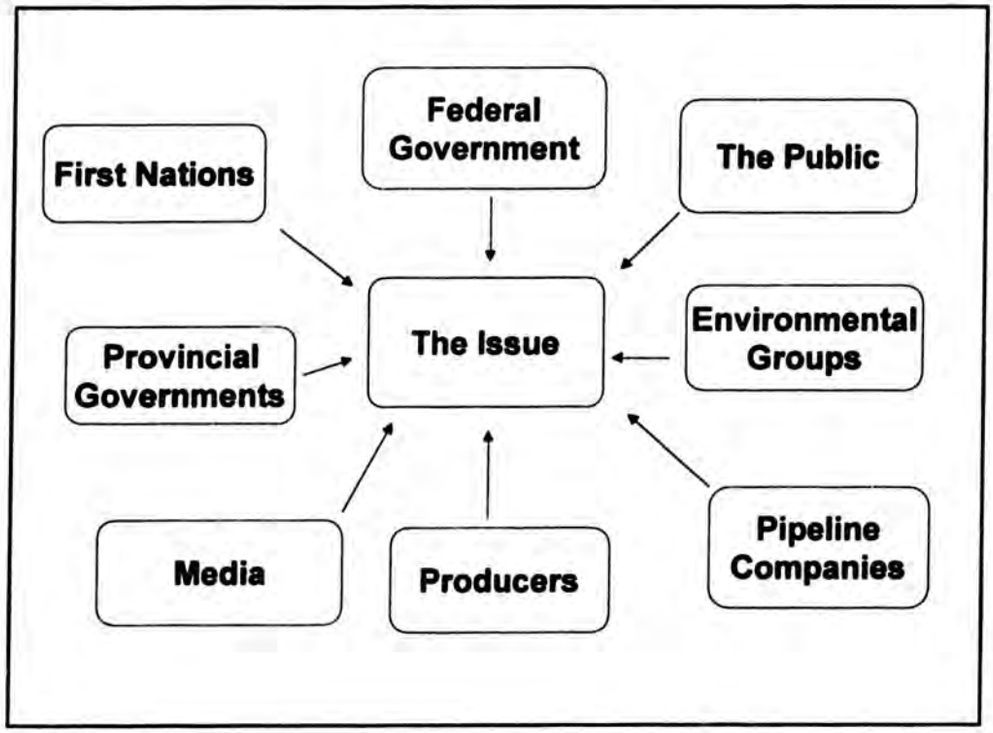
The "Seven Lenses" of Evaluation

- Economics
- Revenues
- Jobs
- Gas Access
- Safety
- Timing
- Environment

Canada and the Northern Pipeline

Presentation to the Governor's Alaska Highway Natural Gas Policy Council

March 23, 2001



Federal Government Position

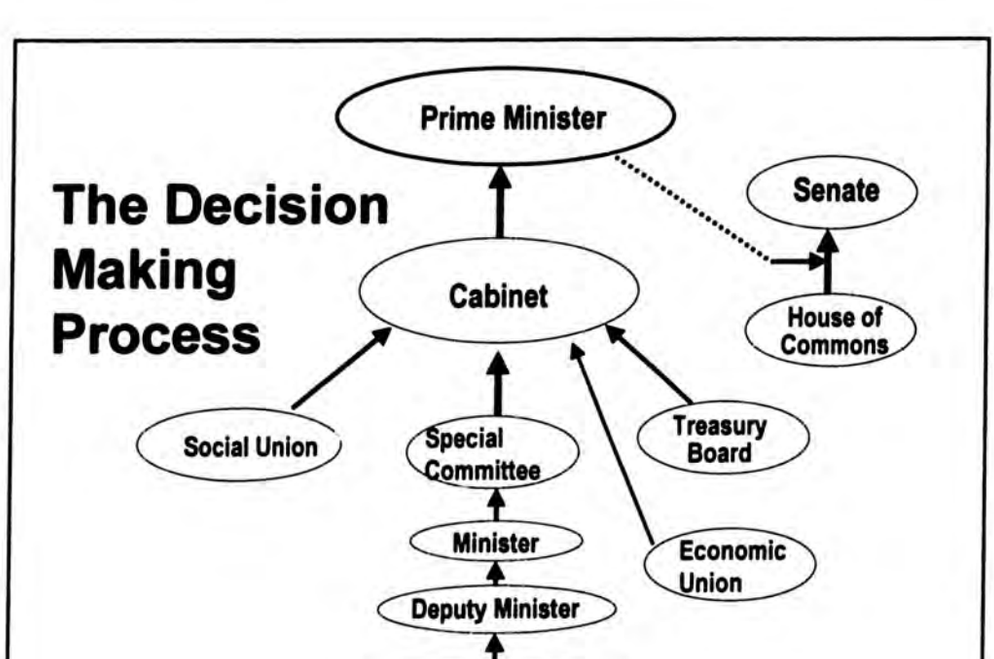
- The pipeline route must be picked by the producers. The Canadian Government will not endorse one route over another.
- The government's role is to ensure a smooth regulatory regime that recognizes legitimate business imperatives while allowing for adequate public input.

Federal Government Position

- Projects that bring maximum benefit to Canadians will be supported over those that do not.
- The Federal Government wants to co-operate on energy issues and wants to be part of any continent-wide energy agreement.

The Federal Players

- Indian Affairs & Northern Development
- Environment
- Foreign Affairs
- International Trade
- Fisheries and Oceans
- Industry
- Privy Council
- Human Resources Development
- Finance
- Treasury Board
- Northern Pipeline Agency
- Canadian Environmental Assessment Agency



The Major Players

Prime Minister Jean Chrétien

- First elected in 1963
- Has held every major cabinet post including Indian Affairs and Northern Development, Energy Mines and Resources and External Affairs
- Great affinity for the North

Hon. Bob Nault, Indian Affairs and Northern Development

- First elected in 1988
- Appointed to Cabinet August 1999
- DIAND is his first portfolio
- See this project as the biggest economic development project for Canada this decade

Hon. Ralph Goodale, Natural Resources Canada

- Appointed Minister of Natural Resources in 1997.
- Has regional political responsibility for the North
- Chairs the powerful Economic Union Committee of Cabinet

Hon. David Anderson, Environment

- Elected 1968 - 72 and re-elected in 1993.
- A pragmatic environmentalist
- Best known to Alaskans as Canada's Minister of Fisheries and Oceans 1997 - 99

Premier Pat Duncan, Yukon

- First elected in 1996
- Became leader of the Yukon Liberal Party in 1998
- Led Party to victory in 2000 and became Premier
- Main goal is to make the Yukon more autonomous

Premier Stephen Kakfwi, Northwest Territories

- First elected in 1987
- Has held every major cabinet portfolio
- former president of the Dene Nation
- Active in opposition to the original pipeline agreement

Next Steps

- Amendments to the Canadian Environmental Assessment Act
- Single Window Regulatory Access in the North
- Devolution of Powers to the Yukon and Northwest Territories
- Continuing Land Claims Negotiations

Thank You

Questions ?

Alaska Highway Natural Gas Policy Council
Workshop II Agenda

Thursday, April 5, 2001
Anchorage Sheraton Hotel – 10:00 a.m. to 5:30 p.m.

I. Call to order/opening remarks, 10:00–10:30

II. Presentation from Alaska Gasline Port Authority, 10:30-11:15

III. Presentation from Foothills Pipe Lines Ltd., 11:15-12:00

IV. Lunch break, 12:00 –12:30

V. Presentation from LNG Sponsor Group, 12:30-1:15

VI. Presentation from Yukon Pacific Corporation, 1:15-2:00

VII. Council Business, 2:00-2:30

VIII. Subcommittee Session I, 2:45-4:00
A. State's Royalty Share – Bill Corbus, chair
B. Access to the gas/In-state gas consumption– Ken Thompson, chair
C. Linking other future opportunities/markets – Carl Marrs, chair

IX. Subcommittee Session II, 4:15-5:30
A. Alaska Hire/Buy/Build – Mike Navarre, chair
B. Federal/International Action – Charlie Cole, chair
C. Environmental Considerations – Peg Tileston, chair

Alaska Highway Gas Policy Council
Meeting Summary
April 5, 2001, Anchorage, Alaska

Co-chair Jim Sampson called the meeting to order.

Gov. Knowles briefed the council on recent developments in the national energy situation. The outlook is for continued shortages of electricity in parts of the country, and high prices for natural gas. There have been no significant changes in the situation.

The governor attended an energy conference in Houston also attended by Canadian leaders, which was heavily attended due to high interest in the energy situation. Knowles' message to the conference was that Arctic gas - Alaskan and Canadian - can help meet the nation's energy needs. Alaska is not in competition with Canada, because new gas from all sources - the Arctic, western Canada, East Coast Canada, Gulf of Mexico, and LNG imports - will be needed to meet the expected demand.

Knowles also told the council that Senate President Rick Halford and House Speaker Brian Porter have agreed to become members of the council. Pressing legislative businesses prevented their attendance April 5, but they will be more involved after the Legislature's adjournment in early May.

April 5 presentations to the Council:

Alaska Gasline Port Authority:

Dave Cobb, former Valdez Mayor and member of the port authority board, gave the presentation.

The port authority was created under Alaska statutes allowing separate port authorities to be formed by municipal governments. It was created when it was approved by voters in the City of Valdez, Fairbanks North Star Borough and North Slope Borough in October, 1999.

Cobb said that three guiding principles for the authority include creation of jobs, providing gas to Alaskan communities and helping stabilize the state economy by helping commercialize stranded North Slope gas. The approach, using tax-exempt public debt financing for a portion of the project, would lower costs and dramatically increase the economic viability of a large gas project, and maximize benefits to both Alaska and the

producer companies.

The three municipalities forming the port authority each contributed $100,000 to its startup costs, Cobb said. Yukon Pacific Corp. made a $250,000 contribution, along with a $75,000 contribution by Bechtel Corp, he said. The authority has a Memorandum of Understanding with Bechtel, under which the company did a "ground up" (i.e. original, not built on previous work) construction cost estimate, an effort that involved about 55,000 manhours of work. Bechtel has about $5 million to $6 million invested in this effort, which involves the use of state-of-the-art pipeline technology, Cobb said. The international financial consultants Taylor-Dejoung developed the economic model based on Bechtel's cost estimate.

Two other accomplishments of the authority include obtaining a ruling from the Internal Revenue Service that the authority is a public corporation exempt from federal income tax, and an assurance from the Federal Energy Regulatory Commission that a gas project built by the authority would not be subject to FERC review, Cobb said.

The authority contemplates financing 100 percent of the project and distributing net revenues on a formula providing for 60 percent of revenues paid to the state of Alaska, 30 percent to all Alaska municipalities and 10 percent retained by the authority and the three municipalities that formed it. The distribution to municipalities is intended to replace state revenue-sharing, which has declined substantially in recent years. The minimum payment to any community, no matter how small, is $50,000 per year, Cobb said.

By taking advantage of exemptions from many federal, state and local taxes, a gas project built by the authority would result in $2 billion to $3 billion in revenues to gas producers over what a privately-built project would produce, and an additional $1 billion to the state of Alaska.

Valdez has a history of promoting similar pubic/private partnerships, Cobb said. During construction of the trans-Alaska oil pipeline in the 1970s, the City of Valdez issued revenue bonds to financed parts of the Valdez Marine Terminal. The city is the owner of these facilities, Cobb said, and both Valdez and the pipeline owner companies have realized substantial benefits from the arrangement.

Questions from the Council:

A question was asked about assumptions of gas volume and throughput.

Cobb replied that the authority believes in the "Y" concept, with one pipeline built through Interior Alaska to the Lower 48 and a second pipeline branching off to an LNG plant on the southern Alaska coast. The project envisioned by the authority would carry 6 billion cubic feet of gas daily from the North Slope to the "Y" junction in the Interior. Three billion cubic feet of gas daily would then be shipped on to the Lower 48, and three billion cubic feet of gas daily shipped to the LNG plant through the second pipeline.

A council member asked about guarantees for the bonds.

Cobb replied that the authority would guarantee debt issued for the project. If the bond market doesn't believe the project is feasible, the bonds won't be purchased, he said.

He stressed that the authority would own the project but would contract for construction and operation. Also, while the most financially advantageous project involves the authority actually purchasing gas from the producers and selling it, the producers could also contract to ship their own gas through a gas pipeline owned by the authority. The authority could also own part of a project. For example, if the producer want to retain ownership of a pipeline to the Lower 48, the authority could build the spur pipeline to southern Alaska. "We believe the port authority can fit in anywhere. There are advantages without full-scale involvement," Cobb said.

A council member asked for more information about the allocation of revenues, and a comparison of how the state and its communities benefit under the status quo, retaining their own full taxing authority (such as state corporate income tax), and the tax-exempt, revenue-distribution concept proposed by the authority.

Cobb replied that this analysis has been done and that he would provide it the council.

A council member asked why the state couldn't do what the authority proposes to do, with similar advantages.

Cobb replied that financial consultants had advised that if the state were the financing entity, bond buyers would very likely ask for backstop guarantees from the Alaska Permanent Fund. Because the port authority is an independent public corporation, with, under state law, no guarantees

required from either the municipalities involved or state government, a bond buyer would have to look only to the project, because the authority has no funds to guarantee bonds.

An observation by a council member was that guarantees from the producers would likely be involved, in the form of long-term contracts to ship gas.

Another council member observed that until very recently, producers were not involved in pipeline ownership in the Lower 48. The take-or-pay contracts they signed served as guarantees to independent third parties building and operating the pipelines. This has changed in the last 20 years. Producers have become involved in riskier domestic pipeline projects built into new areas to control costs. Overseas, a model of part government and part private ownership has involved, with governments desiring an involvement so as to be able to participate in the setting of tariffs. Producers become involved for the same reasons, and to control costs.

Another motive for producer involvement is to enjoy the financial benefits of an equity position in a pipeline, it was explained. Rate of return on a pipeline investment is typically lower than from a producing property, but it is constant, without the ups and down of production revenues (due to price volatility) and is a good source of steady cash-flow.

Foothills Pipe Lines, Ltd.

John Ellwood, vice president engineering and operations, gave the presentation.

Foothills is a joint-venture company formed by TransCanada Pipelines Limited and West Coast Energy, two of Canada's largest pipeline companies, to participate in an Alaska natural gas pipeline project when it was first proposed in the late 1970s.

Ellwood sketched the history of the company's involvement in the Alaska gas pipeline project. Foothills was originally formed to build the Canadian portions of the Alaska Natural Gas Transmission System (ANGTS.)

Meanwhile, two "pre-built" portions of the system, from western Canada to the U.S. midwest and Pacific Northwest, were built by Foothills and are in operation today. As for the Alaska portion, as members of the ANGTS consortium withdrew from the project Foothills purchased their interest. "We saw real value in the Alaska Natural Gas Act, its Canadian counterpart and the U.S.-Canada Treaty because they will get a project done quickly.

That is why we devoted extensive efforts to keep the permits alive."

Today Foothills is the operator of the ANGTS project, which has permits and rights-of-way for a gas pipeline along the Alaska Highway through Alaska and Canada. Foothills has kept all of the permits for the system in good standing, Ellwood said. The permits will have to be updated to reflect different volumes of gas and the new technology being incorporated, but the updating can be done without difficulty, he said.

The pre-built parts of the system were a gamble at the time, Ellwood said. They were built because there was no assurance that the northern part of the project would be completed (it wasn't). The pipelines were built oversized for the gas then available for shipment, and the Canadian government sought an assurance from the U.S. government that the Alaskan part would eventually be built. The assurance was given.

However, gas production from western Canada has expanded considerably and today the pre-built sections are not only full, but have been expanded five times, each expansion incorporating the latest in new technology, Ellwood said. The pre-built pipelines now carry 3 billion cubic feet per day of gas, roughly 5 percent of U.S. gas consumption.

Today the legal structure of the U.S. presidential decision, laws passed by both the U.S. Congress and Canadian Parliament and the U.S.-Canada treaty remain in full force, Ellwood said. A 1977 conditional certificate issued by the Federal Energy Regulatory Commission also remains in effect, he said, as does a right-of-way across federal lands in Alaska and a conditional state right-of-way.

These do not give Foothills a perpetual franchise but they do give the ANGTS project a priority over any competing applications, he said.

Some are suggesting that Foothills must use only the original design specified in the existing permits, Ellwood said. "We have researched this carefully, and it is not the case. Section 9 of the (federal) Alaska Natural Gas Act gives FERC the authority to amend our certificate, as long as we don't change our basic route or the nature of our project," he said.

Another change since the 1980s was that the Office of the Federal Inspector for the ANGTS project, originally within the Department of the Interior, was moved to the Department of Energy. Ellwood said the Secretary of Energy has given assurances that the functions of the Federal Inspector would be carried out by his office should the project be revived.

A key advantage of the existing laws is that they provide for limited judicial review. "That is a very valuable asset," Ellwood said.

The company has a "pending" right-of-way application with the state of Alaska to cross state-owned lands. Foothills is now in discussion with the state on renewing work on that application.

On the Canada side, the company has a Certificate of Public Convenience and Necessity issued by Parliament, which means only that body can revoke the certificate. Also, a right-of-way has been established across Yukon Territory which is not subject to land claims by First Nation groups. All 14 First Nation groups have signed an agreement recognizing the right-of-way, Ellwood said.

What the company does not yet have is a commercial agreement with the North Slope producers, he said, and Foothills is now devoting its energies to achieving that. "We anticipate the producers will want some part in ownership and control," Ellwood said. That isn't a problem. "We want to be part of the solution, not a problem," for the producers, he said.

The key message that Foothills would like to leave with the council, Ellwood said, is that the expedited regulatory review system established under the existing laws and treaty constitute a valuable asset for Alaska and the producers, as well as for Foothills because it would allow a gas pipeline project to get through red tape very quickly.

A council member asked if Foothills, as a Canadian company, will seek U.S. companies as partners.

Ellwood answered that his company is open to new partners but that the first priority is to get a commercial agreement with the producers.

A question from the council asked status of a lateral pipeline to the Mackenzie Delta provided in the 1980s laws and treaty agreements.

Ellwood responded that the existing laws and treaty do provide for a spur pipeline along the Dempster Highway that would join the ANGTS pipeline near Whitehorse, Y.T. That pipeline was planned when there was a moratorium on pipelines along the Mackenzie River valley because o unsettled Native land claims. Those claims are now being resolved, and communities along the Mackenzie now support a pipeline. Oil and gas companies with interests in the Mackenzie delta are now considering a stand-alone pipeline south along

the Mackenzie, so the Dempster Highway route is no longer needed, he said.

A council member asked why the Alaska Highway "southern" route has advantages over the "northern" offshore route, if that route is shorter.

Ellwood responded that Foothills conduct a 50,000 man/hour study of the northern route and concluded that it would wind up costing about the same as the southern, highway route because of potential problems with ice scour and trenching in the offshore segments, and problems of where to locate compressor stations if an onshore site in unavailable in wildlife refuges in northeastern Alaska (ANWR) and Yukon Territory. The southern route, although longer, has less risk. Also, availability of existing road infrastructure is a big asset.

Ellwood added that an additional problem facing a northern route is the commercial problem of sizing the pipeline to carry an unknown amount of gas from the Mackenzie delta that is unproven (undrilled) at this point. In contrast the North Slope gas is a proven, confirmed resource. The problem is financing a northern route pipeline with enough capacity to carry both Alaskan and Mackenzie gas without the Mackenzie reserves defined to the point where contracts for gas shipment can support the additional investment.

A council member asked about available capacity in pipelines from Canada to the U.S. that could connect with an Alaska pipeline in western Canada.

Ellwood responded that the existing pipeline grid in Canada has about 1 billion to 1.5 billion cubic/feet per day unused capacity. Even if that capacity is not available by the time an Alaska pipeline is built (production from Canada is expected to increase by that time) the pipeline grid can be expanded, as it has before, or a new pipeline can be built.

Alaska North Slope LNG Project

Steve Alleman, project manager, made the presentation.

