

DEPARTMENT *of* NATURAL RESOURCES

CHALLENGES, STRATEGIES, & PROGRESS



Resource Development Council

Thursday, September 6, 2012
Anchorage, Alaska

Dan Sullivan

Commissioner, Alaska Department of Natural Resources
www.dnr.alaska.gov

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PART I

Introduction

MAKING *the* CASE *for* RESPONSIBLE RESOURCE DEVELOPMENT *in* ALASKA

Overview

- Importance of increased competition and investment
- Recognizing Alaska's transition
- Education

Advocacy

- Firms, investors, and think tanks
- Lease sales
- Resource base
- Federal issues, e.g. PT
- Gas opportunities

MAKING *the* CASE *for* RESPONSIBLE RESOURCE DEVELOPMENT *in* ALASKA

We are determined to make the case for increased cooperation, exploration and investment in Alaska.

We have been making this case locally, nationally, and internationally—examples include:

- Montreal – *International Economic Forum of the Americas*
- Tokyo (September 2012) – *LNG Producer/Consumer Conference*
- Washington, D.C. - *Meetings and testimony*
- Houston - *NAPE*
- Arctic Imperative Summit – Anchorage/Girdwood
- Chambers of Commerce – Anchorage, Fairbanks
- Shale Gas Conference – Anchorage
- Numerous other meetings and presentations with companies, potential investors, etc.



STATE of ALASKA

- DEPARTMENT OF NATURAL RESOURCES-



DNR:

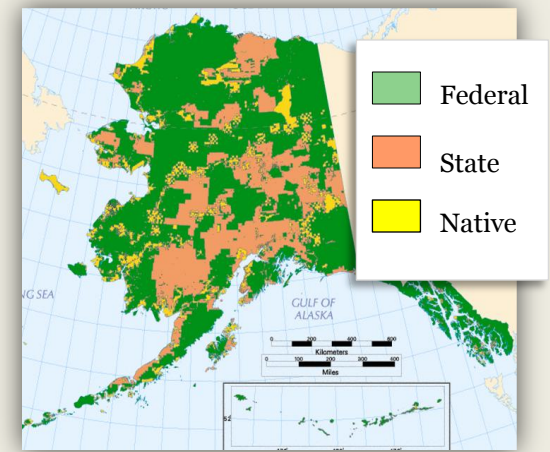
- Manages one of the largest portfolios of oil, gas, minerals, renewable resources, water, and land in the world
- Manages all oil and gas fields on state land, including two of the largest oil and gas fields in North America
- Oversees all activities that occur on state land

Land Base

- 586,412 square miles—more than twice the size of Texas
- Is larger than all but 18 sovereign nations
- Has more coastline than all other U.S. states combined
- Has more than 3 million lakes and half of the world's glaciers
- Has approximately 40% of the nation's freshwater supply
- Is the least densely populated U.S. state

Land Ownership

- *Federal Land*: more than 200 million acres
- *State Land*: Approx. 100 million acres of uplands, 60 million acres of tidelands, shore lands, and submerged lands, and 40,000 miles of coastline
- *Native Corporation Land*: 44 million acres



STATE *of* ALASKA

- AS AN INVESTOR -

Alaska's positive investment attributes:

- State government is committed to enhancing the investment climate and undertaking comprehensive permitting reform and modernization
- OECD/political/legal stability
- One of the highest FDI/per capita rates in the U.S.
- World-class environmental standards and operations; Alaska is a global leader in environmental innovation
- Geostrategically located:
 - Close proximity to Asia and Europe
 - World-class cargo hub
 - Enormous Arctic shipping potential



Alaska's significant financial resources:

- The largest sovereign wealth fund in the country—Alaska Permanent Fund Corporation: \$40 billion
- A budget reserve of \$20 billion
- A retirement fund worth \$18 billion
- Triple-A rated

STATE of ALASKA

- OIL & GAS RESOURCES -

North Slope

USGS estimates that Alaska's North Slope has more oil than any other Arctic nation

- **OIL:** Est. 40 billion barrels of conventional oil (USGS & BOEMRE)
- **GAS:** Est. 200 trillion cubic feet of conventional natural gas (USGS)
- Alaska has world-class unconventional resources, including tens of billions of barrels of heavy oil, shale oil, and viscous oil, and hundreds of trillions of cubic feet of shale gas, tight gas, and gas hydrates

Compared to most basins, Alaska is relatively underexplored, with 500 exploration wells on the North Slope, compared to Wyoming's 19,000.