Alleman reviewed his group's progress to date in its work on an LNG export project. Phase one, completed last fall, involved $12 million expended in conceptual engineering, commercial and market feasibility work.

This was successful in that a scaled down project was defined that would produce a volume of LNG (7 million tons/LNG annually) that might better fit into what the sponsor group feels is the available market in the Pacific.

The project can then be expanded as the market develops.

However, even a scaled-down project was not deemed to be cost competitive, Alleman told the council. The group's current key focus, in a $3 million phase two effort, is to find potential cost savings through synergy with the Lower 48 pipeline project being planned by the North Slope producers. This would involve the "Y' concept, or a pipeline spur connecting in Interior Alaska that would carry gas to a southern Alaska LNG plant. This would shorten the distance of new "stand alone" pipeline. The lower capital cost might improve the project's economics but whether it would be enough is still uncertain.

Alleman told the council that his group expects to conclude internal studies on an environmental assessment of the Cook Inlet route by the end of April, and to have cost estimates for a project that links with the Lower 48 pipeline as early as mid-June or July.

A council member asked about any benefits of public financing or public ownership.

Alleman said his group's analysis so far is that no compelling advantage is presented in a "public/private partnership" with an entity like the Alaska Gasline Port Authority (meaning a project partly owned by both industry and the authority). He added, however, that full public ownership of a project that can fully realize federal tax advantages may be different. Further discussions with the port authority are planned.

To illustrate the challenges the LNG project faces, Alleman showed a slide to the council that compared estimated capital costs of other proposed LNG projects, including proposed expansions and new "greenfield" (entirely new) projects, like Alaska, that are competing for the expected new demand in Asia. Figures in the chart are based on published information, he said.

The chart shows the average capital cost among the competing projects, per million tons of LNG delivered yearly, range between $225 million to $250 million per million tons of annual LNG delivery. The estimated cost of the Alaska project, with a stand-alone pipeline (i.e. without the link to the Lower 48 pipeline) ranges between $610 million to $790 million per million tons delivered. The 800-mile pipeline (in the case of a stand-alone pipeline) is about $300 million per million tons per year, or 40 percent to 50 percent of the project total unit cost. The pipeline is a huge challenge for the project when compared with its competitors, which are at tidewater, Alleman told the council.

(Editor's note: Three of the LNG sponsor group's four members are involved in Lower 48 pipeline studies: BP, Phillips and Foothills.)

A council member asked why the existing Phillips LNG plant at Nikiski couldn't be expanded, in a case where a pipeline went to Cook Inlet.

Alleman replied the group continues to look at that, and has not ruled out exploring possible synergies there.

A council member asked about the economics of ocean shipping of LNG. With Phillips looking at importing LNG from Australia to the U.S. West Coast, wouldn't Alaska, with a shorter shipping distance, be as or more competitive?

Alleman replied that his group had compared published estimates on "total cost of service" (including shipping) from Australia to California, and penalized the Australian service with the need for additional ships because of the longer distance. The Alaska project, in shipping LNG to California, still wasn't as competitive, he said, primarily because of the 800-mile Arctic pipeline that an Alaska project must overcome.

A council member observed that some of the existing LNG projects in southeast Asia can be more competitive than a new Alaska project, even with a longer shipping distance, because the LNG tankers are already built and in service. He asked for more information on the total cost of service of supplying LNG from Australia compared with estimates for an Alaska project, which is one quarter of the distance.

Alleman said he would get the information to the council on shipping distances.

Yukon Pacific Corp.

The presentation was made by Jeff Lowenfels, president and CEO of Yukon Pacific.

Lowenfels said there are three "myths" about an LNG project, that there is "no market," that LNG is not an option, and that the overland (Lower 48) project is the only option. Alaska gas does face challenges because of its remote location and competition from other LNG projects, so any project from Alaska must be big to achieve economies of scale.

Despite all the work on gas over the years, the producers were not in a position to sell gas until June, 2000, when the realignment of ownership in the Prudhoe Bay field changed conflicting priorities among the field owners, mainly three major producing companies.

Yukon Pacific has done extensive work on permits over the years and has secured the major "deal-killer" permits, Lowenfels said. In comparison, it will not be easy to permit the Alaska Highway route with the existing requirements of U.S. and Canadian laws on a highway pipeline, he said.

As for market demand, several studies, including independent U.S. groups like Standard and Poors, feel Asian demand for LNG will grow sharply. Estimates by private industry within the three Asian nations that are most likely markets for Alaska gas, Japan, Korea and Taiwan, show strong future demand. Government estimates are lower because they assume more power will be supplied by nuclear plants, an assumption private industry discounts, Lowenfels said. India and probably China are probably not markets for Alaska because those countries can be supplied more economically by producers in Southeast Asia and the Middle East, but growing demand for LNG in both countries will take supply off the market, indirectly helping Alaska.

Lowenfels showed a chart showing results of two studies by engineering groups, one by Willbros Engineering and Micheal Baker Jr., and a second by Kellogg Brown & Root and Air Products and Chemicals, Inc. The estimates showed a "startup" project delivering 9.2 million tons/year of LNG could be built for $6 billion (2000 dollars), expanded to 13.8 million tons/year with an additional investment of $1.1 billion, and expanded again to 18.4 million tons/year with an additional $1.2 billion investment.

The total "cost of service" to Japan, including shipping, at a "low" case of $1.99 per million British Thermal Units (Btu) delivered to a "high" case of $2.91 per million Btu delivered. This appears attractive in the context of estimates by Tokyo Gas that it will contract LNG for $3.88 per million Btu between 2005 and 2010. "Our numbers work," said Lowenfels.

In discussion following the presentation, Lowenfels said YPC was shocked to discover that the assumptions used in the Purvin & Gertz (a consulting firm relied on by industry and the state) study for LNG relied on generic "off the shelf" data rather than estimates compiled by YPC itself. The effect is to understate the benefits of an LNG project, Lowenfels said. YPC is now discussing the report with Purvin & Gertz, and is hopeful that a more up-to-date "apples to applies" comparison can be made.

Lowenfels urged the council to question why the "highway" is its mandate. Yukon Pacific has been working on an LNG project for many years, but was not consulted, he said. He said he didn't know what information the state administration relied on in making its decision in favor of the highway route, but he suspected it was the Purvin & Gertz study.

A council member observed that he has always favored access to multiple gas markets, since individual markets will always cycle up and down. He asked if the Lower 48 pipeline now being planned helps Yukon Pacific's project. Why doesn't YPC plan a smaller project, sized to fit the market, building off the larger pipeline?

Lowenfels replied that YPC had always built in an assumption of size that would allow a pipeline to the Lower 48 to branch off at Delta. He said his company also favors some form of transparency (clear, predetermined procedures) for gas offtake, if not public ownership.

A council member asked if YPC sees a higher wellhead price for gas from an LNG project, why Phillips (lead company in the industry LNG consortium) doesn't also see that.

Lowenfels replied that individual companies may have other projects with higher rates of return, fewer partners to deal with or complexities in putting a project together, or combinations of all those. There may be other factors affecting Phillips' decision to participate in a project to import LNG from Australia rather than Alaska, such as a possible deadline on a concession in Australia.

A council member replied that it seemed odd that Phillips, with an ownership interest in Alaska gas and a motivation to commercialize the asset, doesn't see a return similiar to than in Australia, which is more distant.

Lowenfels replied that projects compete for funds, and investments go to the project with the highest return and fewest headaches. "I think that's what is going on here," he said.

A council member asked if there wasn't a danger is proceeding on a parallel track with the pipeline to the Lower 48.

Lowenfels replied that he has no confidence the Lower 48 pipeline will really proceed. Even the companies

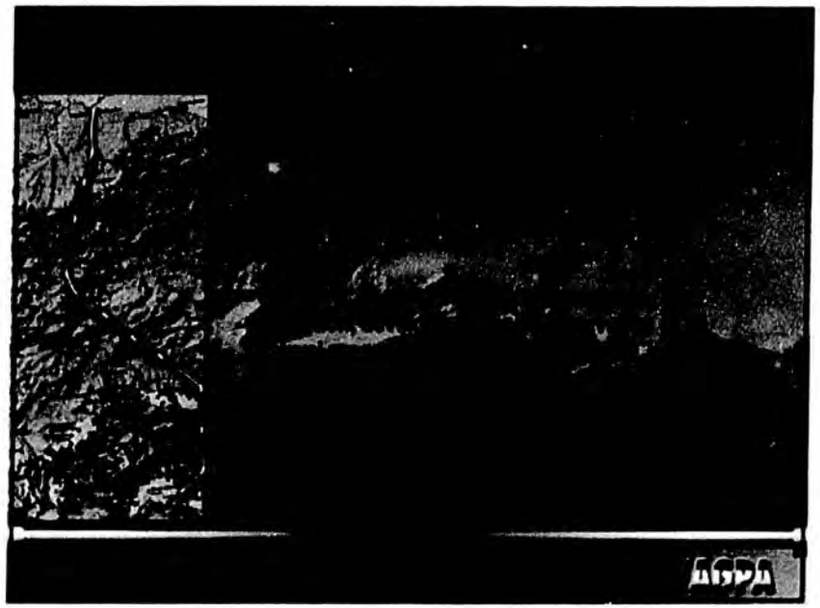
involved say they're not sure they really have a project, he told the council. That is why YPC is continuing to work on its own project. "We hopes it (the Lower 48 pipeline) does go, because we can easily piggyback on it. But we can't stop our work to wait for them," Lowenfels said.

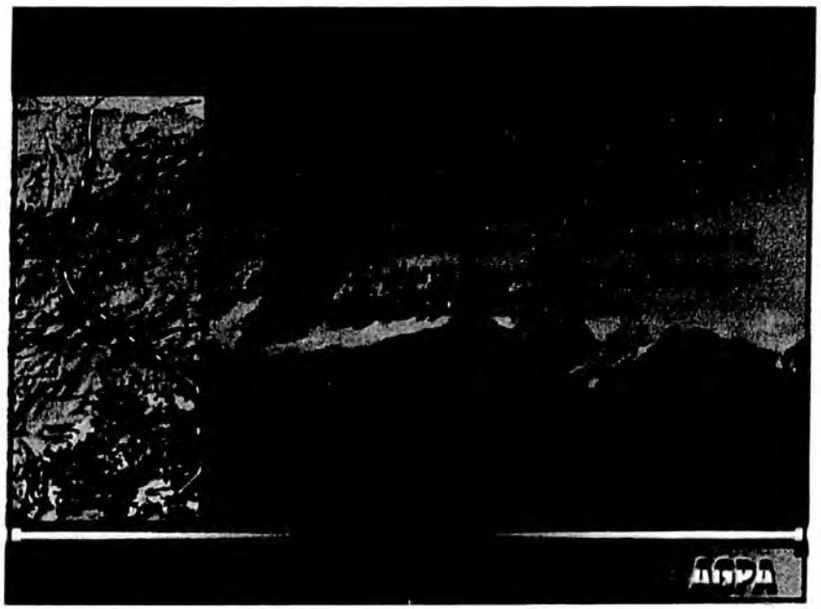
The Lower 48 pipeline, and the governor's decision to support it, has been a setback for Yukon Pacific, however. It sends a message to potential buyers in Asia that Alaska has might not be available. That is why the senior gas manager from Tokyo Gas came to Alaska a few weeks previous, to tell state and community leaders that his company is very interested in North Slope gas.

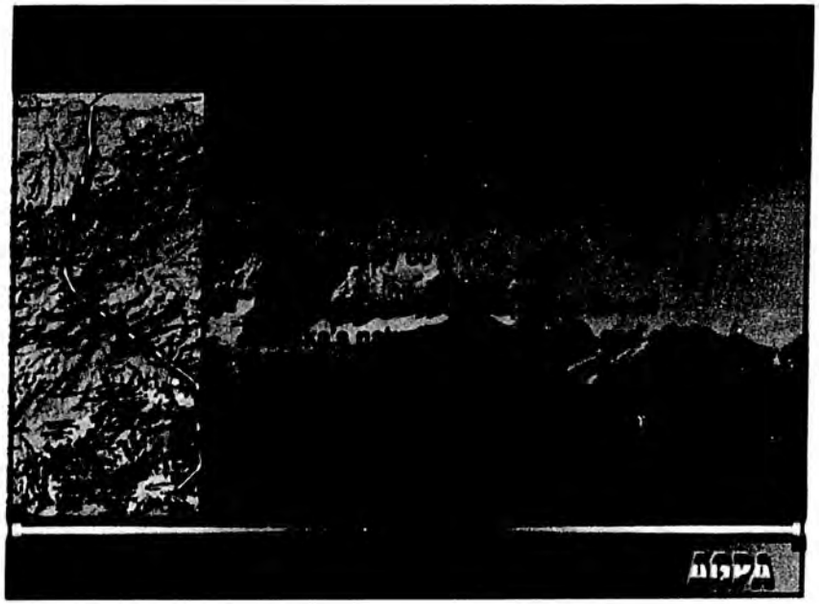
Lowenfels also observed that discussion of a 6 billion cubic feet/day gas throughput for a project (in the port authority's case) is too high. It would deplete the only current North Slope reserves in production in nine and a half years. Lowenfels said that only current production is available today. There is no assurance any other fields will be opened and hence only the 21 trillion cubic feet left in the Prudhoe Bay Unit is available for any project. YPC's project assumes a lower throughput rate of two billion cubic feet/day, which can be sustained for a much longer time.

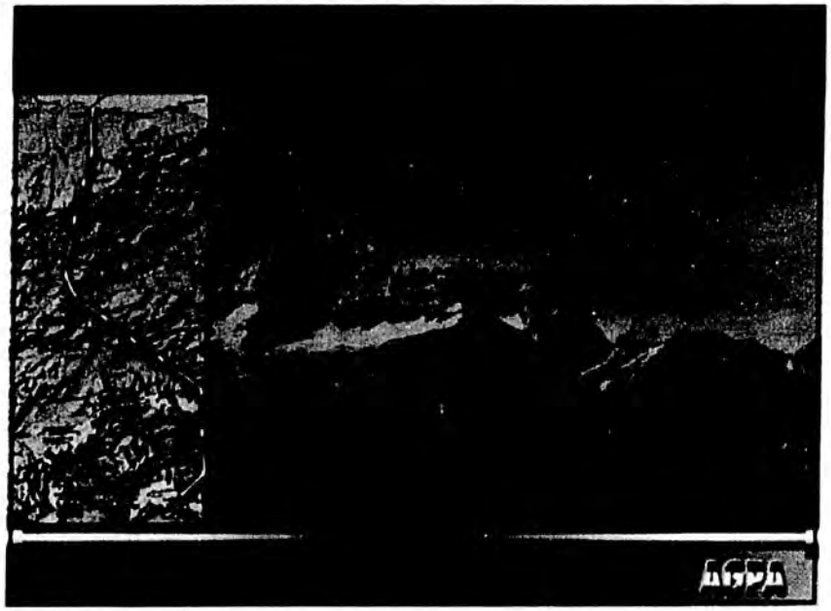
A council member asked Lowenfels' opinion of a gas reserves tax (a state property tax) on undeveloped gas on the North Slope. (The proposal has been made by a state legislator).

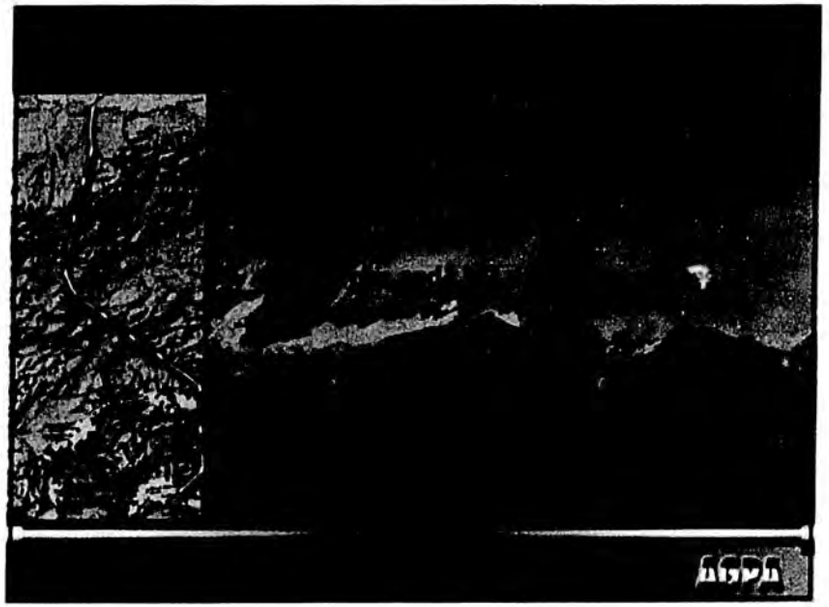
Lowenfels replied that the idea was interesting, and may be appropriate.

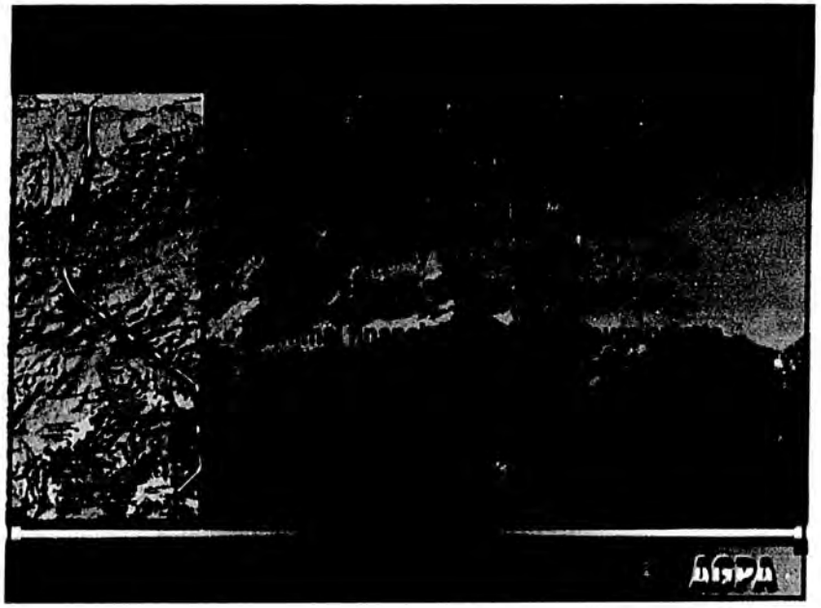


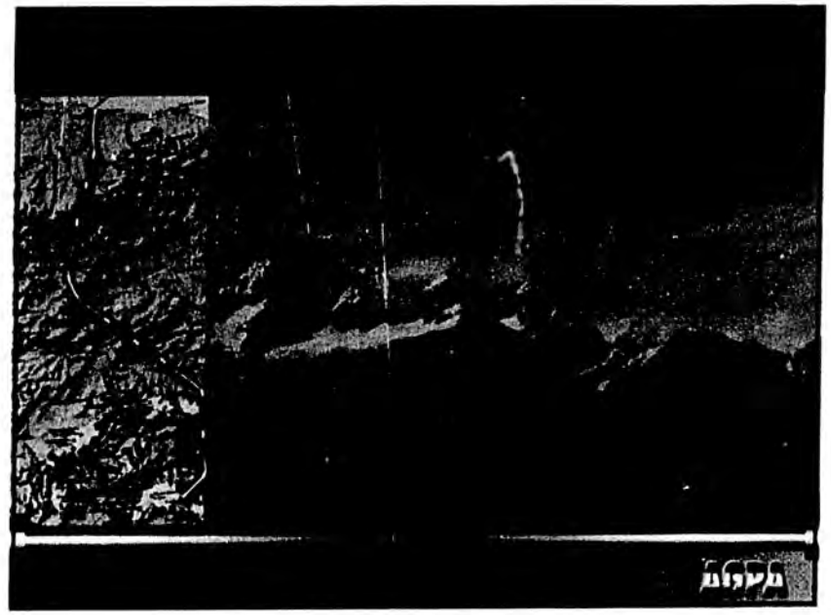


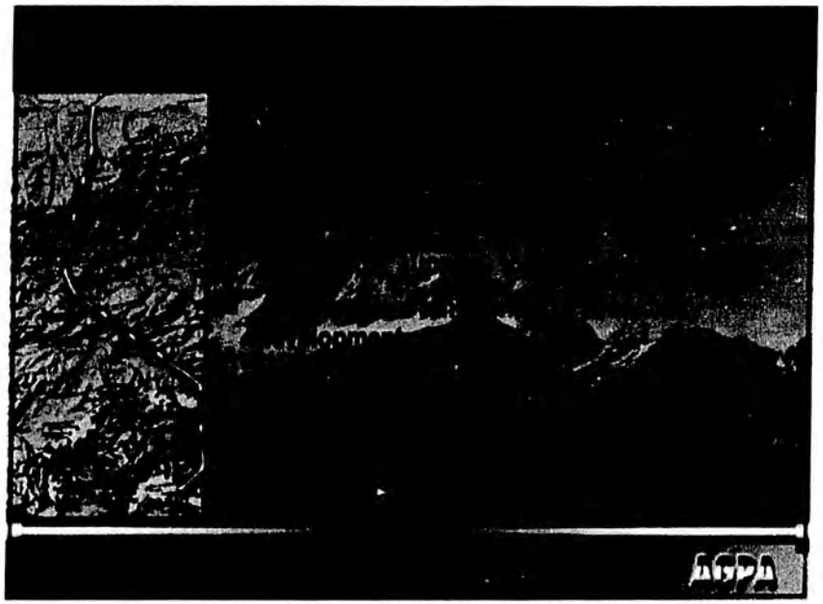











AGPA

Governor's Alaska Highway Natural Gas Policy Council

April 5, 2001

Presentation by

John Ellwood
Vice President, Engineering & Operations

Foothills Pipe Lines Ltd.

Foothills Pipe Lines Ltd. / Alaska Highway Gas Pipeline Project

My name is John Ellwood. I am Vice President, Engineering and Operations at Foothills Pipe Lines Ltd. ("Foothills"). We appreciate your invitation to discuss the transportation of Alaska North Slope natural gas to markets in the lower-48 states through the Alaska Natural Gas Transportation System ("Alaska Highway Project").

Let me begin by telling you about Foothills. Our Company is jointly owned by Westcoast Energy Ltd. ("Westcoast") and TransCanada PipeLines Limited. ("TransCanada"), the two major players in the Canadian gas pipeline business. Our corporate mission is very specific: to build and operate the Alaska Highway Pipeline Project. We were leaders in the project that was conceived twenty-five years ago, and we are just as committed today.

Between Westcoast and TransCanada, we have nearly 100 years of experience in developing, building and operating gas pipeline projects. We have been involved with every major Canadian gas pipeline project built in the last fifteen years.

Our existing pipeline systems provide access to five of North America's largest natural gas markets. Together, these systems have the capability to move fifteen billion cubic feet per day of gas from Western Canada to the consuming markets. Canadian gas accounts for almost 20% of all gas consumed in the United States and all of that gas currently moves through pipelines owned in whole or in part by TransCanada and Westcoast.

Attachment 1 shows the existing and planned pipeline network of Westcoast and TransCanada.

TransCanada, Westcoast and Foothills have developed leading edge gas pipeline design, construction and operating technology, including expertise in dense phase designs. We are also well known for our development of environmentally sound design, construction and operation practices. We believe that our expertise in northern, remote and difficult terrain gas pipeline construction and operations is second to none.

Building and operating pipelines is our core business.

The Alaska Highway Project is the Alaskan gas pipeline project approved in accordance with the Alaska Natural Gas Transportation Act of 1976 ("ANGTA") in the U.S., the 1978 Northern Pipeline Act in Canada, and the 1977 Agreement Applicable to a Northern Natural Gas Pipeline between the two countries ("U.S./Canada Agreement"). The project is shown in green on Attachment 2. As approved, the Alaska Highway Project is a 4,800-mile international pipeline project commencing at Prudhoe Bay and terminating in the Midwest and California market areas. It is important to note that the southern part of this pipeline has been constructed and is in full operation. The route for this system parallels the Trans Alaska Pipeline System ("TAPS") to Fairbanks, where it angles southeast, following the Alcan Highway to the Alaska-Yukon border with Canada, down through the Yukon Territory and northern British Columbia, and into Alberta. In Alberta, the pipeline splits into two legs. The Eastern Leg proceeds southwest, crossing the U.S.-Canada border at Monchy, Saskatchewan and terminating near Chicago. The Western Leg proceeds southwest, crossing the U.S.-Canada border near Kingsgate, British Columbia and terminating at a point near San Francisco, California.

Foothills and TransCanada are the two remaining partners of the Alaska Northwest Natural Gas Transportation Company (Alaska Northwest), a partnership formed to construct and operate the Alaska portion of the Alaska Highway Project. In addition, Foothills is the Canadian sponsor of the Alaska Highway Project, and the majority owner and operator of the Canadian portions of the Eastern and Western Legs of the Alaska Highway Project.

Foothills has continuously championed the Alaska Highway Pipeline Project from the very beginning.

The Project is back **"on the list"** of possible solutions to the current North American concerns about high energy prices and the adequacy of natural gas supplies.

At the outset, there are some basic points that we should delineate:

- It is important to remember that this pipeline crosses the territory of two countries with different regulatory and political regimes.

- The Project has a long history, which adds unique attributes. The permits which have been issued are a product of this history and to understand the former requires an appreciation of the latter. Significantly, ANGTA in the U.S. and the Northern Pipeline Act in Canada create expedited procedures for completing the chosen system, the Alaska Highway Project.

- The pipeline permitting process can be very time consuming. In addition to the substantial work already completed on both the Alaskan and Canadian portions of the Alaska Highway Project, the special legislative and regulatory procedures in place in the U.S. and Canada will assist in expediting the construction and initial operation of the Project and keeping unnecessary delays to a minimum.

Historical Background

As I indicated, there are important historical dimensions associated with this project. We might focus on the time frame 1976-1982. Originally, there were three competing Alaskan natural gas pipelines proposed. As shown on Attachment 3, two of the projects were overland pipelines through Alaska and Canada. The third project would have transported gas by pipeline to tidewater, following the route of the "TAPS" pipeline, where the gas would be liquefied and transported to California by liquefied natural gas ("LNG") tankers.

The U.S Congress enacted the Alaska Natural Gas Transportation Act of 1976 with a purpose to provide an expedited process with respect to the selection of a single transportation system for the delivery of Alaska natural gas to the lower forty-eight states and to expedite construction and initial operation of the chosen transportation system.

With respect to the transportation of Alaska North Slope gas to markets in the lower 48 states, ANGTA superseded the usual Natural Gas Act ("NGA") process for granting Federal regulatory authorization to construct and

operate a pipeline. ANGTA assigned the responsibility for the overall Alaska pipeline agenda to the President and Congress. Much the same approach was followed in Canada, where the Government took an active role in the decision regarding the Alaska natural gas pipeline. The reason for the creation of this extraordinary authority was that the governments wanted to expedite a cumbersome regulatory approval process in order to move more quickly to a solution.

Prior to 1978, a Canadian Board of Inquiry (The Berger Inquiry) examined a proposal to move Alaska gas across the North Slope and along the Mackenzie Valley. At the same time the National Energy Board ("NEB") held a hearing to determine which of the two overland pipeline routes was acceptable to Canada. Both processes rejected the North Slope route (primarily for environmental reasons) and the NEB recommended the Alaska Highway (Alaska Highway Project) option, being promoted by Foothills. The Berger Inquiry recommended that no pipeline should be built along the Mackenzie Valley for at least a decade and that a pipeline across the northern Yukon should never be built.

During this same period of time the Federal Power Commission (later to become the Federal Energy Regulatory Commission ("FERC") came to a split decision on the question of which route should be selected.

Following the enactment of the ANGTA, the President selected the Alaska Highway route and the Alaska Highway Project with his Decision and Report to Congress on the Alaska Natural Gas Transportation System ("President's Decision" or "Decision").

In 1977 just prior to the President issuing his Decision, the U.S. and Canada signed the U.S./Canada Agreement. This agreement or treaty, established the route, chose the companies who would build and operate the system, established tolling principles, and set the terms and principles to be followed in facilitating the construction and operation of the Alaska Highway Project pipeline. The President's Decision reflected the U.S./Canada Agreement. The Decision and the Agreement were subsequently approved by the U.S. Congress.

In 1978 Canadian Parliament enacted the Northern Pipeline Act. The Act:

1) incorporated all of the terms of the U.S./Canada Agreement

2) issued **statutory certificates** of public convenience and necessity to the respective subsidiaries of Foothills Pipe Lines Ltd.,

3) created the Northern Pipeline Agency to "*facilitate the efficient and expeditious planning and construction of the pipeline*

4) established the methodology and rules for setting the Canadian tolls and tariffs for the pipeline

5) selected the route for the pipeline across Canada and

6) established Terms and Conditions respecting the socio-economic, environmental, construction and operations matters.

The complete Alaska Highway Project is shown on Attachment 2.

The President's Decision designated Alcan Pipeline, a subsidiary of Northwest Pipeline Company (Northwest), as the party who would construct and operate the Alaska pipeline segment of the Alaska Highway Project. This authority was later assigned to Alaska Northwest, a partnership assembled by Northwest. At one time Alaska Northwest consisted of eleven (11) partners, all subsidiaries of U.S. or Canadian pipeline companies.

Given the magnitude of the pipeline undertaking Alaska Northwest sought to recruit the North Slope Producers to join the project and assist the financing of the pipeline. The Producers expressed a willingness to join but were restricted by the President's Decision that disallowed the producers taking an equity position in the pipeline. In 1981, President Reagan submitted and Congress approved a Waiver of Law package allowing producer participation and including in the project, the North Slope gas conditioning facility.

In 1980, before the Waiver of Law was passed, Alaska Northwest and the Alaska Producers entered into a Cooperation Agreement providing for joint funding of the design and engineering of the Alaska Highway pipeline and

the gas conditioning facility. Following the approval of the Waiver of Law, the scope of the Cooperation Agreement was expanded to encompass efforts to achieve the remaining regulatory approvals and to jointly pursue financing arrangements. The two sides anticipated that affiliates of the Producers would join the Alaska Northwest Partnership.

Design, engineering, environmental, financing and regulatory work proceeded along parallel tracks in Alaska and in Canada during this period of time.

As world wide energy supply and demand came back into balance and the "energy crisis" eased, the focus of the pipeline shifted to the pre-building of the southern portions of the Alaska Highway Project as shown on Attachment 4. There was a disagreement between Canada and the United States over this issue, primarily as it related to the export of Canadian natural gas to the U.S. market.

The Canadian Government was unwilling to authorize the Pre-build or the gas exports without further assurance from the United States that the entire Alaska Highway Project, including the Alaska segment, would eventually be completed. This assurance was forthcoming in a letter from President Carter to Prime Minister Trudeau, along with a Congressional resolution. As a result the southern Pre-build pipeline section was completed by 1982. This involved constructing 650 miles of 36 and 42 inch pipeline from Caroline, Alberta to Monchy and Kingsgate on the US border. The Pre-build and subsequent expansions were constructed pursuant to the Northern Pipeline Act and it's regulatory regime managed by the Northern Pipeline Agency.

When the Pre-build construction began it was widely anticipated that North American natural gas demand would quickly resume its upward trend. However the market did not recover as anticipated and demobilization of the Alaska Highway Project soon began.

In order to remobilize, we will be required to make modifications and enhancements to various elements of the Alaska Highway Project regime. Pipeline designs will have to be modified so that that the Project can respond to capacity and gas quality requirements of the shippers. We will have to incorporate the latest technology and techniques necessary to ensure that the maximum environmental protection measures are in place. We do not

expect any difficulty in introducing these revisions which are so obviously of benefit to all parties.

Clearly there is a lot of work still to be done. It is very important to understand is that the advantages that come with the unique ANGTA and NPA regulatory regimes far outweigh the alternative of starting from scratch. Using the existing statutes and treaty we can assist in having Alaska natural gas into the U.S. market sooner, with competitive transportation costs and at the same time reducing project risks for all stakeholders.

In our capacity as the managing partner of Alaska Northwest we have maintained the Alaska Highway Project in good standing. We have kept the project alive to ensure that the advantages and benefits of the Project could be used in remobilization plans to expedite construction of the pipeline. We particularly wished to preserve what we see as the "special and unique fast track" regulatory regime.

Foothills and its shareholders have expended time and effort to keep the permits current and to optimize the project design. We do not intend to quit the field now that success is within sight.

The Alaska Permits – Federal

A substantial amount of work has been completed by the Alaska Highway Project sponsors to date. Before discussing the specific permits held by Alaska Northwest it is important to better understand the unique regulatory and legislative framework under which these permits were issued, namely ANGTA.

ANGTA and the President's Decision remain in effect and can be terminated only by another act of Congress. ANGTA does not create a perpetual priority for the Alaska Highway Project. Rather, it establishes a priority designed to ensure that the Alaska Highway Project will be completed and begin initial operation in accordance with the decision of the President and Congress. Once the Alaska Highway Project is in operation additional projects may be considered under the Natural Gas Act.

In implementing this priority, ANGTA requires that Federal agencies and officers expedite and issue "at the earliest practicable date" all permits and authorizations required by the Alaska Highway Project. In addition, ANGTA provides that applications and requests with respect to permits and authorizations required by the approved system "shall take precedence" over any similar applications and requests. Furthermore, ANGTA limits the discretion of Federal agencies and officers to include in certificates and permits for the Alaska Highway Project any conditions that would obstruct the system's expeditious construction and initial operation.

As required by ANGTA, the FERC in 1977 expeditiously issued a conditional certificate of public convenience and necessity for the Alaska Highway Project. That certificate contains no expiration date and is still in effect today.

In addition, Alaska Northwest holds a federal right-of-way grant issued in 1980 by the Department of Interior's Bureau of Land Management. That grant does not expire until December 2010, and may be renewed at the request of Alaska Northwest.

Furthermore, Alaska Northwest holds two recently extended Clean Water Act wetlands permits issued by the Army Corps of Engineers in coordination with many other agencies. Those permits were extended through September of 2007.

While these various federal permits were issued some time ago, they all are valid today. Indeed, nothing in ANGTA or in the certificates and authorizations issued for the Alaska Highway Project thereunder provides for the expiration of the chosen system's priority because completion of the Alaska segment was postponed until the U.S. domestic market could support it. Rather, the Alaska portion of the Alaska Highway Project has been held in reserve until the need for additional natural gas arises in the Lower 48 states is such that this section can be completed. As sponsors we have actively protected the preserved Alaska segment by maintaining all necessary certificates and permits and actively overseeing the rights-of-way.

We recognize that these certificates and permits need to be "updated" to capture changes in technology, markets and environmental requirements. We will do such updating, and it can be done within the ANGTA

framework. To that end, a couple of additional points need to be emphasized before I move on to the State permits.

- First, ANGTA clearly envisions and provides for the ability to condition and to amend these permits. These powers are subject only to the limitation prohibiting changes in the "basic nature and general route" and actions that will "otherwise" prevent or impair in any significant respect the expeditious construction and initial operation of the Alaska Highway Project.

- Second, the Alaska Highway Project sponsors' requests for both new permits and amendments to existing permits must be given priority under ANGTA. This priority translates into a timing advantage for the Alaska Highway Project.

- Third, the authority of the Office of Federal Inspector, as transferred to the Secretary of Energy, also continues in effect today to expedite and coordinate federal permitting, enforcement of permit conditions, and facilitation and oversight of the construction and initial operation of the U.S. portion of the Alaska Highway Project.

- Fourth, ANGTA also provides for expedited and limited judicial review of actions taken by Federal agencies and officers.

- Finally, the Alaska Northwest Partnership is well along in permitting the Alaska Highway Project.

The Alaska Permits – State of Alaska

On the state side, Alaska Northwest has a pending State of Alaska right-of-way lease application. Recently, we have initiated discussions with the State officials regarding perfecting and processing the pending application. Also at the state level, Alaska Northwest holds certificates of reasonable assurances issued pursuant to Section 401 of the Clean Water Act and a determination of consistency with the Coastal Zone Management Act.

Additional Alaska Permits

While Foothills already holds the major permits necessary to construct the remainder of the Alaska Highway Project, there are additional permits and authorizations that will need to be obtained. For example, the Alaska Highway Project sponsors will need to acquire a permit under the Clean Air Act. However, these additional permits will be procured as the Project proceeds, and such procurement will not cause a delay in the expeditious construction of the Alaska Highway Project.

The Canadian Permits

On the Canadian side, Foothills holds two unique certificates or permits:

- Certificate of public convenience and necessity.
- Yukon right-of-way.

Certificate of Public Convenience and Necessity

The certificate of public convenience and necessity ("certificate") is the Order issued following a successful hearing before the National Energy Board (NEB) of a pipeline application. The information that is required to be filed for hearing purposes is delineated in regulation and includes details about supply and markets, environmental impact assessment, engineering, construction and operations plans and details about connecting pipeline facilities.

The preparation of the required hearing information generally takes one to two years to complete and the length of the hearing will be proportional to the level of controversy surrounding the issues.

Foothills has completed this phase of the process. We have the "certificates" that entitle us to build a pipeline, subject only to terms and conditions set out in the Alaska Highway Project regime.

The "certificates" are statutory. They were issued by the Parliament of Canada when it enacted the Northern Pipeline Act and are in keeping with the principles and intent of the U.S./Canada Agreement.

We acknowledge that the "certificates" were legislated 20 years ago and that some have raised questions about their scope and validity. Others suggest that the certificates are dated and accordingly must be reissued. The "certificates" are valid. We are on solid legal ground in this regard.

Changes to the pipeline design to accommodate new technical issues and improvements have previously have been granted by the Northern Pipeline Agency both at the time of the construction of the original Pre-build facilities and later during the facility expansion.

However, fundamental changes to the Canadian "certificates" would require changes to both the legislation and the treaty. For example, another project could not be approved under the Alaska Highway Project regime. Further, the Northern Pipeline Act (incorporating the U.S. /Canada Agreement) provides that the route for Alaska natural gas will be along the route set forth in Annex 1 to the U.S. /Canada Agreement i.e. the Alaska Highway route. In the face of the provision of the Northern Pipeline Act and the U.S. /Canada Agreement, a treaty with the force of law, it is difficult to see how the National Energy Board could entertain applications either for alternative pipeline routes for delivery of Alaska gas through Canada or applications by companies other than Foothills following the Foothills highway route for delivery of Alaska gas through Canada.

Given the above, we may well ask what remains to be done before the project can proceed?

First of all, we do not have a commercial arrangement negotiated with the Alaska North Slope producers or other shippers. Achieving this commercial arrangement is our number one priority. We are confident that the mutual interests of all sides will ultimately lead to satisfactory arrangements.

Following the successful completion of such a commercial agreement, there are a number of terms and conditions that must be satisfied. These are set out in the Northern Pipeline Socio-economic and Environmental Terms and Conditions. It is our view that the terms and conditions are broad enough to accommodate modern environmental, engineering and construction practices. In fact, we addressed this issue when we pre-built the southern portion of the Alaska Highway Project pipeline.

Detailed design and engineering work also must be completed and approvals must be obtained from the Northern Pipeline Agency. It is this mechanism that I referred to when I indicated that we had a "fast track" regulatory process.

The Yukon Right-of-Way

I will take a few minutes to describe the status of our right-of-way through the Yukon. Foothills has been granted an easement in the Yukon. The current term of the easement is September 2012 and provisions are in place to renew the easement for a further term of 24 years. It is important to note that the easement is protected under the Encumbering Rights provisions of the Umbrella Final agreement which has been signed by the Government of Canada, the Government of the Yukon and all of the Yukon First Nations. The Final Settlement Agreements that have been negotiated with the Yukon First Nations contain specific provisions relating to the easement. In addition, the compressor stations locations and permanent access to the proposed stations are protected.