Alaska is one of the few places to explore both conventional and uncoventional resources in the same basin.

Cook Inlet

USGS estimates that significant undiscovered volumes of hydrocarbons remain to be found in the Cook Inlet:

- 19 trillion cubic feet of natural gas
- 600 million barrels of oil
- 46 million barrels of natural gas liquids



STATE of ALASKA - MINERAL RESOURCES-



The State of Alaska Ranks in the *Top Ten in the World* for Important Minerals, Including:

- **Coal:** 17% of the world's coal; *2nd most in the world*
- **Copper:** 6% of the world's copper; *3rd most in the world*
- **Lead:** 2% of the world's lead; *6th most in the world*
- **Gold:** 3% of the world's gold; *7th most in the world*
- **Zinc:** 3% of the world's zinc; *8th most in the world*
- **Silver:** 2% of the world's silver; *8th most in the world*

USGS estimates

According to the USGS, Alaska has over 70 occurrences of Rare Earth Elements (REE).

PART II

Strategies

COMPREHENSIVE STRATEGIES TO ADDRESS CHALLENGES

- I. Secure Alaska's Future—*Oil*
- II. Benchmarks for Commercializing NS Gas
- III. Secure Alaska's Future—*Strategic & Critical Minerals*
- IV. Statewide Permitting Reform & Modernization



SECURE ALASKA'S FUTURE—*OIL*

Objective:

***The State of Alaska's
Comprehensive Strategy
to Increase TAPS
Throughput to One
Million Barrels/Day***

- I. Enhance Alaska's global competitiveness and investment climate
- II. Ensure the permitting process is structured and efficient
- III. Facilitate and incentivize the next phases of North Slope development
- IV. Unlock Alaska's full resource development potential through partnerships with key stakeholders
- V. Promote Alaska's resources and positive investment climate to world markets



COMMERCIALIZING NS GAS

- STATE OF THE STATE AND BENCHMARKS-

Key principles for any project

- Gas to address Alaska's in-state needs for abundant supplies of low-cost energy and economic growth
- Gas that will maximize the value of the state's massive resource base through high-volume and export markets
- A project that incentivizes exploration and investment in continued oil and gas development

Governor's Roadmap to Gasline

1. Resolve Point Thomson
2. Align during the first quarter of 2012
3. Two projects—under AGIA and AGDC—complete discussions by third quarter of 2012 determining what potential exists to consolidate projects
4. Harden numbers on an Alaska LNG project by the third quarter of 2012, and identify a pipeline project and associated work schedule
5. If milestones are met, the 2013 Legislature takes up gas tax legislation designed to move the project forward

SECURE ALASKA'S FUTURE— STRATEGIC & CRITICAL MINERALS

Objective:

To highlight Alaska's potential for exploration, development, and processing of strategic and critical minerals, including Rare Earth Elements (REEs)



“Secure Alaska’s Future: Strategic Minerals” is a comprehensive strategy that will:

- I. Undertake a statewide assessment of Alaska’s strategic mineral potential—millions budgeted for this project
- II. Provide support for the development of known or highly prospective strategic mineral occurrences throughout Alaska through infrastructure partnerships and incentives
- III. Improve the structure and efficiency of permitting processes in order to expedite mineral development, including strategic minerals
- IV. Deepen partnership and cooperation with the federal government, local governments, Native corporations, and other potential new entrants to encourage domestic exploration, development, and processing of REEs and other strategic minerals
- V. Attract new investment and markets for Alaska’s abundant mineral resources

STATEWIDE PERMITTING REFORM

Objective:

Improve the State of Alaska's permitting processes in order to advance the public interest by ensuring projects are permitted in a timely, predictable and efficient manner while safeguarding the environment.