What does this mean? From our perspective this translates into certainty of land tenure and a significant timing advantage. Foothills has developed an excellent working relationship with the Yukon First Nations over the years and we are building on that relationship. Like the Canadian "certificates" the easements also constitutes an important asset. An asset not easily replicated.

Conclusion

Let me summarize and focus on some of the key points.

Foothills is a Company with real pipelines and real customers.

When combined with our shareholders TransCanada and Westcoast, we transport 20% of all the natural gas consumed in the United States. And we have the know-how and the where-with-all to build the Alaska Highway Pipeline.

We have been involved in this project for 25 years.

We and our former partners have invested heavily to achieve the permits, certificates, rights-of-way and much of the engineering on the Alaska Highway pipeline.

A basic message that I want to leave with you is this, we have a...very unique and solid regulatory framework, it is a very valuable framework in terms of saving money and avoiding costly delays when building a pipeline. It is more than a collection of permits. It is a package, designed specifically to expedite building the Alaska Highway pipeline.

This framework can neither be duplicated nor terminated easily. It is a one-of-a-kind regime. I urge all Alaskans to take full advantage of it.

Finally let me raise one other issue and that is the matter of the pipeline route decision. Before we can move from discussion to action this must be resolved.

Ultimately all stakeholders must find some common ground and go forward.

So where do we go from here?

A commercial agreement between pipelines and producers is the next major mile post for the Project.

Once a satisfactory commercial arrangement is achieved ... the flag drops; from that point on we believe that our regulatory framework will allow "shovels to be in the ground" within 24 months.

This is a very large project. It will involve many companies. It will cost a lot of money and there will be lots of issues to address and benefits to share.

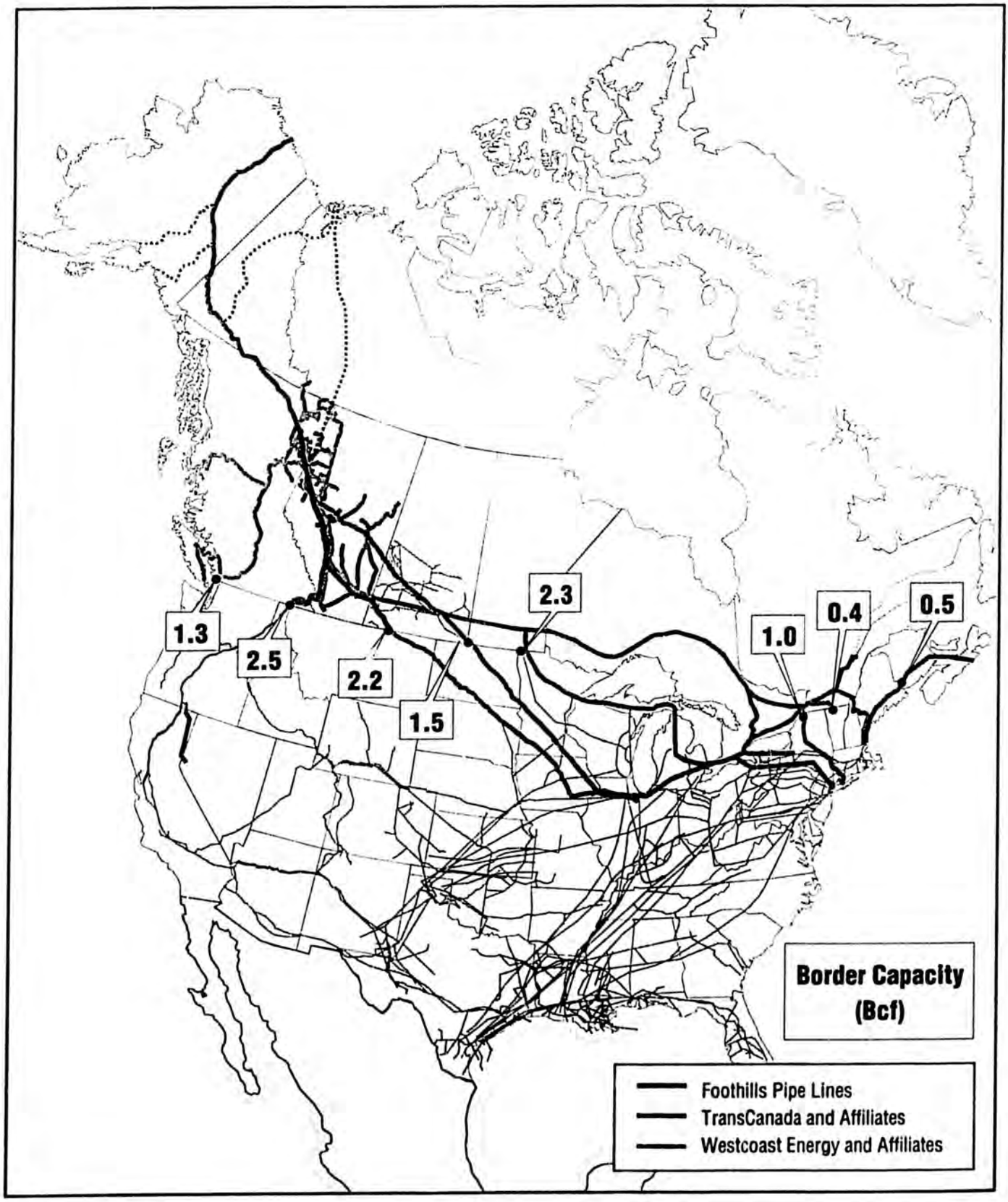
Foothills and its shareholders intend to be major players in the development and operation of this important pipeline and we believe that we bring value to the Project and value to Alaska.

Thank you, and I am now prepared for questions.

ATTACHMENT 1

FOOTHILLS PIPE LINES LTD.

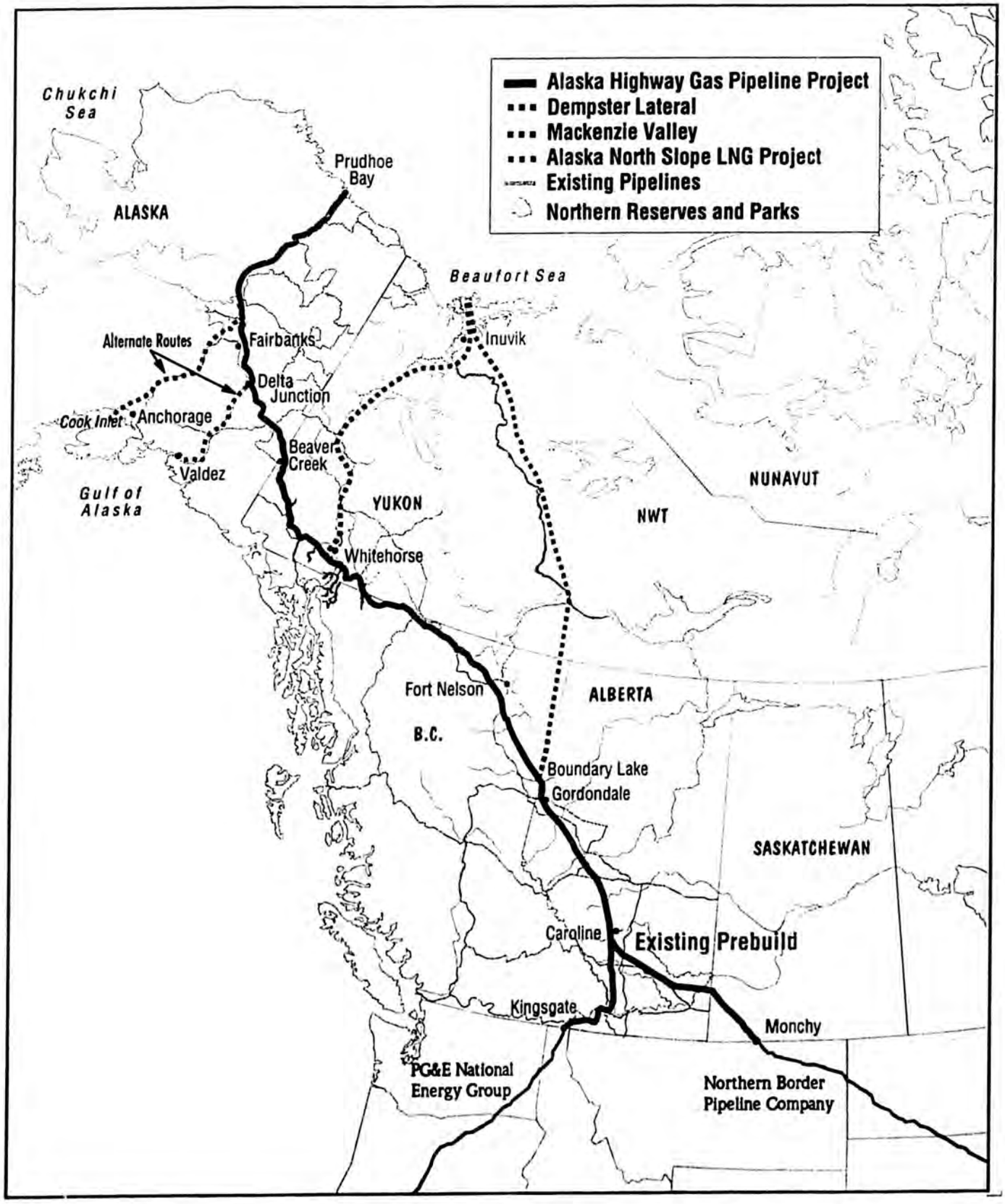
NORTH AMERICAN PIPELINE INFRASTRUCTURE



ATTACHMENT 2

FOOTHILLS PIPE LINES LTD.

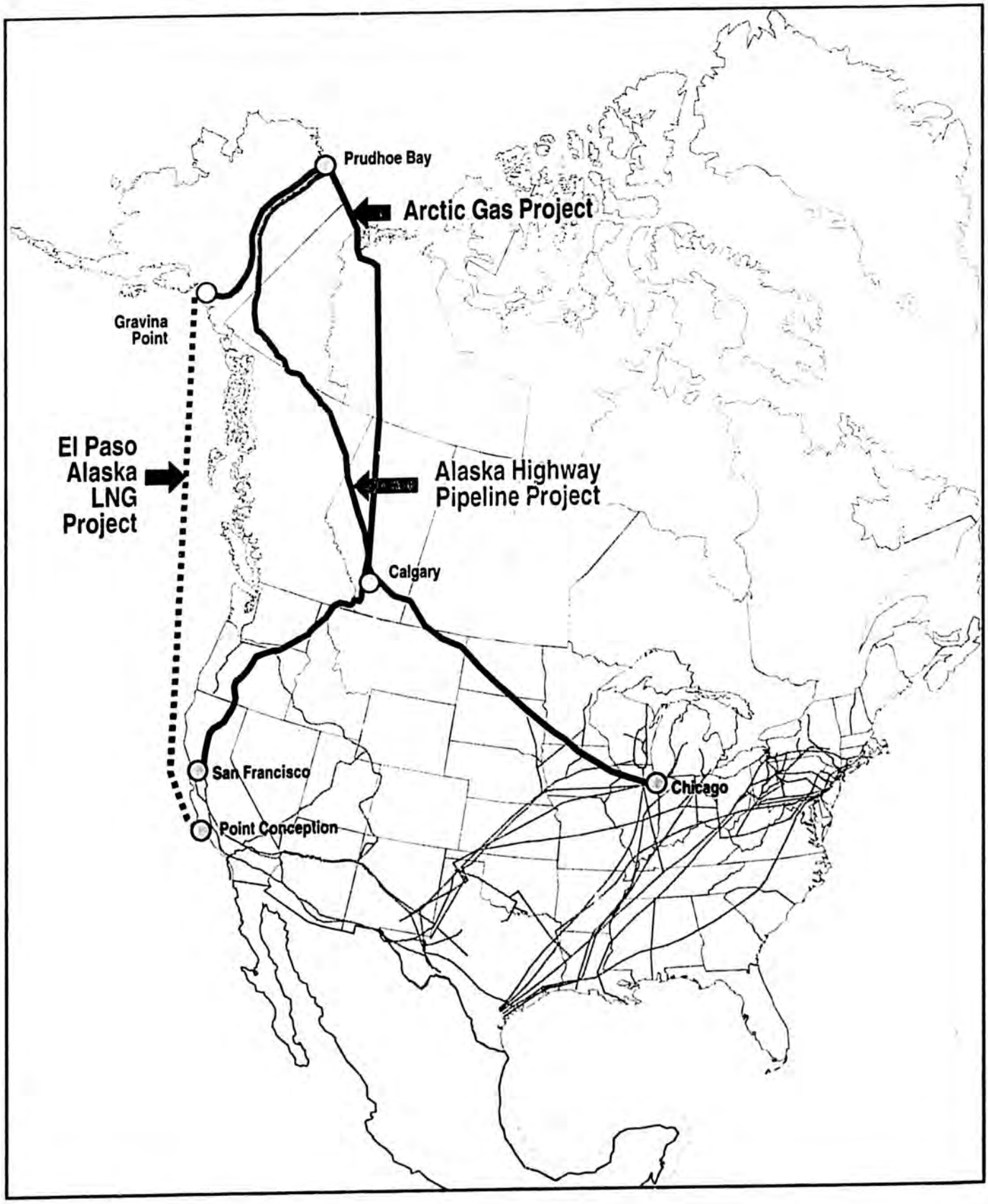
TRANSPORTATION SYSTEMS



ATTACHMENT 3

FOOTHILLS PIPE LINES LTD.

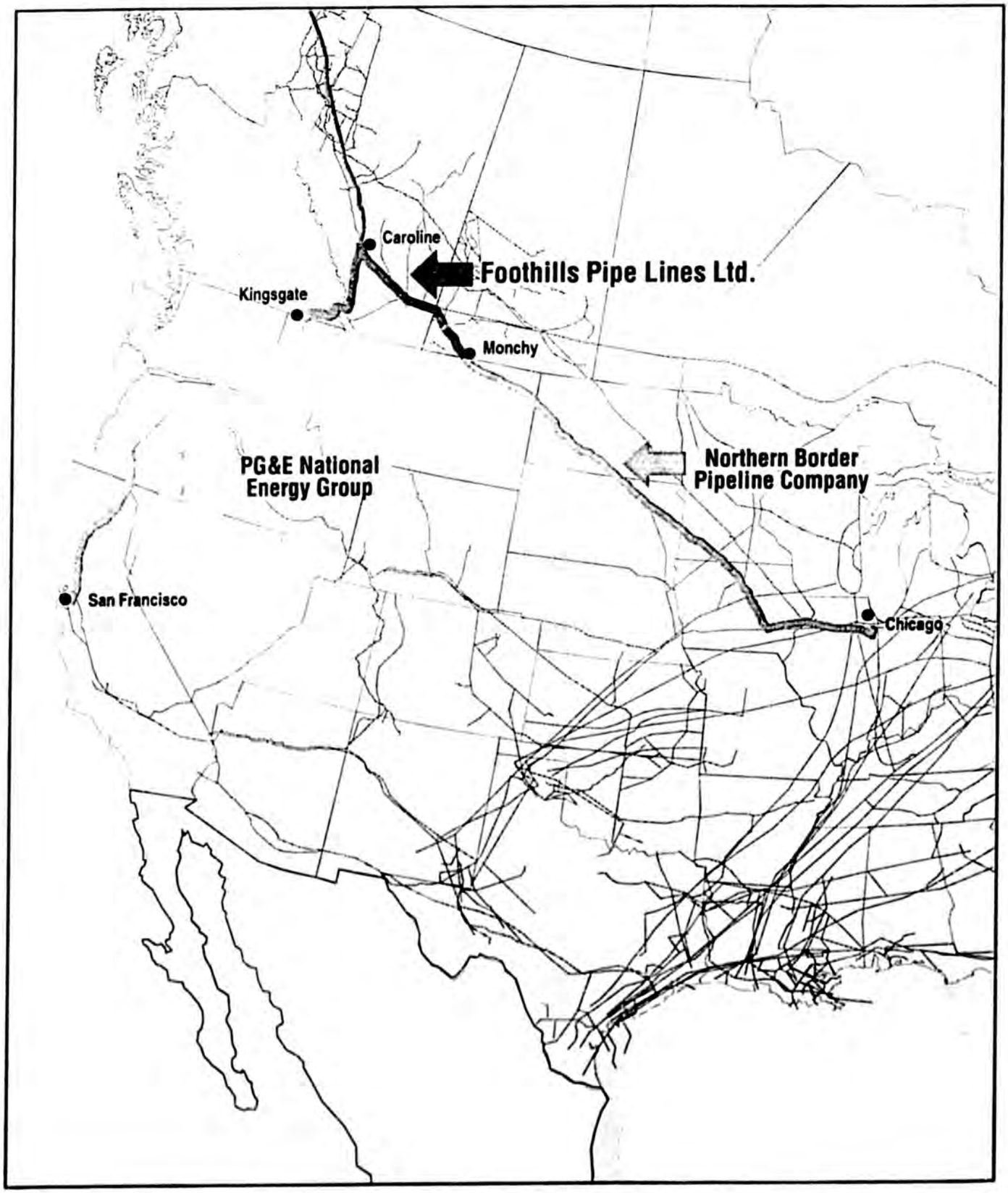
ORIGINAL COMPETING PROJECTS



ATTACHMENT 4

FOOTHILLS PIPE LINES LTD.

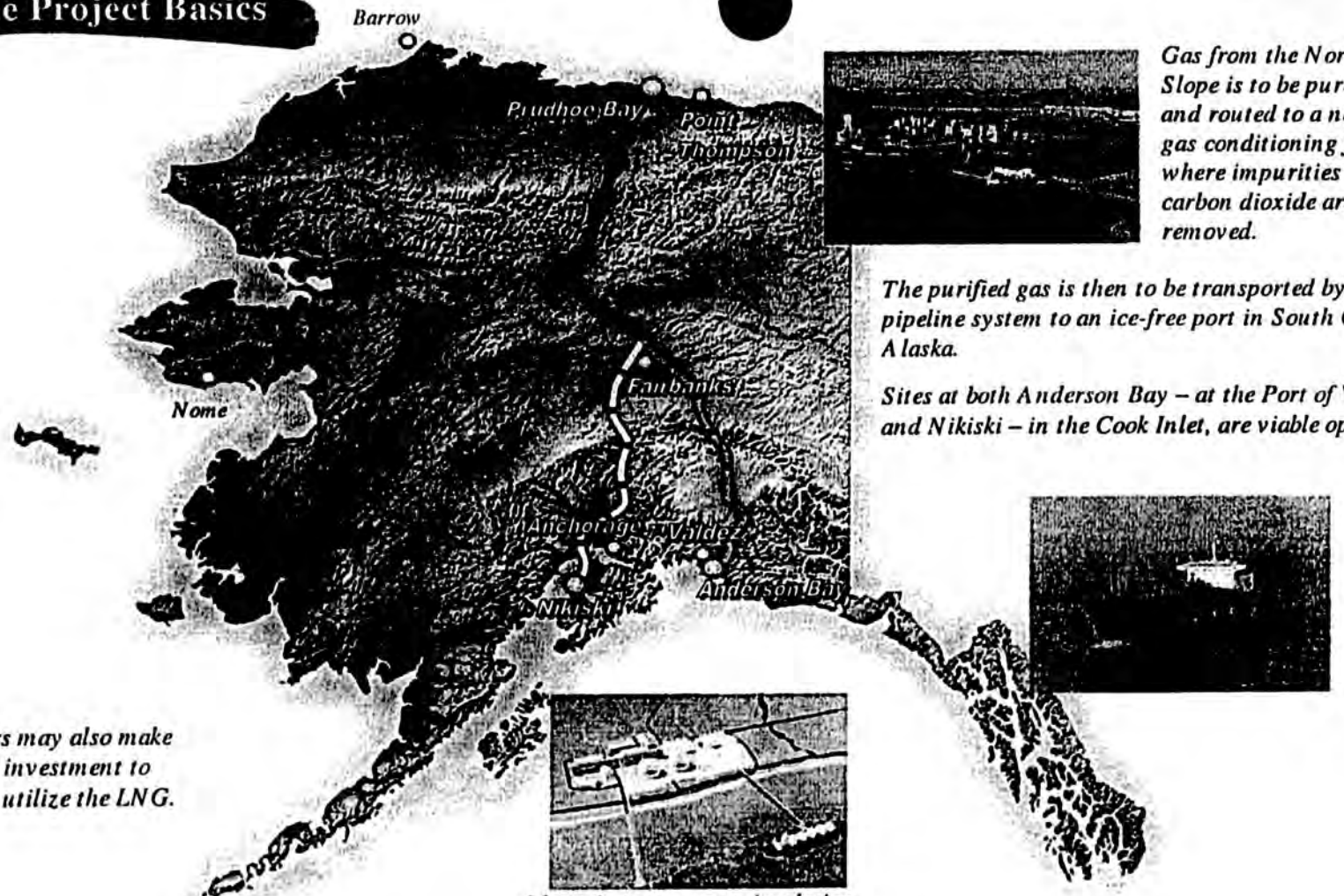
PREBUILD SYSTEM



ALASKA NORTH SLOPE LNG PROJECT

Phillips Alaska
BP Exploration (Alaska)
Foothills Pipelines
Marubeni Corporation

The Project Basics



Gas from the North Slope is to be purchased and routed to a nearby gas conditioning facility where impurities and carbon dioxide are removed.