- I. Improve agencies' internal permitting structure to create a more efficient, timely, and certain process
- II. Enhance coordination within different state departments and with different entities and stakeholders throughout the state
- III. Seek input from the public about the permitting process including input from municipalities, industry and non-governmental organizations
- IV. Improve coordination between the state and the federal government—federal permitting issues have a strong influence on state projects
- V. Anticipate and plan for permitting the next phases of resource development, e.g. the Shale Oil Task Force



PART III

Significant Progress

OIL & GAS

- COOK INLET, NORTH SLOPE & BEAUFORT SEA LEASE SALES -

Cook Inlet, 2011 & 2012 Lease Sales

- In June 2011, the state received the highest number of Cook Inlet lease sale bids in 28 years, totaling more than \$11 million
 - Total tracts sold: 109
 - Total high bonus bids: \$11,125,063.80
- In May 2012, Cook Inlet lease sale bids totaled more than \$6.8 million
 - Total tracts sold: 44
 - Total high bonus bids: \$6,865,835



NS & Beaufort Sea, Dec. 2011 Lease Sale

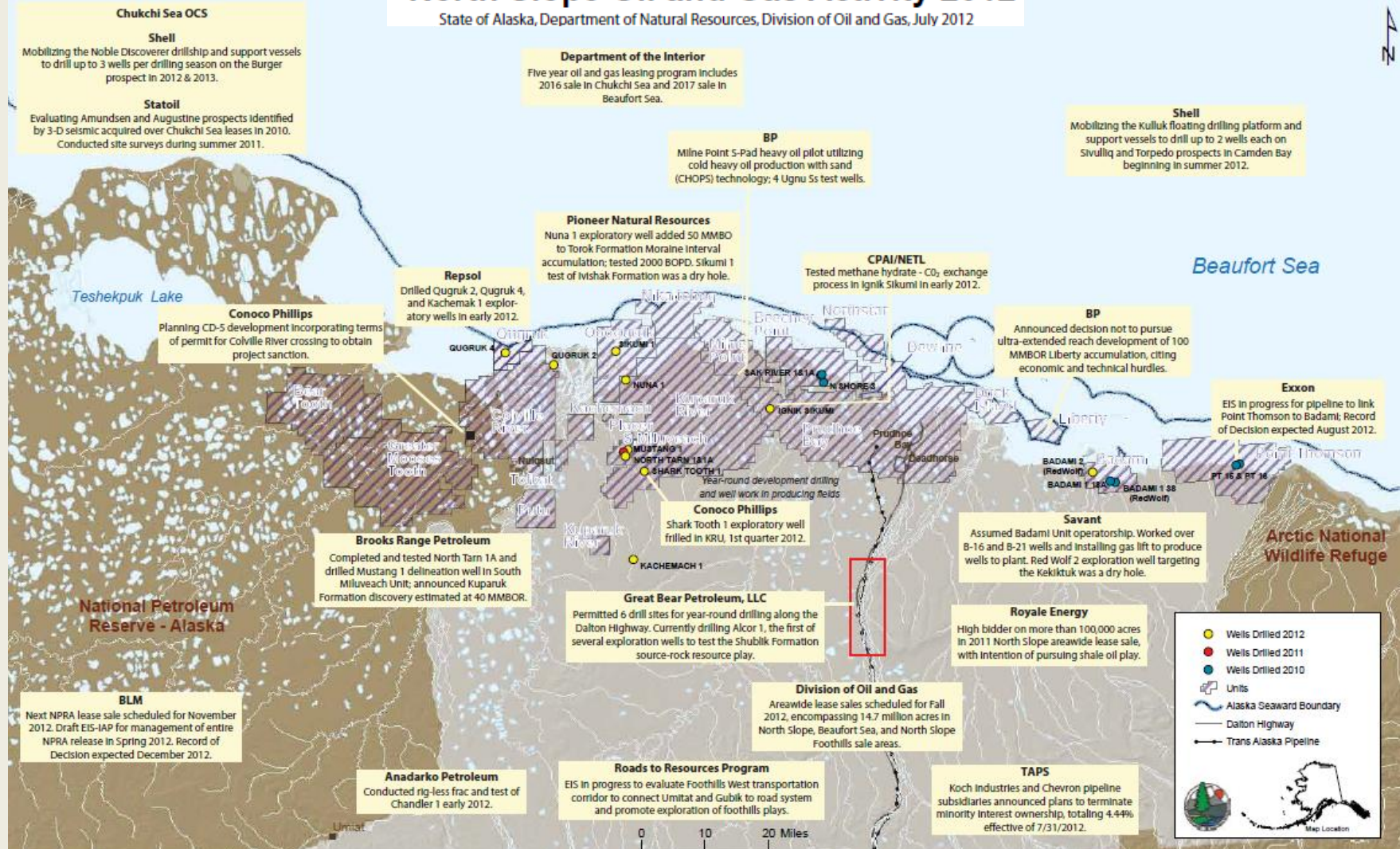
- Received more than 300 bids from more than 15 bidders, totaling more than \$21 million, signifying one of the most successful sales in recent Alaska history
- Included new players targeting shale oil
- Attracted world-class companies such as Shell, ConocoPhillips, and Repsol, who are staking out new positions on state land
- New exploration means jobs now and new production for decades to come
- State needs billions of dollars in new investment to meet the Governor's one-million-barrels-a-day goal

OIL & GAS

- NORTH SLOPE RECENT & PROPOSED ACTIVITY -

North Slope Oil and Gas Activity 2012

State of Alaska, Department of Natural Resources, Division of Oil and Gas, July 2012



OIL & GAS

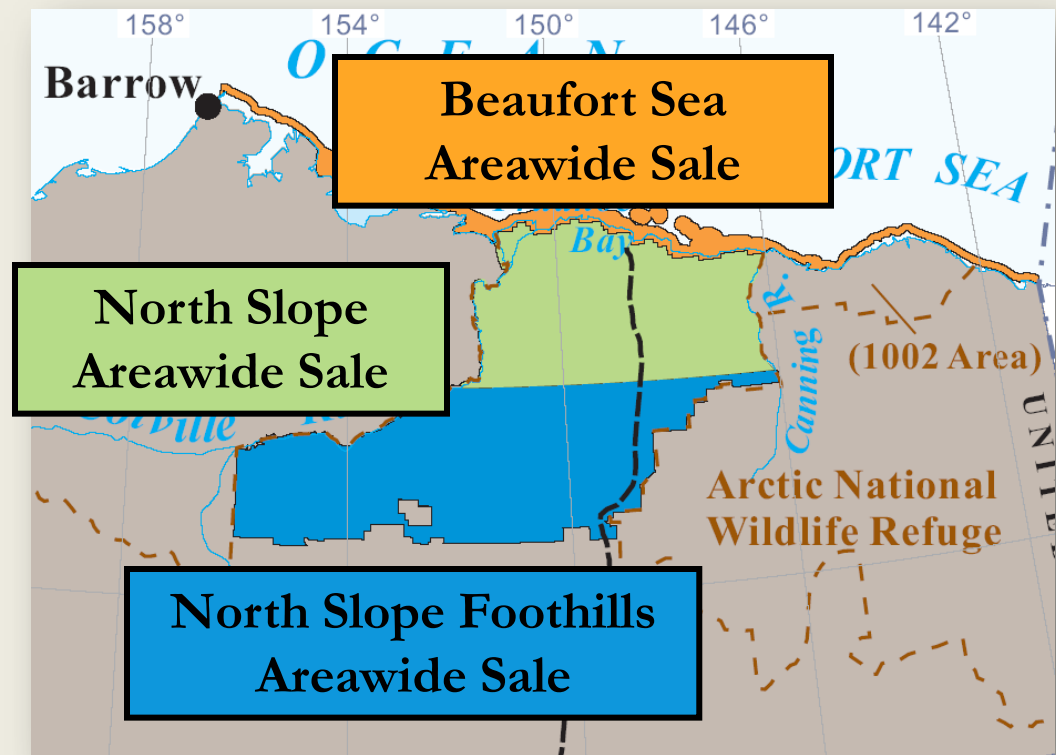
- NEXT PHASES AND NEW AREAS OF EXPLORATION-

- Shale oil exploration – ongoing
 - July 31st conference in Anchorage on Shale Oil
- Additional shale oil players investing
- Private equity investment taking root
 - Great Bear/Riverstone/Haliburton shale play
- Shell exploration appears likely—finally
 - Demonstrates the need for comprehensive federal regulatory overall
- Eastern North Slope open, PT settled
- New players, operators and exploration on state land
 - Shell, Repsol, Brooks Range, Great Bear, Savant
 - Exxon Mobil, Conoco Phillips
- Other unconventional; viscous oil at Milne Point; DOE & gas hydrates