The purified gas is then to be transported by pipeline system to an ice-free port in South Central Alaska.

Sites at both Anderson Bay – at the Port of Valdez, and Nikiski – in the Cook Inlet, are viable options.

LNG buyers may also make substantial investment to handle and utilize the LNG.

The LNG is loaded onto ships (much like large Thermos ® bottles) for transport to East Asian Markets.

Above is a computer simulation of the potential Nikiski LNG plant and marine terminal site.

In the LNG Plant, gas from the pipeline is chilled to -259°F (-160°C) so that it forms a safe, clean, liquefied natural gas (LNG).

- *MARKET UPDATES:*
  - From well established, experienced and k...

- Marubeni
  - Japanese trading company, doing business throughout East Asia and the world
  - *Continuous feedback* through ANS LNG Market Liaison office
    - Providing significant input and updating to our market analysis

- Phillips
  - 30 years marketing to Asia (from Alaska)
    - Continual LNG market negotiations
      - Coordinated through international LNG group
  - Offices in Asia including: Tokyo, Taiwan and China (ongoing feedback)

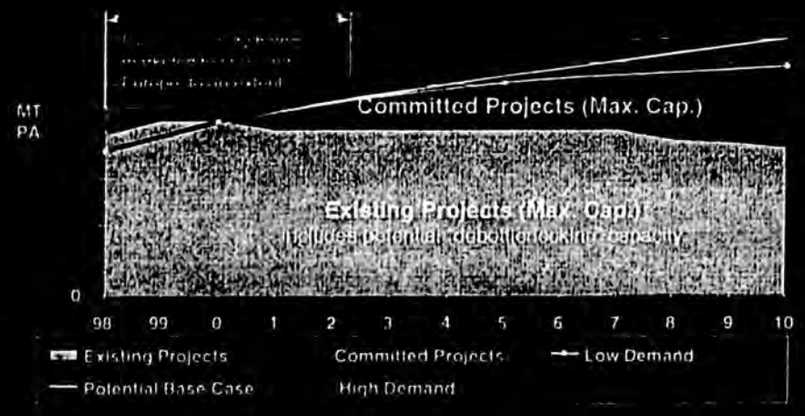
- BP
  - Ongoing worldwide LNG marketing experience
  - Offices in Asia (ongoing feedback)

Potential Asian LNG Projects

Country	Earliest Date of 1st Delivery	Customers	Nominal Capacity MTPA
Australia NWS	~2003+	Asian Markets	7.5
Malaysia Tiga (III)	~2003+	Asian Markets	7.6
Tangguh (Irian Jaya)	~2003+	Asian Markets	6
Qatargas/Rasgas	~2002+	Asian Markets	7.5
Bayu	~2003+	Asian Markets	3
Indonesia "I"	~2004+	Asian Markets	3
Yemen	~2004+	Asian Markets	5
Sub Total			39.6

Total Asia-Pacific Supply/Demand Outlook

Includes Emerging Markets (India, China, etc.)



Fiercely Competitive

Market Competition

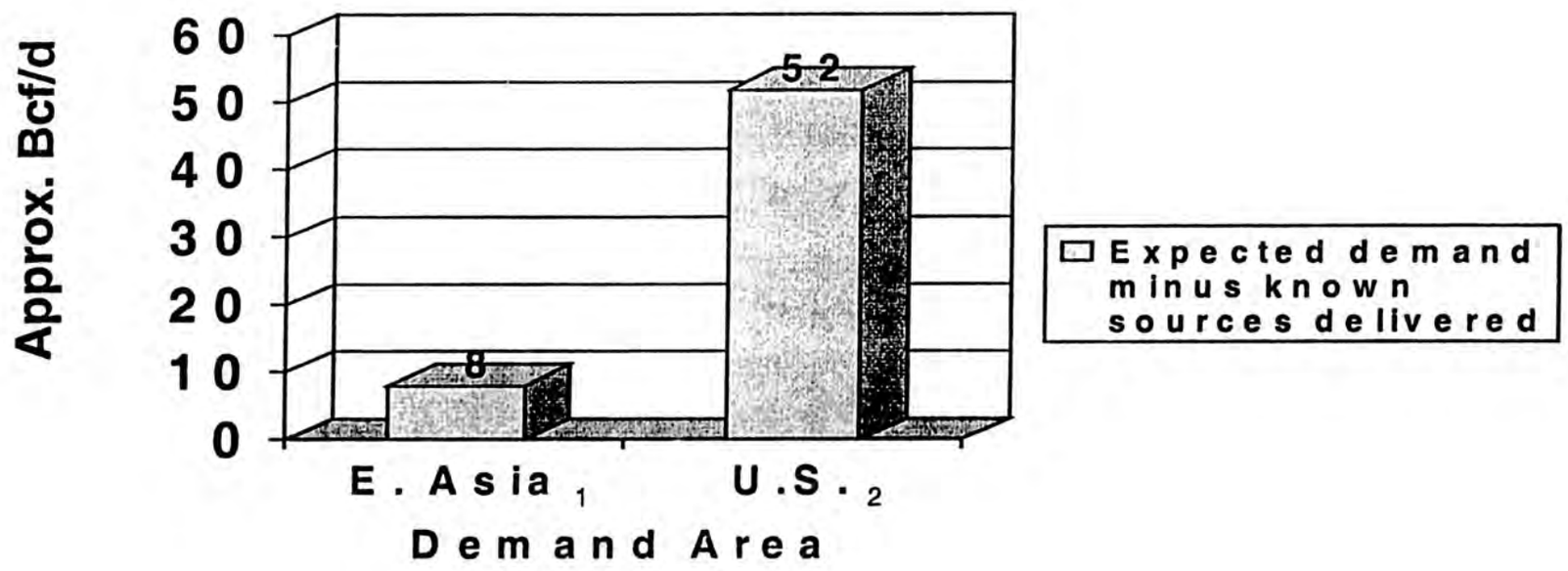
Potential Asian LNG Projects (cont'd)

Country	Earliest Date of 1st Delivery	Customers	Nominal Capacity MTPA
Gorgon	2004/5	Asian Markets	7.6
Sakhalin II	2005/6	Asian Markets	6
Alaska NS	2007+	Asian Markets	8 - 14.7
Indonesia Natuna	NA	Asian Markets	0
Sakhalin I	2007+	Japan/Asia	7
Sub Total			28.6 – 35.3
Total			~68 - 75

- **60-80 MTPA of potential projects**
  - **Pursuing 20 - 40 MTPA of 2010 growth**
- Problematic trends
  - Downward price pressure
  - Shorter contracts & spot deliveries

ANS LNG MUST ALSO COMPETE
WITH U.S. GAS DEMAND

2010 New Source Needs



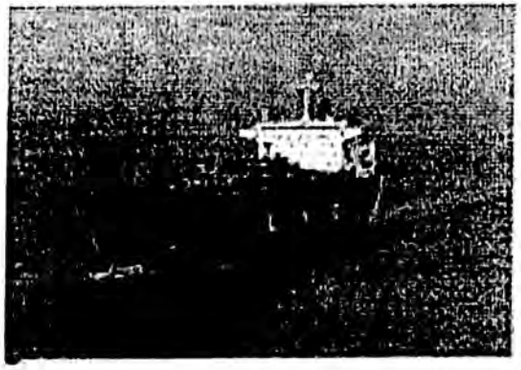
1 - High case LNG demand forecast of Tokyo Gas presented to 2001 HOAG
Year 2010 high demand of 135+ MTA (~19 Bcfd) minus ~80 Mta (11 Bcfd)

2 - National Petroleum Council, 12/99
2010 demand of 76 Bcfd minus 24 Bcfd of existing production

STAGE 1 WORK

Major Advance

- ***MARKET ENTRY PROJECT***
- 7-8 MM ton/year, projected $6.8 billion project
  - *Redesigned* to
    - defer cost to as-needed
      - minimize pre-investment
  - Improves market entry probability
  - Significantly reduces capital cost (and risk)
  - Expandable to 14 MTA as market develops

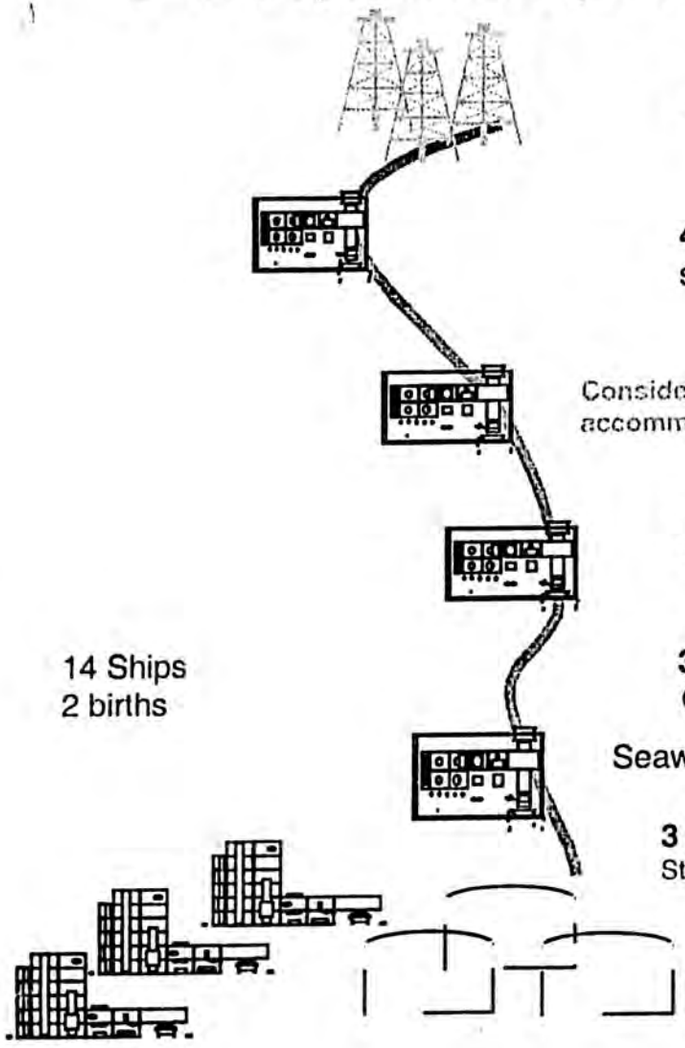


- **Mandate: to become economically sufficient at 7-8 MTPA even if future expansion never occurs**

On-site Asian LNG market discussions confirm:
Smaller market entry project preferred

KEY AREAS OF REDESIGN

■ Pre-Sponsor Group 14.7 MTPA



2.1 BCFD

4 compressor stations

Considers instate sales accommodated as needed

36" p/l
2,400 psig

3 LNG Trains @ 4.7 each

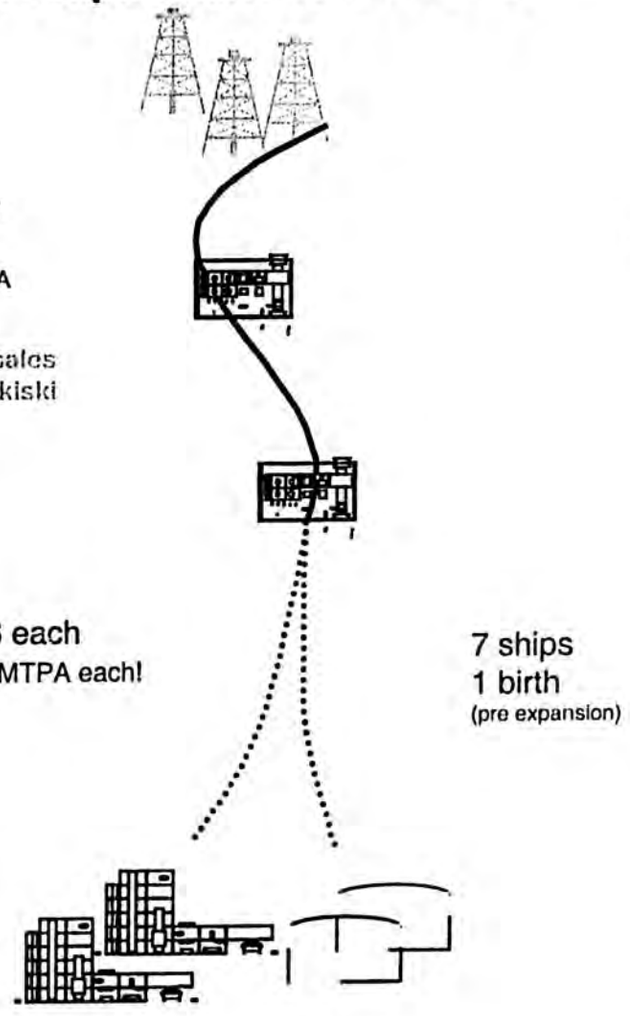
Seawater cooling

3 - 167,000 m3 Storage Tanks

14 Ships
2 births

Valdez only

■ Sponsors smaller, market entry, 7 MTA expandable to 14 MTPA



1.1 BCFD
expandable to
2.3 BCFD

ZERO compressor stations initially -
expand up to 4 @ 7MTPA

Provides for instate sales demand growth in Nikiski case

28/30" p/l
2,800 psig

2 LNG Trains @ 3.6 each
- EXPANDABLE TO 7 MTPA each!

Air cooling

2 - 125,000 m3 Storage Tanks
(pre- expansion)

7 ships
1 birth
(pre expansion)

Nikiski OR Valdez

2.5 | 3.5
2.5 | 2.0
2.5 | 1.5
2.5
2.5
2.5
2.2

Ramp up

STAGE 1 WORK

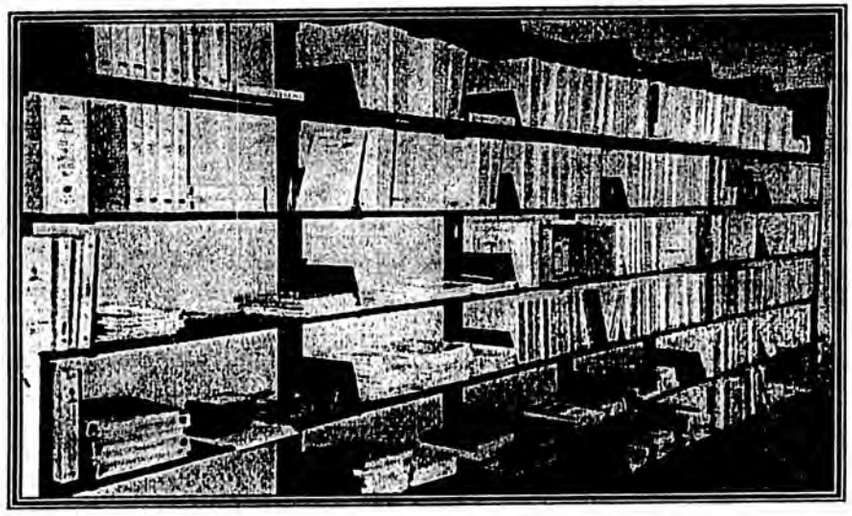


Photo: Stage 1 work library

- Stage 1 Documented Activities
  - 30+ Studies
  - 10+ Cost & construction estimates
  - 15+ Analysis & assessments
  - 30+ Reports
  - 25+ Workshops

- 26 Outside contractors/consultants (~60% AK content)
  - 15+ Engineering design & cost
  - 3 Permitting
  - 2 Regulatory
  - 2 Federal
  - 1 State
  - 1 Governmental entity

$12 Million - 18 months

STAGE 1 WORK COMPLETED:
ON TIME
WITHIN BUDGET
EXCEEDING ENGINEERING DESIGN EXPECTATIONS

PIPELINE ROUTE & LNG PLANT SITE

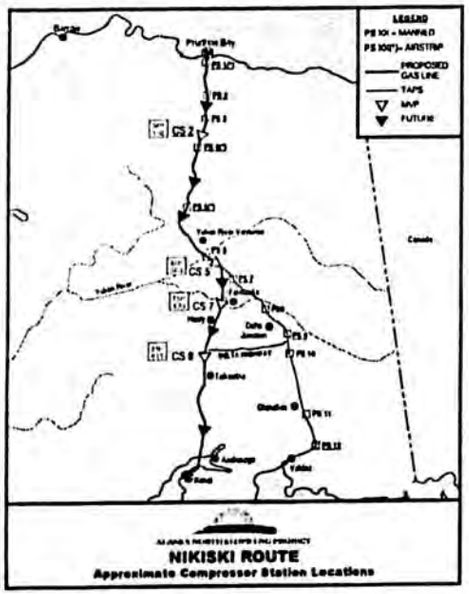
Pacing item is a cost competitive project - at either location

Neither site works if overall project isn't doable

Stage 1 engineering and construction design for BOTH

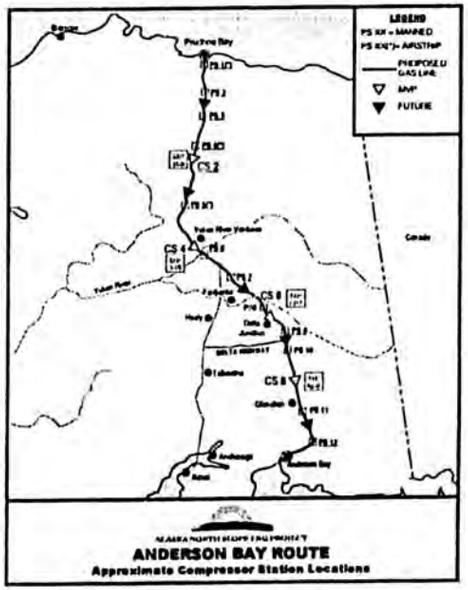
NIKISKI

- INSTATE GAS SALES POTENTIAL
  - Existing markets
  - Growth opportunity & existing infrastructure
    - Including Kenai LNG Plant
  - Potential lower cost instate gas
    - without need for long spur line to CI



ANDERSON BAY

- POTENTIAL FOR REDUCING PERMITTING TIME
  - Existing TAPS P/L corridor
    - Possibly less resistance
      - environmental
      - landowner, etc.



STAGE 1 - PERMITTING WORK

- **In depth analysis on route/site options**
  - Internal expert studies/review
    - Alaskan, Canadian, worldwide & world class experience and expertise
  - External, Alaska content consultant - extensive analysis

- **CONCLUSION: *Both* Anderson Bay and Nikiski can be permitted**
  - Any permitting time differences doable within current market timing needs
  - Opinion: Any existing Anderson Bay route permits will also require extensive work *and* cost to perfect

***Note*: Nikiski route does NOT go through Denali National Park**

STAGE 2

KEY AREAS OF FOCUS

- **Ongoing design/cost optimization**
- **Synergy of shared cost with a lower 48 pipeline project**
- **Value of public entity or port authority concept to our project**
- **Key risks, their impact and potential mitigation strategies** (including financing)
- **Alternate LNG markets evaluation**
  - Including U.S. and Mexico West Coast
- **Further understanding and valuation of competing LNG projects**
- **Further permitting analysis and execution strategy**
  - blue print for moving crisply forward - with the regulators and agencies
- **TIMING: 12-15 months (underway)** **COST: ~$3 million**

Key Stage 2 Highlights
To Date

- Additional capex optimization of ~$400 Million
  - Market entry 7-8 MTPA capex now at
    - **$6.5 B** - including ships
    - $4.9 B - without ships
    - Identification of further savings ongoing
      - also exploring shared facilities with a lower 48 gas pipeline
- Public entity valuation -- current view indicates no compelling advantage to a joint public/private project
  - Generally:
    - Benefits passed to private enterprise will be taxable
    - Public borrowing rates unlikely to offset
      - private entity deduction of interest and depreciation
- Other Stage 2 activity in progress and on schedule

ECONOMICS

- Key: cost competitive with other E. Asian LNG projects
  - **at a sufficient economic return**

- ANS LNG Project
  - is not yet cost competitive
  - is not yet economic on a cost of capital basis
    - for the expected risk

- Considerable, additional efforts required
  - To reduce cost
  - To share cost or find other synergy
  - Reduce risk
  - To achieve meaningful fiscal modification (particularly federal)

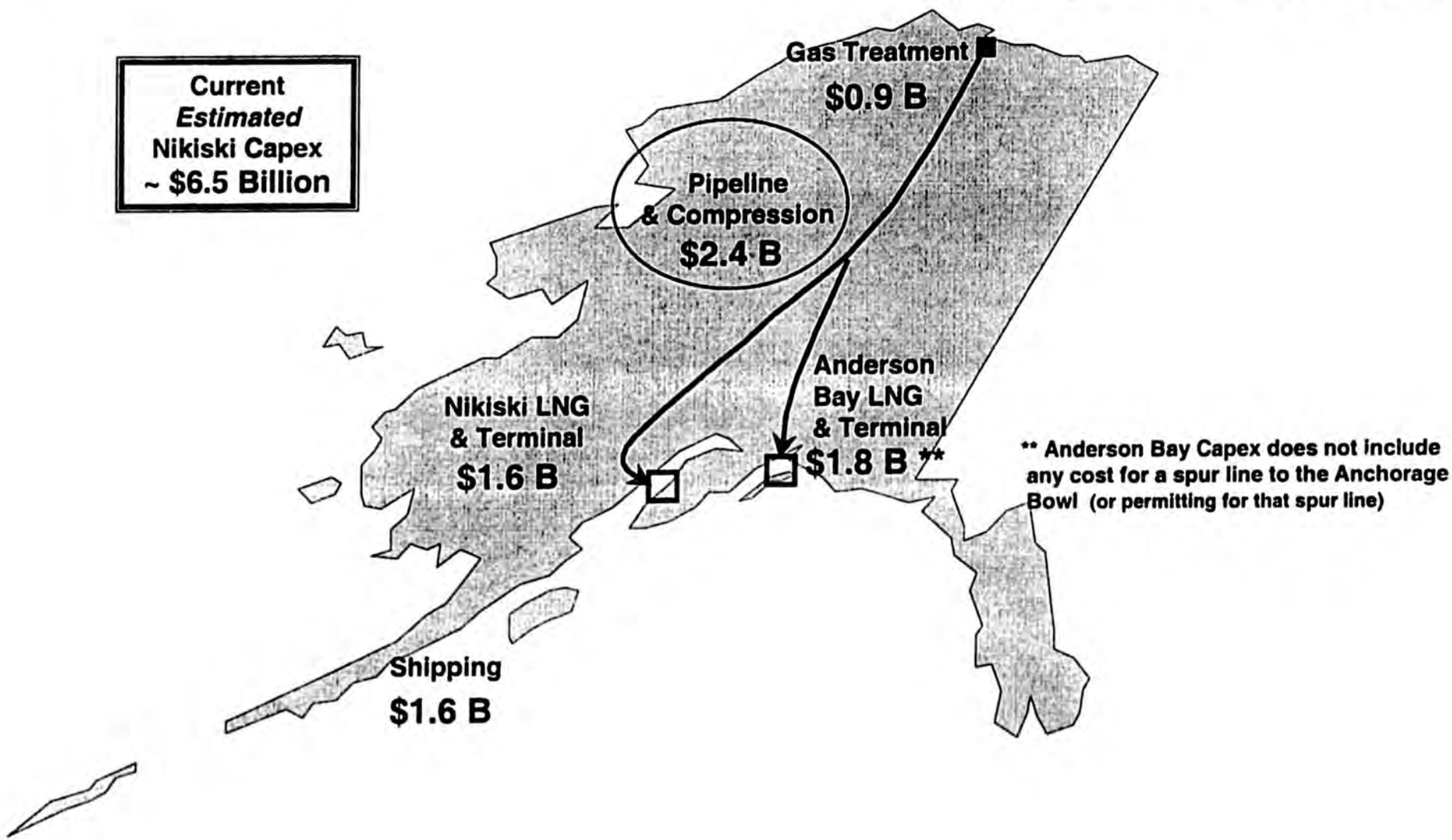
- ***Axiom:***
  - **Project economic assumptions must be salable**
    - Internally - to the investment community - to the suppliers and markets

ANS LNG Project
Current CAPEX Estimate

Working to improve economics
- **> Not yet determined cost competitive with other new projects**
  - > Other new LNG projects are already at tide water

Now exploring shared cost with a L48 pipeline

Current *Estimated* Nikiski Capex ~ $6.5 Billion



** Anderson Bay Capex does not include any cost for a spur line to the Anchorage Bowl (or permitting for that spur line)

Example LNG Project Cost Comparisons

From Public Sources

Ex-Production Development Costs* and Ex-Shipping

Potential ANS LNG Projects	Estimated CAPEX (US$Billion)	MTA	$Million per MTA
ANS LNG Nikiski	$4.9	8.0	**$610**
Backbone (ANS)	$7.3	9.2	**$790**
Example other LNG Projects			
Qatar Ras Laffan (grass roots)	$1.7	5.2	$330 *O&GJ April 27, 1998*
Trinidad (grass roots)	$0.95	3.2	$300 *Energy Day*, June 1999
Oman (grass roots)	$2.0	6.6	$300 *Oman LNG Journal*, January 2001
E. Timor (grass roots)	$1.25**	4.8	$260 *Dow Jones Newswire, March 9, 2001*
Tangguh (grass roots)	$1.5	6.0	$250 *FT International Gas Report*, April 28, 2000
Malaysia III (expansion)	$1.5	7.6	$200 *WGI*, January 27, 2000
Industry Convention (rule of thumb)			***$250*** *O&GJ December 13, 1999*

ANS PROJECTS INCLUDES A *DEDICATED* - 800 MILE PIPELINE that OTHER PROJECTS DON'T HAVE
($2.4 B / 8 = $300)

Public information on development costs is limited but is more significantly related to oil production

MTA = Million metric tons per annum

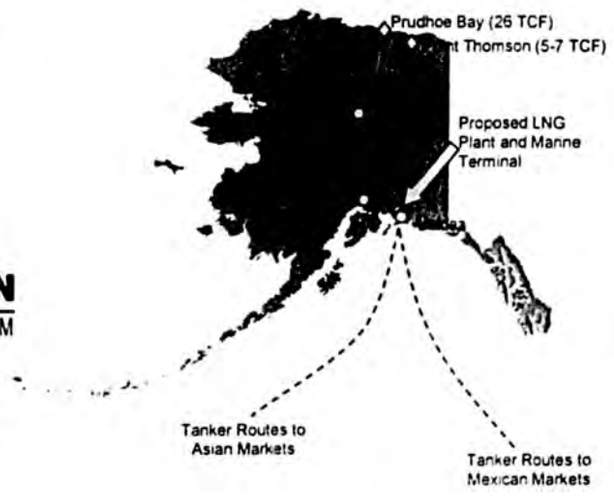
***** Article quotes LNG Plant estimate at $2.5 billion in Australian dollars (~US$0.50)***

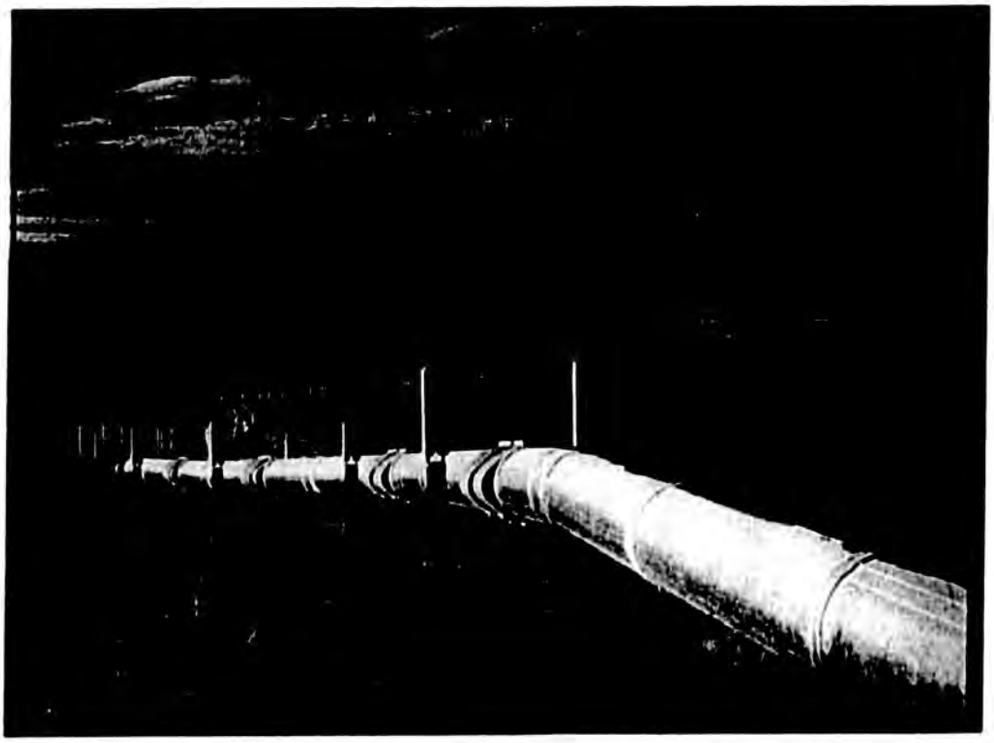
ALASKA NORTH SLOPE LNG PROJECT

- Continuing effort
  - to develop a cost competitive project
  - to be prepared when the market is ready
    - but pragmatic about market timing

YUKON
PACIFIC
CORPORATION
TRANS-ALASKA GAS SYSTEM

CSX
CORPORATION





I Want To Cut To The Chase About Alaska Gas

- Development of Alaska gas has been [illegible] will be challenging
- The myth that there's no market for Alaska L[illegible]
- The myth that Alaskan LNG is not an option
- The risk if we gamble that the overland route is the only option
- Your role

First:

Developing Alaska G[illegible] Is A Challenge

1970 - 2001

Arctic Gas
El Paso
Northwest/Foothills
ACETS
MACPORC
Kivalina/Wainwright
?? GTL
ARC
LNG Sponsor Group
YPC/TAGS

Key Facts Regarding Alaska Gas

- Alaskan north slope gas is located in one of the most remote areas of the world
- There is worldwide competition in both Asian and Lower 48 markets
- Any project from Alaska must be big to meet economies of scale
- Big projects require long term contracts to obtain financing

Any Alaskan project must be big in order to compete

- Economies of scale are required to compete with gas closer to market
- A gas pipeline is required that adds to cost
- In Alaska there are multiple gas producers who must agree to a SINGLE project (vs projects elsewhere where they have individual)
- Investors will not invest $billions without confidence that they receive return on their investment

Unfortunately, the State and Producers have not been in a position to sell gas until June of 2000

But luckily now they want commercialization by 20

Prudhoe Bay Field Working Interest Ownership Status Before July 1, 2000
(2 separate "participating areas")

Owner	Oil Rim*	Gas Cap*	"Blended" Ownership (% of gas)
Sohio/BP	53.16%	14.82%	24%
Arco	20.27%	42.12%	37%
Exxon	20.27%	42.12%	37%
Mobil	2.00%	27%	2%
Phillips	2.95%	26%	
Others	2.16%	41%	
	100.00	100.00	100.00

Prudhoe Bay Field Working Interest Ownership Status After July 1, 2000 Major "Realignment"

Owner	Combination Oil & Gas (Tentative)	Actual Net* Gas Volumes Owned
Exxon/Mobil	36.8%	8+ TCF
Phillips	36.5%	8+ TCF
BP Amoco (Operator)	26.5%	5.82 TCF
Others	2%	
	100.00	22 TCF

* The Prudhoe Bay reservoir contains a gas volume (after CO_2 removal and future in-field fuel use) of 22 trillion cubic feet (TCF) of natural gas available for sale. 30% (6.6 TCF) of the gas is dissolved in the "oil rim". 70% (15.5 TCF) is in the "gas cap". 22 TCF is the equivalent of 418 million metric tons of LNG delivered to Asia.

TCF = Trillion Cubic Feet

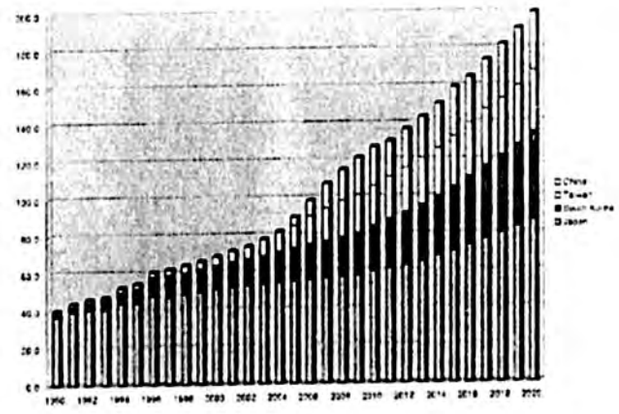
Note: The State of Alaska has a 12.5% royalty interest in both oil and gas at Prudhoe Bay.

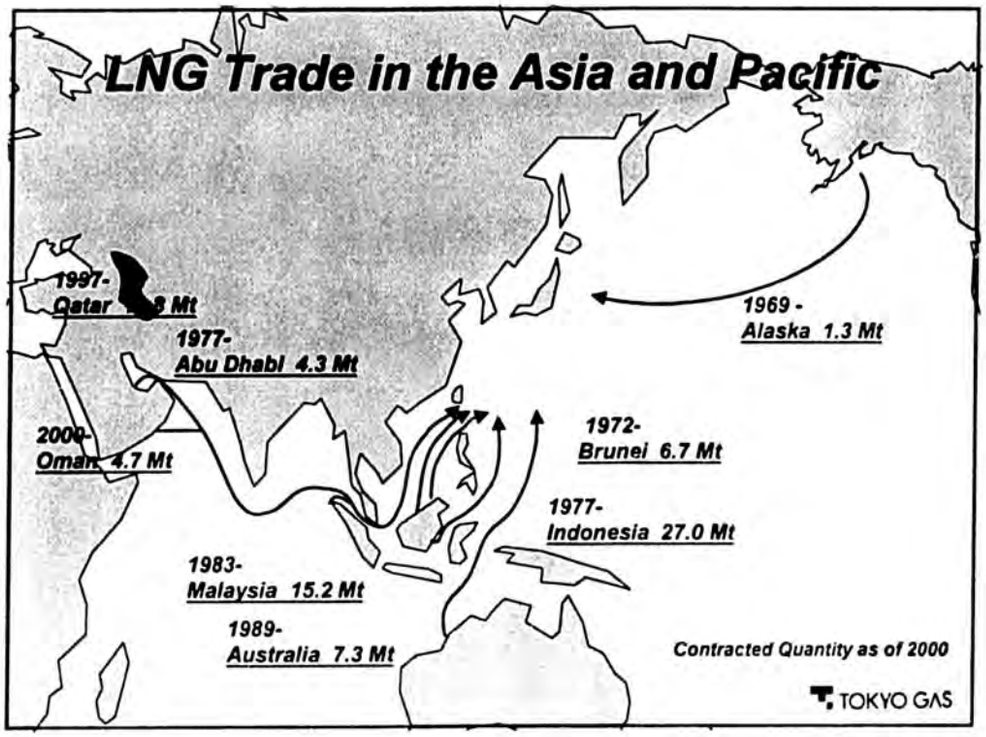
Second:

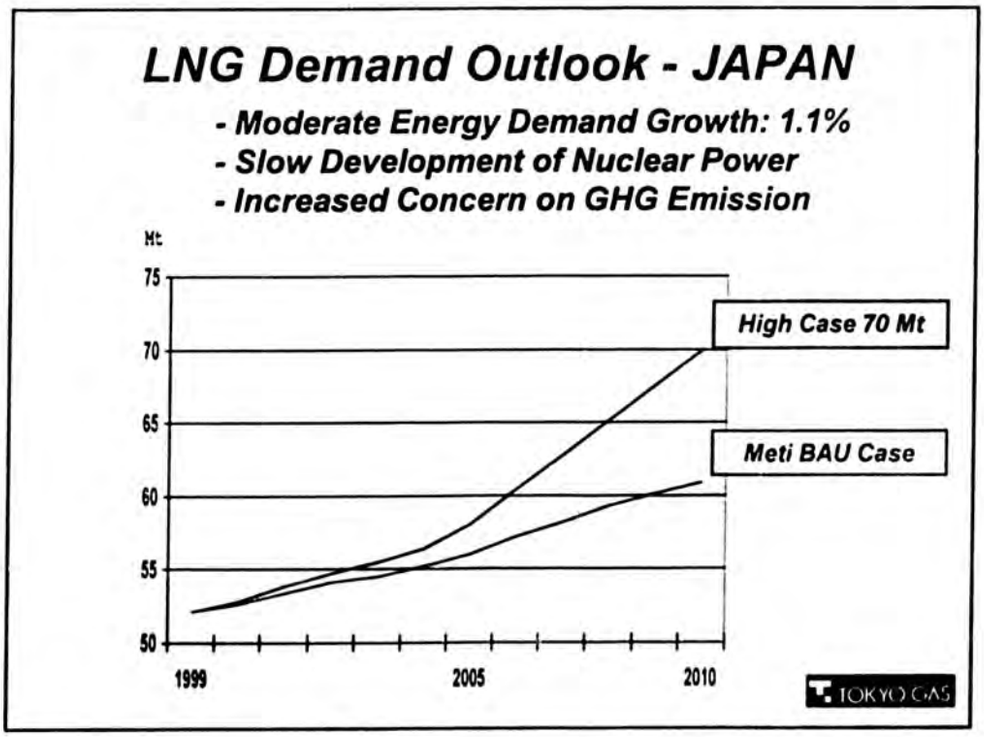
There is No Mark
For Alaska LNG?