NORTH SLOPE, BEAUFORT SEA, & NORTH SLOPE FOOTHILLS

- FALL 2012 LEASE SALE -

- Annual sale of oil and gas lease tracts in Beaufort Sea, North Slope, and North Slope Foothills will take place on **November 7, 2012**, in Anchorage
- Encompasses 14.7 million acres (the size of Massachusetts, Vermont and Connecticut combined)
- Will include tracts adjacent to federal acreage, including lands nominated for inclusion in the NPR-A lease sale, which is also tentatively scheduled for late 2012



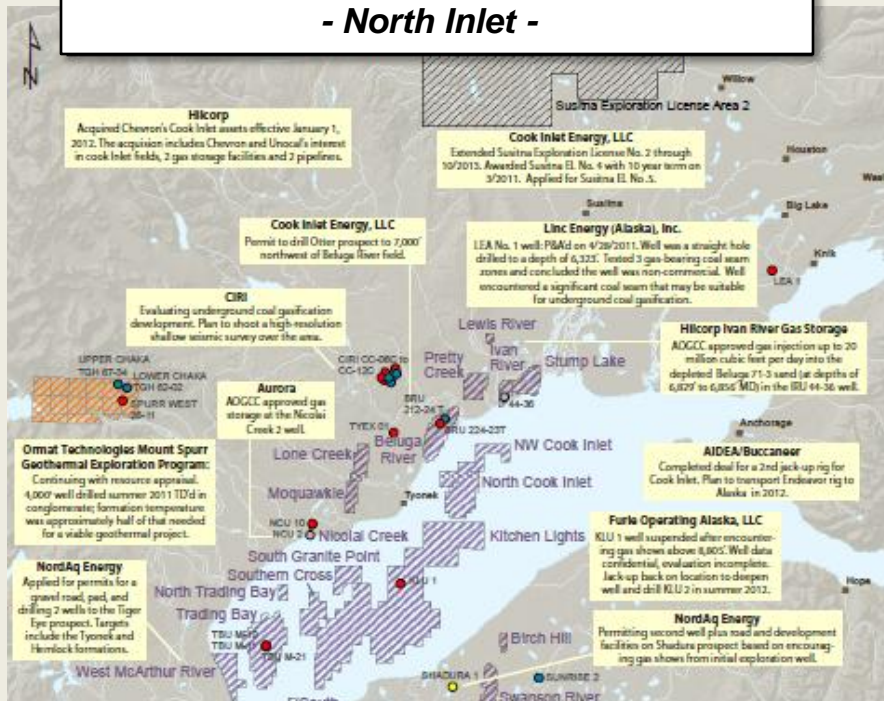
OIL & GAS

- COOK INLET RECENT & PROPOSED ACTIVITY -

Cook Inlet Oil and Gas Activity 2012

State of Alaska, Department of Natural Resources, Division of Oil and Gas, July 2012