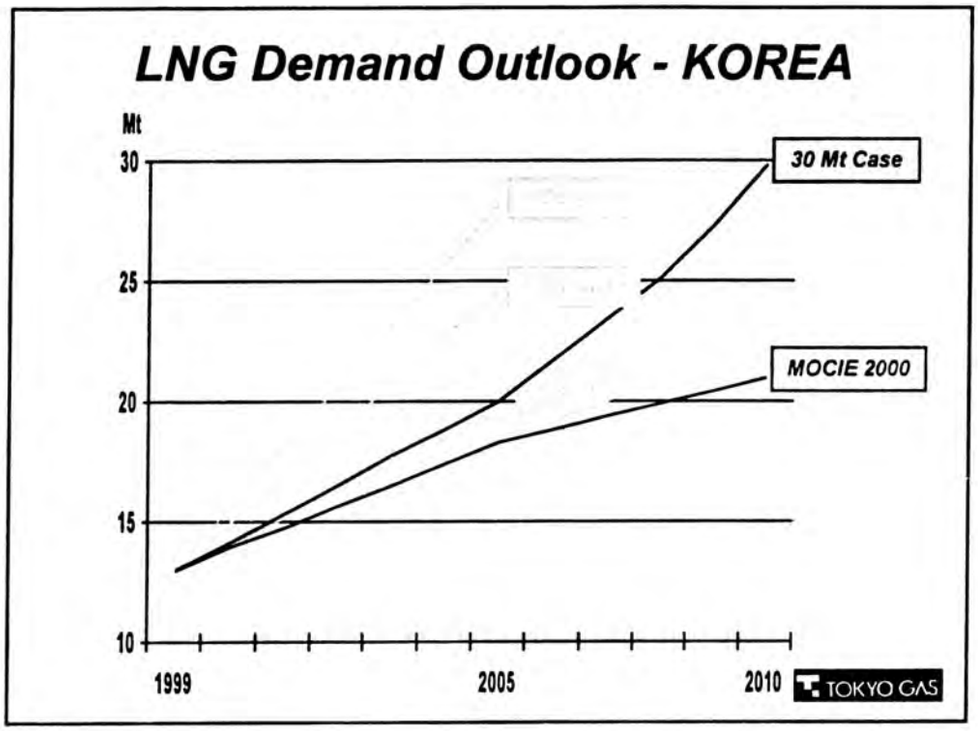
Worldwide demand for gas is increasing dramatically

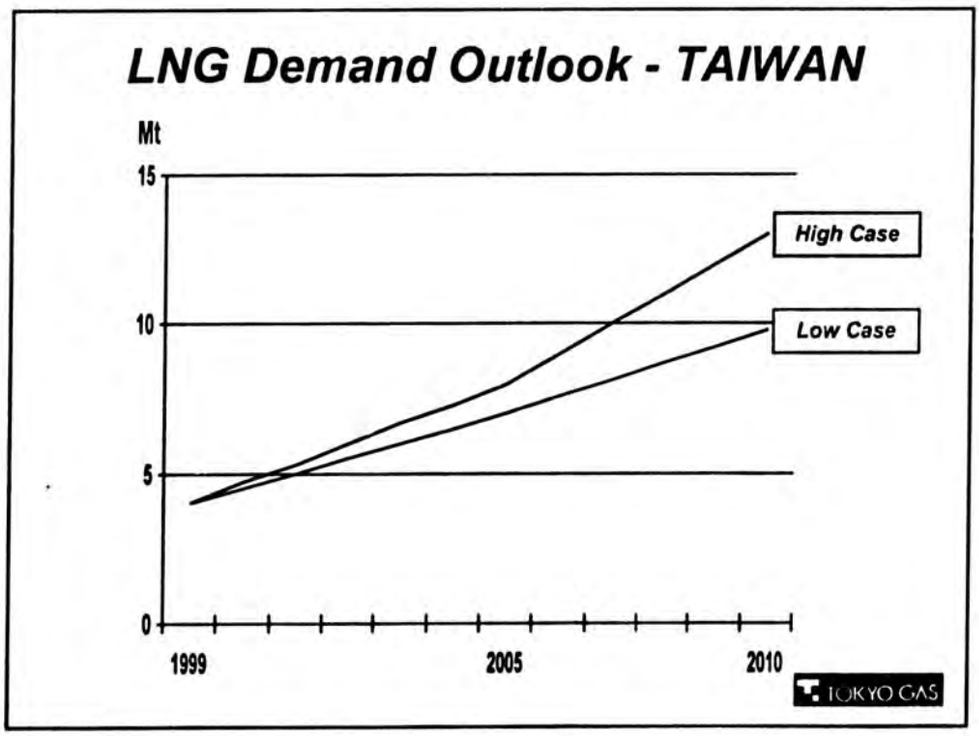
Standard & Poors
LNG Demand Outlook (MMT)




LNG Trade in the Asia and Pacific
1997-
Qatar
Mt
1977-
Abu Dhabi 4.3 Mt
2000-
Oman 4.7 Mt
1983-
Malaysia 15.2 Mt
1989-
Australia 7.3 Mt
1969 -
Alaska 1.3 Mt
1972-
Brunei 6.7 Mt
1977-
Indonesia 27.0 Mt
Contracted Quantity as of 2000
TOKYO GAS

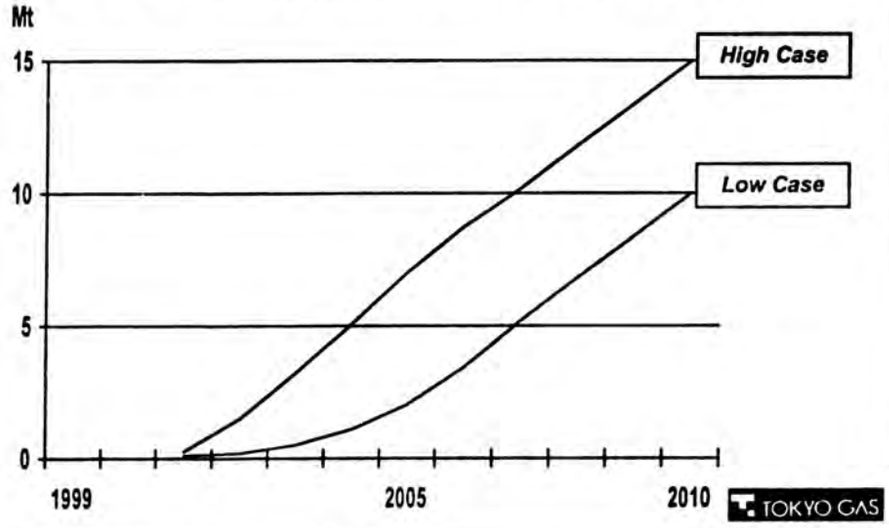

LNG Demand Outlook - JAPAN
- Moderate Energy Demand Growth: 1.1%
- Slow Development of Nuclear Power
- Increased Concern on GHG Emission
Mt
75
70
65
60
55
50
1999
2005
2010
High Case 70 Mt
Meti BAU Case
TOKYO GAS


LNG Demand Outlook - KOREA
Mt
30
25
20
15
10
1999
2005
2010
30 Mt Case
MOCIE 2000
TOKYO GAS


LNG Demand Outlook - TAIWAN
Mt
15
10
5
0
1999
2005
2010
High Case
Low Case
TOKYO GAS

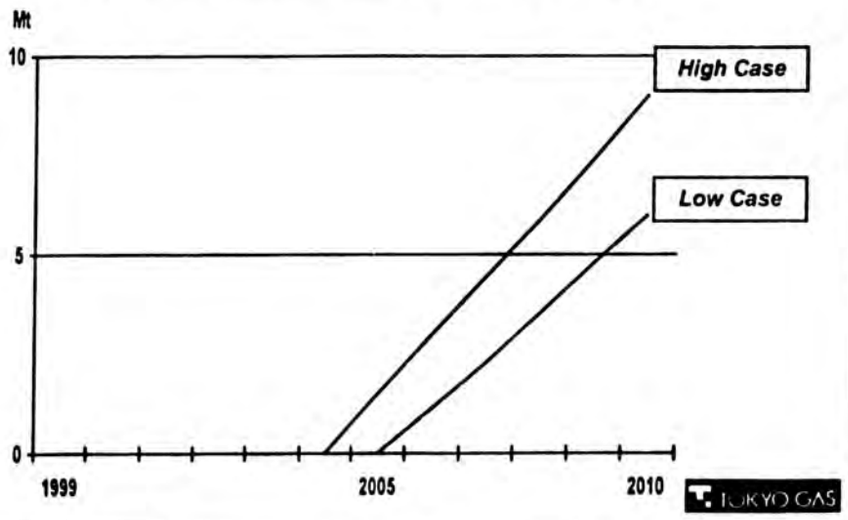
LNG Demand Outlook - INDIA

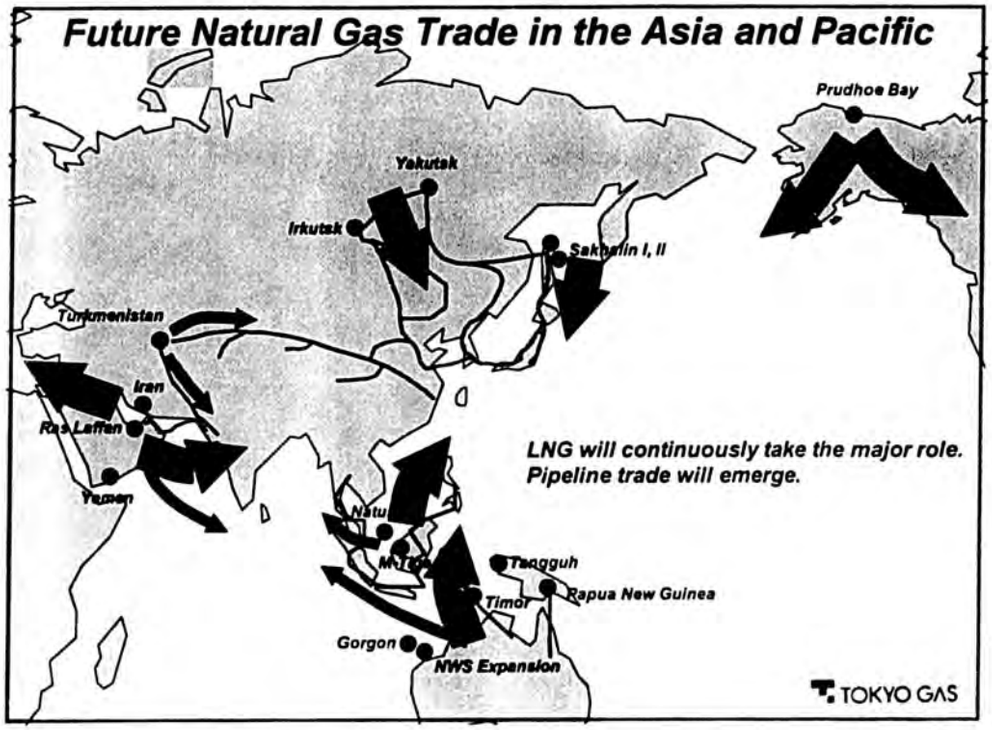
- Start of LNG Import: 2001 by Dabhol Power
- Potential Projects in Gujarat, Maharashtra, Tamil Nadu

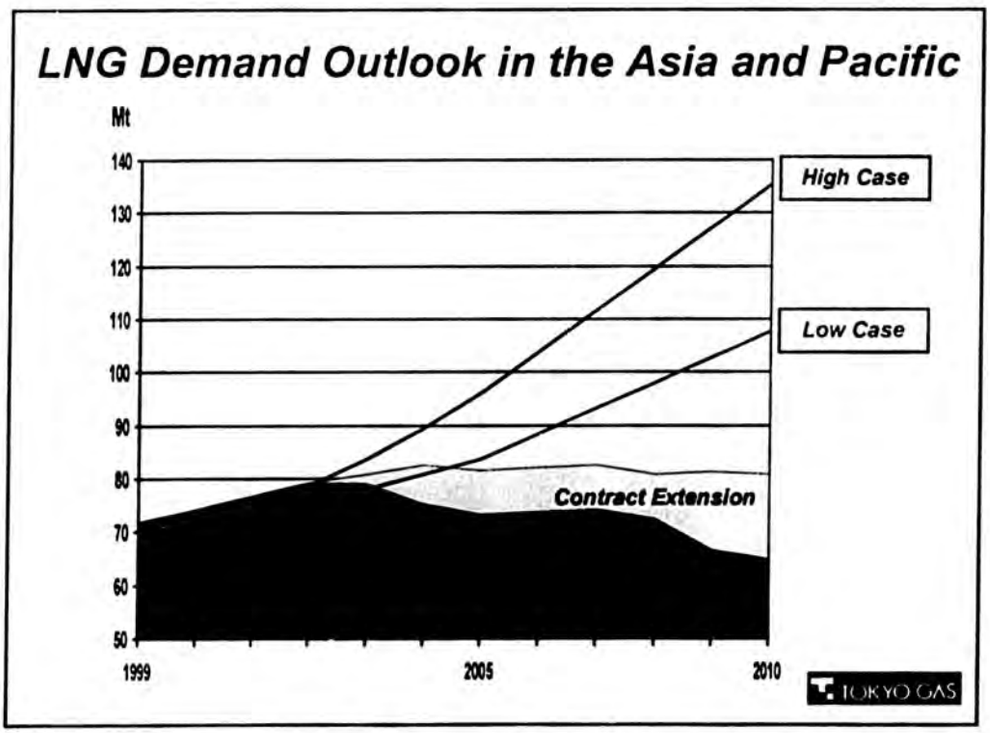


LNG Demand Outlook - CHINA

- First LNG Import Project: Guangdong, 3 mtpa, 2005
- Potential LNG Imports in Yantsu Delta, Fujan




Future Natural Gas Trade in the Asia and Pacific
Prudhoe Bay
Yakutsk
Irkutsk
Sakhalin I, II
Turkmenistan
Iran
Ras Laffan
Yemen
LNG will continuously take the major role.
Pipeline trade will emerge.
Natu
Tangguh
Papua New Guinea
Timor
Gorgon
NWS Expansion
TOKYO GAS


LNG Demand Outlook in the Asia and Pacific
Mt
140
130
120
110
100
90
80
70
60
50
1999
2005
2010
High Case
Low Case
Contract Extension
TOKYO GAS

Asia is Alaska's largest trading partner

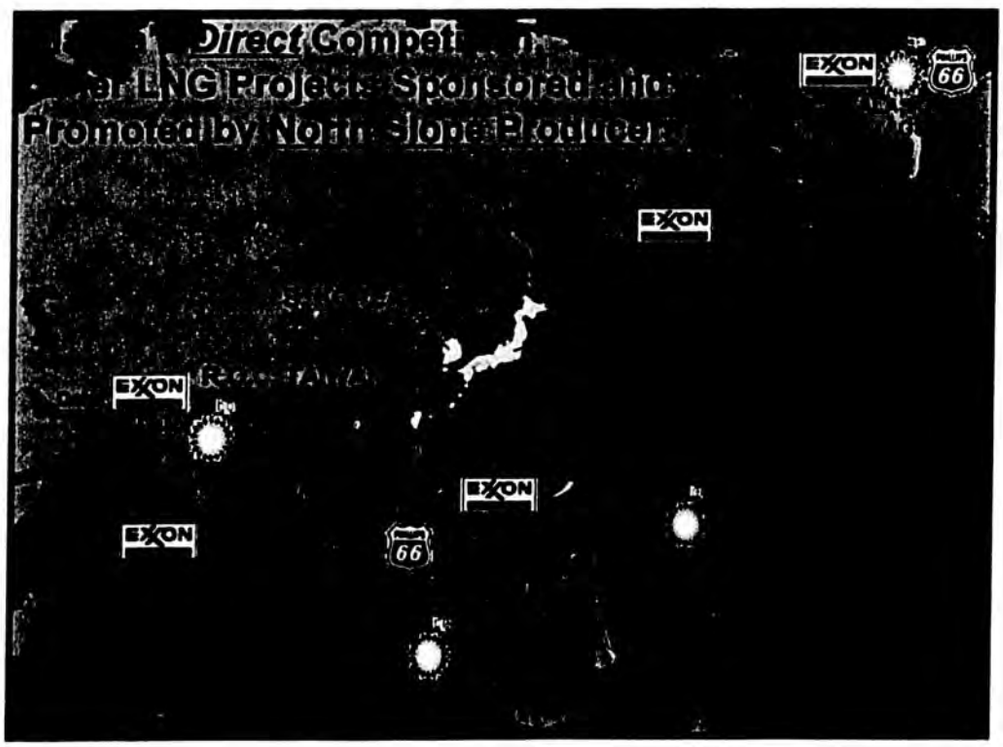
- Seafood
- Timber
- Coal
- LNG
- Why not more LNG?

FACT Pedro Van Muers stated that an Alaskan LNG project may be nibbled to death by other LNG projects around the world

• 1982: "only total of 7 MTPA new demand by 2000"	-	New demand in 2000 was over 4[illegible] MTPA
• "No market" in 1997	-	Qatar proje[illegible] 6.5 MTA
• "No market" in 2000	-	Oman project a[illegible]
• "No market" in 2007	-	**8.3 MTPA to West** *(Phillips, Chevron)* **25 – 50 MTPA** *(Tokyo Gas)* **50+ MTPA** *(Standard & Poors)*

(What if: Alaskan LNG was put first)

- Assume BP/Phillips/Foothills/Marubeni (Sponsor Group) "market viable" rate to Japan (8 MTA)
- Add Phillips' Australian project to Lower 48 (4.8 MTA)
- Add Chevron's Australian project to Lower 48 (3.5 MTA)
- Equates to a 16.3 MTA project from Alaska (TAGS at almost full out including proposed expansions)
- Economies of scale would be met and Alaska gas would be the most economic in all of Asia



Third:

LNG Is Not An Option For Alask

LNG Positives

- It is portable and can serve multiple markets
- Offers diversity of supply from stable supplie
- Projects are backed by a long term sale contracts
- TAGS LNG project has a smaller gas off take rate th the proposed overland project at 4 BCF so fewer gas producers must agree to dedicate gas to it

Alaska LNG is a stable supply

- Market price and proximity to market are not the only factors
- Arun plant recently shut down (10 MTA to Korea and)
- Stable supplies get market preference

  example

  Why are two Australian LNG projects bumping Tanguh which closer to the Lower 48 markets?

  PARTIAL ANSWER: stable government

Trans-Alaska Gas System – Year 2000 Project Update
Capital Costs ($US year 2000)

		START-UP	EXPANSION I	EXPANSION II
LNG Delivered	**MTA**	**9.2**	**13.8**	**18.4**
Pipeline Flow	BCFD	1.2	1.8	2.5
LNG Trains		2	3	4
Pipeline and Stations (1)	$billion	3.7	0.2	0.4
LNG Plant & Terminal (2)	$billion	2.3	0.9	0.8
Incremental Capital Cost	$billion	6.0	1.1	1.2
Cumulative Capital Cost	**$billion**	**6.0**	**7.1**	**8.3**

- Source: Willbros Engineering and Michael Baker Jr.
- Source: Kellogg Brown & Root and Air Products and Chemicals, Inc.

TAGS Cost of Service
Shows Alaska Gas is Competitive

TAGS estimated cost of service to Japan, excluding fuel
- $/mmbtu delivered, 13.8 MTA

	Low	High
Alaskan facilities	1.99	2.21
LNG tankers	0.70	0.70
Total	**2.69**	**2.91**

Fuel at 11.8%

Asian LNG Prices

Buyer	Seller	Jan. '01 $/mmBtu
Japan	Abu Dhabi	4.81
	Alaska	4.54
	Australia	4.89
	Brunei	4.65
	Indonesia	4.98
	Malaysia	4.80
	Oman	5.17
	Qatar	5.05
	AVERAGE	*4.88*

WGI March 8, 2001

- Prices are high in the Lower 48 and are also high in Asia
- Let's be consistent!

FACT

Remoteness is "taken care of" by reaching economies of scale

TAGS ~ 2.0 BCF

Foothills ~ 4.0 BCF

which is the great equalizer

Cost of Service to Supply Gas to Cook Inlet via Spur Line from TAGS at Glenallen

Basis: TAGS 3 train case at 1.8 BS

Volume to Cook Inlet	COS ($/mm
200 mmscfd	~ 2.00
400 mmscfd	~ 1.50

The Overland Proj ct

(Second) Honeymoon is clouding thi

FACT **Other gas supplies in North America nibble at the Lower 48 demand**

- McKenzie Delta
- Western Canadian Basin (BC and A ta)
- U.S. Rocky Mountains
- U.S. Gulf Coast
- Scotian Shelf

Or is it "Gobble up the Lower 48 Demand"

FACT

Other countries' LNG projects are also nibbling away at the overland pipeline project

- LNG imports to Lower 48
  - East coast 2000 - 0.6 [illegible]fd
  - East coast expansion capacity - 1.6 bs[illegible]
  - Phillips to west coast - 0.7 bscf[illegible]A)
  - Chevron to west coast - 0.5 bscfd (
- Two new west coast LNG projects plus east coas[illegible] LNG expansion will consume 2.8 bscfd of Lower 4[illegible] demand
- Represents 70% of the 4 bscfd overland project

Alaskan LNG alone bears criticism for "uneconomic Alaskan gas project"

- An LNG project to Asia was originally p[illegible]posed because overland pipeline project could [illegible]ompete in Lower 48
- The economic viability of other gas projects fro[illegible] Alaska have not been demonstrated
- TAGS is a well defined project using proven technology – cannot speculate to upside potential a[illegible] with other projects with less definition

When comparing projects from Alaska remember

- Worldwide LNG competes with Alaskan g[illegible] to both Asian LNG and Lower 48 markets
- Neither the LNG nor the overland pipeline proje[illegible] firm market commitments
- Hold conclusions until the honeymoon is over for overland project and firm costs and economics are developed

Path Forward

- **Set realistic goals (e.g. State ownership, hubs)**
- **Do what is right for Alaska – Identify and s[illegible]parate corporate interests from State interests and t[illegible] develop a balance**
- **Find out how much wellhead the producers really d[illegible] and need**
- **Figure out PBU and PT unit requirements that control producer actions and require changes if necessary**
- **Compare apples to apples**
- **Keep <u>ALL</u> options open**


YUKON
PACIFIC
CORPORATION
TRANS-ALASKA GAS SYSTEM
CSX
CORPORATION

Alaska Highway Natural Gas Policy Council
Fairbanks Public Meeting
Chena River Convention Center
April 18, 2001, 5 p.m. - 9 p.m.

I. Community Reception, 5:00 p.m. – 6:30 p.m.

II. Opening remarks from Mayor Boyles, 6:30 – 6: 35 p.m

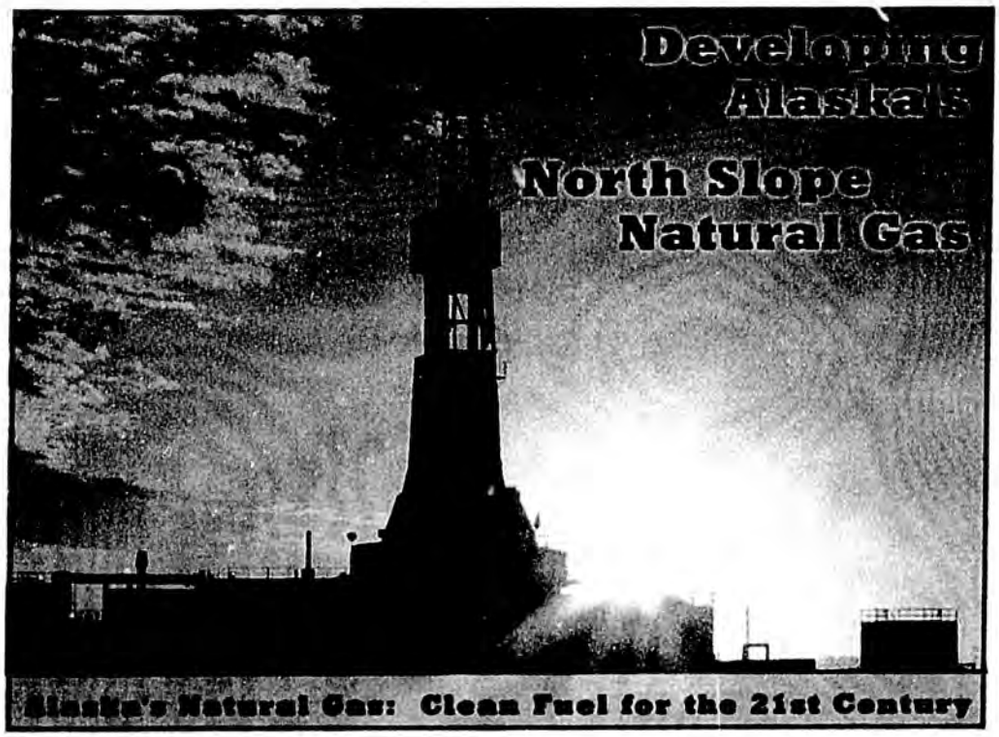
III. Opening remarks from Governor Knowles, 6:35 – 6: 45 p.m.

IV. Presentation from Commissioner Debby Sedwick, 6:45 – 7:00 p.m.

V. Presentation from Foothills Pipe Lines Ltd, 7:00 – 7:15 p.m. (see April 5 presentation)

VI. Presentation from Ken Thompson on "The Hub" concept, 7:15 – 7:30 p.m.

VII. Public testimony, 7:30– 9:00 p.m.



Mission

Develop and move Alaska's North Slope natural gas along the Alaska Highway route to North American markets and enable creation of gas industries in Alaska.

- Gas to North America
- Jobs and opportunities for Alaskans and Alaska businesses
- New energy sources for Alaska communities
- Future possibilities for use of North Slope gas including
  - Liquefied Natural Gas
  - In-State industrial development
  - Gas-to-Liquids
- Increased revenues to Alaska

Why Natural Gas?

It's here It's efficient It's clean

- There are known reserves of 35 trillion cubic feet of natural gas on the North Slope.
- Estimated resources are up to 100 trillion cubic feet.

Why Natural Gas?

It's here It's efficient It's clean

Natural Gas is the world's most efficient fossil fuel for generating electricity. Its other uses are for:

- residential and commercial heating and cooling
- energy to manufacturers
- feedstock for petrochemical products

Why Natural Gas?

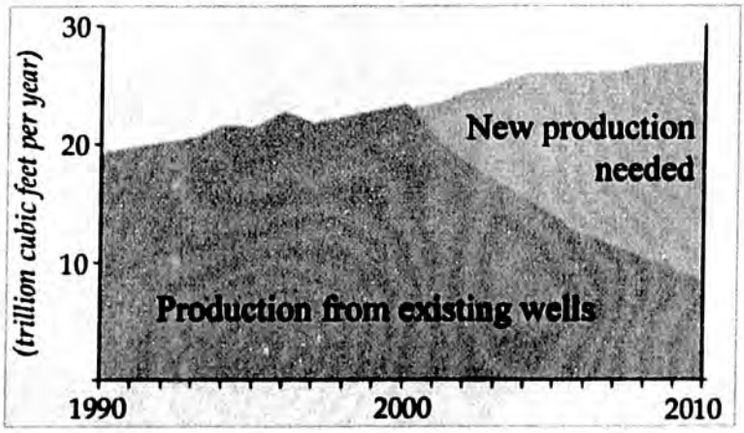
It's here It's efficient It's clean

- Air emissions from Natural Gas are significantly less than those from coal or oil
- It is safer than nuclear energy
- It has less environmental impact and more year-round capacity than hydroelectric

Why Now?

Future demand Future is now

US Supply and Demand

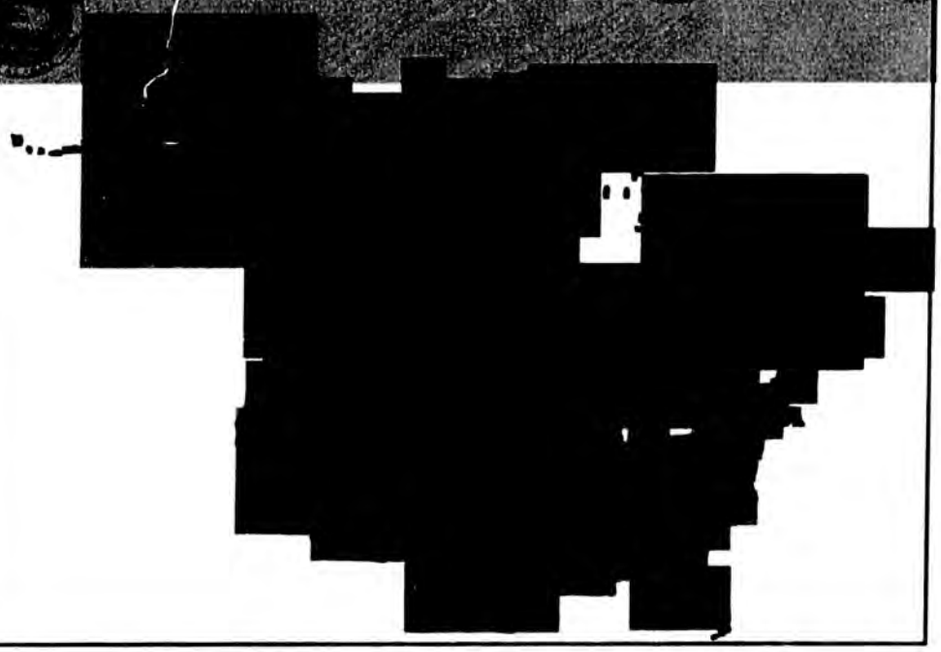


Why Now?

Future demand Future is now

- The North American gas market is the largest in the world and demand is growing.
- The long-term outlook for higher natural gas prices makes the development of North Slope natural gas feasible for the first time.

Why the Alaska Highway Route?



Why the Alaska Highway Route?

Building a gas pipeline along the Alaska Highway best meets the criteria of providing:

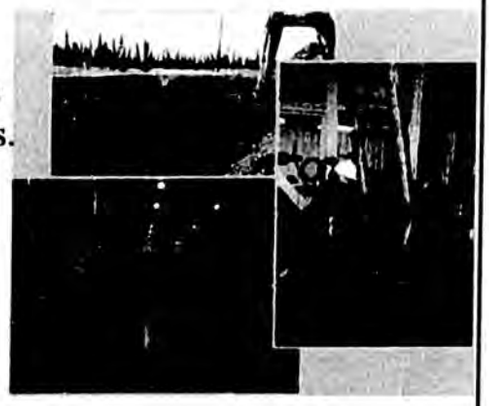
- Gas for America
- Jobs and opportunities for Alaskans and Alaska Businesses
- Energy for Alaska communities
- Multiple opportunities for use of North Slope gas
  - Liquefied Natural Gas
  - In-State industries
  - Gas to Liquids
- Increased revenues to Alaska for our resource
- Doing it right

Why the Alaska Highway Route?

Jobs Local Energy Future Opportunities Revenues Doing it Right

Jobs for Alaskans

- The pipeline will provide thousands of construction jobs and hundreds of operating jobs.
- Department of Labor and Workforce Development will ensure Alaskans have the necessary training and opportunities to build and operate the gasline.



The Alaska Highway route will enable more Alaska communities to access a new energy source. *Possibilities include*:

- Spur lines to communities to provide natural gas for home heating
- Gas fired power plants to generate electricity for Alaska communities

Why the Alaska Highway Route?
Jobs Local Energy Future Opportunities Revenues Doing it Right

Opportunities for North Slope Gas

The Alaska Highway route leaves open possibilities for other future in-state value added commercial uses of North Slope Gas.

- LNG – Liquefied Natural Gas
- Industrial Development
- GTL – Gas to Liquids

Increased Revenues for Alaska

- Total State Revenue is estimated at $200-400 million per year from:
  - Production Tax
  - State Property Tax
  - Corporate Income Tax
  - Royalty Share of Gas
- Alaska communities would also receive economic benefit.

Why the Alaska Highway Route?
Jobs Local Energy Future Opportunities Revenues Doing it Right

Doing it Right

- Sound Science
  - Onshore gasline development uses proven technology.
- Responsible Stewardship
  - Utilizing existing infrastructure of oil pipeline and road minimizes environmental impact.

- Open Public Process
  - Stakeholder concerns will be addressed in public meetings organized by the Alaska Highway Natural Gas Policy Council.

Getting the best information possible

- Expert analysis by oil and gas and economic consultants including
  - Cambridge Energy Research Associates
  - Van Meurs and Associates, Ltd.

CERA

VAN MEURS
Energy Consultants

Knowles Administrative Action

- Gas Pipeline Cabinet
- Gas Pipeline Office
- Natural Gas Policy Council

What happens now?

- **Prepare:**
  - For permit applications by project sponsors expected this year.
- **Listen:**
  - To Alaskans - the Alaska Highway Natural Gas Policy Council will help solicit the views of Alaskans.
- **Coordinate:**
  - With federal agencies, such as Department of Interior and the Federal Energy Regulatory Commission and Canadian counterparts.
- **Advance:**
  - The Alaska Highway project through outreach to producers, pipeline companies, contractors, marketers and consumers.

How can you get more information?

Where can you find out more about an Alaska Highway gasline?

- Contact Ken Freeman:
  - Juneau (907) 465-3500
  - Anchorage (907) 269-7450
- Internet: www.gov.state.ak.us/gasline/
- Email: gasline@gov.state.ak.us
- Fax: (907) 465-3532

http://www.gov.state.ak.us/gasline/

Alaska north slope natural gas...
the time is now

Vision:

Natural Gas Business And Gas Trading Hub/Principles For ANS Gas

Presentation to: Alaska Highway Natural Gas Policy Council

Fairbanks - April 18, 2001
Anchorage – May 24, 2001

Pacific Rim Leadership Development
Ken Thompson, President

Pacific Rim
LEADERSHIP DEVELOPMENT

Gas Business Vision: Introduction

- Producers completing studies to create their gas "vision"
- State should proactively complete its separate studies to create a "vision" that's best for Alaskans long-term
- State could make big mistakes by waiting for the producers to finish their "vision", then State reacts
- Producers' and State's perspectives will differ
  - Producers must focus on discounted present value, rates-of-return
  - State must focus on 50 years of socio-economic benefit to the state
- What proactive "vision" for the State should be examined?
- Find win-win with producers

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2

Gas Business Vision: Recommendations

- Gas pipeline traversing Alaska
- "Natural gas hub" near Fairbanks or Delta Junction: physical facilities *and* contractual system
- State retain 12.5% royalty share of gas "in kind"
- State (or Alaskan companies) invest at least 12.5% share in the gas pipeline from Slope to hub and hub facilities
- State formulate policies/regulations for clear and transparent valuation/pricing of gas at the hub

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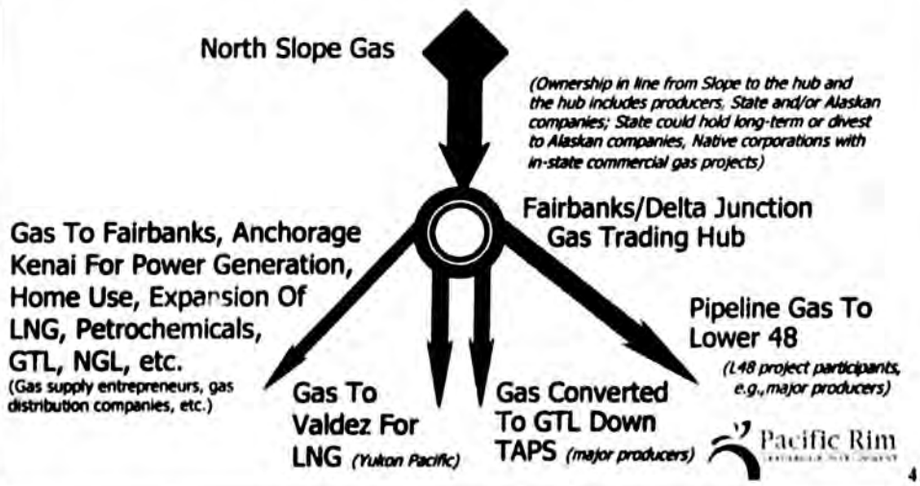
3

Trading Hub and Natural Gas Business Vision With Future Multiple Markets Access



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4

Gas Business Vision: Next Steps

- 2001-02: Resolution supporting principles of natural gas business in Alaska in conjunction with L48 gas line
- 2002-03:
  1) Regulations for clear, transparent netback pricing
  2) Rules for clear, transparent access for in-state use
  3) Rules for clear, transparent access for overseas markets
  4) State finalize decision of investment in line, gas "in kind"
- 2004-2006+: State attract investors for hub and/or spur lines, in-state distribution, city infrastructure, value added processing
- 2007: "GAS TO CASH" for Alaska, Alaskan companies, Alaskans!!!

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5

Alaska Natural Gas Business Coupled With Lower 48 Gas Line

Justification

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6

Gas Pipeline Traversing Alaska

- Lower 48 market appears best currently, but cyclical
- Northern route holds Alaska gas "hostage" to one cyclical market long term
- Southern route along TAPS route and Alaska highway provides access to future multiple markets
  - Alaska internal markets
  - Asia, West Coast U.S.
- State and Producers will see different calculations for northern vs. southern routes
  - Producers must focus on discounted present value, rates-of-return
  - State must focus on 50 years of socio-economic benefit to the state
- Find win-win solution for route traversing Alaska

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7

Natural Gas Trading Hub/Contracts

- Physical system and *contractual system*

Physical system

- Valves, manifolds that allow future pipelines to "plug in"
- Secure in-state markets, construct hub near Fairbanks or Delta Junction to facilitate market access
- *Alternative*: spur lines to select Alaska locations

Contractual system (must happen even if physical hub does not)

- Trading hubs fundamental to physical gas distribution but also for clear, transparent trading and price valuation
- Numerous trading hubs in the Lower 48, Canada, UK, Europe, progressing in Asia

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8

Natural Gas Trading Hub (continued)

- Assess regulations, guidelines, policies at such hubs for trading and netback pricing; institute at Alaska hub
- U.S., EU's Gas Directive, UK's Natural Gas Trading Arrangements are examples of regulations
- Formulate rules up front for access to in-state markets
- Access negotiations tougher later, when gas is flowing
- Precedence of NS facility access issues are negative

"Plug Into The Hub"

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9

State Retain 12.5% Share "In Kind"

- Lease agreements allow royalty payment or taking gas "in kind"
- Allows state to market its own gas to validate best market pricing being obtained
- State could choose to contract to third party gas marketing firm (e.g., Williams Energy, Enron)
- State's 12.5% share of gas is substantial at 250-500 MMCFD if total production is 2-4 BCFD
- State's volumes could facilitate in-state use and new business creation for economic impact

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State Invest 12.5% Share In Line/Hub

- State investment/transport in line from Slope to hub
- State contract with pipeline or Alaskan company for operational management of its investment share
- Best mechanism to accurately know and have input on transportation costs and operations
- Clear, transparent operating costs for valuation at hub
- State hold investment long term or divest to Alaska companies, Native corporations with in-state uses
- *Alternative:* if state does not invest, select Alaskan companies to invest 12.5% to transport State's gas
- Keeps more profits in state!

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11

State Mandate Valuation/Pricing Policies

- Precedents in Lower 48, UK NG Trading Agreements, EU Gas Directive
- For taxation, netback pricing must be clear, transparent
- Avoid controversies, hearing, lawsuits of past oil pricing disagreements
- Direct involvement by State in its own share of gas allows clear, transparent market pricing at hub
- Valuation/pricing mechanisms, methodologies known up front rather than after gas flowing
- Win-win when known up front

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12

Example Resolution Principles for Alaska - European Union Gas Directive

- Gas transmission, distribution interconnected, no barriers
- State(s) regulates gas business: nondiscriminatory, clear
- Fair and open access to the natural gas system
- Access to pipelines allowed under set of transparent rules
- Participants in the market will not abuse their dominant position nor engage in predatory behavior
- Participants have open, nondiscriminatory storage access
- Gas suppliers will compete freely for "eligible customers"

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Gas Business Vision: Conclusions

- Gas pipeline traversing Alaska
- "Natural gas hub" facilities Fairbanks or Delta Junction: physical facilities *and* contractual system
- State retain 12.5% royalty share of gas "in kind"
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Gas Business Vision: Next Steps

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15