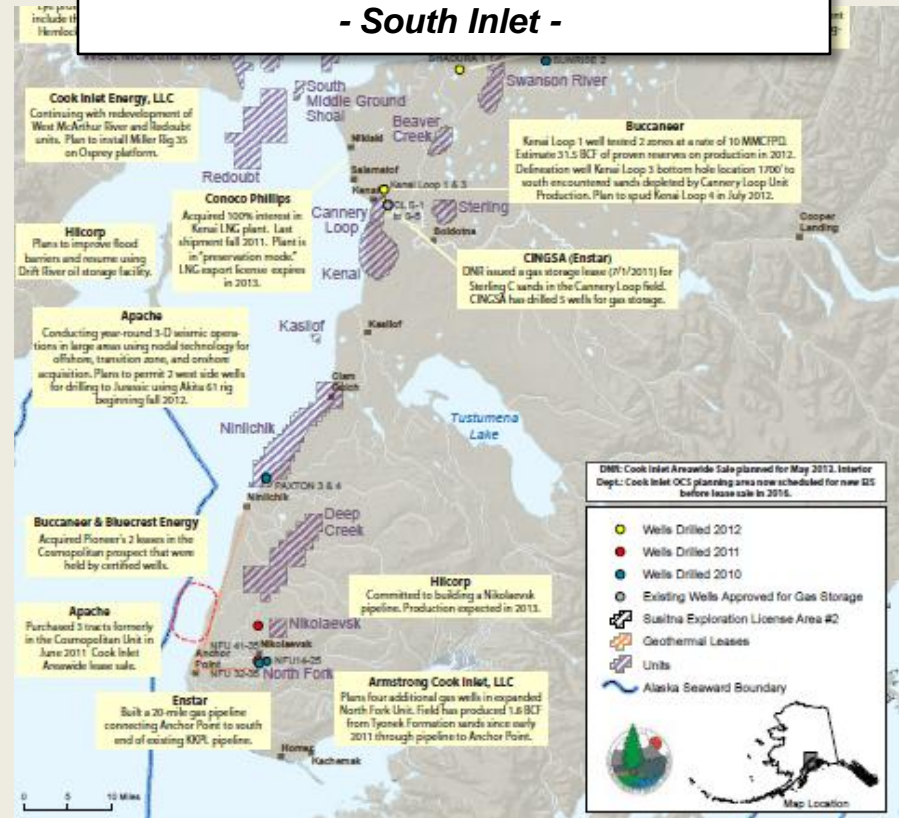
- North Inlet -



Cook Inlet Oil and Gas Activity 2012

State of Alaska, Department of Natural Resources, Division of Oil and Gas, July 2012

- South Inlet -



OIL & GAS

- COOK INLET ACTIVITY -



WSJ Article, August 27, 2011:

***“New Energy Estimate Breathes Life
Into a Declining Alaskan Oil Field”***

- New players investing: Apache, Hilcorp, Armstrong, Linc, Buccaneer, Nordaq
- Significant exploration and development activity: 10-15 new oil and gas wells, one geothermal exploration well, one jack-up rig (and one on the way), and companies shooting 3-D seismic over large areas of the basin
- 3 new gas supply contracts with utilities
- New gas storage project
- State continues to focus on safe, responsible development and operations
- Competitive price for gas relative to lower 48 markets

COMMERCIALIZING NS GAS

- SIGNIFICANT PROGRESS -

Two critical recent developments:

1. Resolution of Point Thomson litigation

- Pt. Thomson holds 25% of known gas reserves on the Alaska North Slope
- Cloud of litigation has been removed, which will allow for development to begin
- Development at Pt. Thomson will jump start gas commercialization efforts

2. Producer alignment on an Alaska pipeline to tidewater

- ExxonMobil, ConocoPhillips, BP, and TransCanada are now formally aligned and are undertaking work together on the commercialization of North Slope gas with a specific focus on a large scale LNG project from southcentral Alaska
- Until just recently, these three companies pursued different directions on Alaska's gas
- The parties have signed formalized agreements to work together on evaluating the feasibility of LNG from southcentral Alaska

WSJ: Alaska, Gas Firms Clear Way For Pipeline

Point Thomson settlement "...paves the way for a pipeline project to ship natural gas from the North Slope, unleashing the state's massive gas reserves." - WSJ, 3/30/12

FT: Oil Groups Agree on \$40bn Alaska Gas Project

"ExxonMobil, BP and ConocoPhillips have reached agreement with the state of Alaska to take a significant step forward on a \$40bn-plus project to export liquefied natural gas to Asia, resolving a long-running lease dispute that had been holding up progress."

In a joint letter, the chief executives of the three companies said they were "aligned" on a plan to develop the huge gas reserves of Alaska's North Slope, which until now have been stranded without a route to market." - Financial Times, 3/30/12

COMMERCIALIZING NS GAS

- SIGNIFICANT PROGRESS -

ExxonMobil

ConocoPhillips



March 30, 2012

Governor Sean Parnell
550 West 7th Avenue, Suite 1700
Anchorage, Alaska 99501

Dear Governor Parnell,

Our three corporations, collectively and individually, value our relationship with Alaska and believe that its citizens across the state, as well as our shareholders around the world, share a common interest in responsible resource development. We write today to inform you of our progress in working together on the next generation of North Slope resource development.

Alaska's vast North Slope holds over 35 trillion cubic feet of discovered natural gas. To date, this gas has been used to enhance North Slope oil production, adding several billion barrels to Prudhoe and Kuparuk recoveries. However, under the right business climate, the full commercial potential of this world-class resource can be unlocked. North Slope gas commercialization will bring new job opportunities, increased state revenues, reliable in-state energy supplies and new exploration opportunities, which will benefit the entire state. North Slope oil and gas. This will be key toward reaching your goal of 1 million barrels of oil per day through the Trans-Alaska Pipeline System.

Serious discussions between our companies have taken place along with the Alaska Pipeline Project (APP) parties who are supporting the AGIA License. We have aligned on a structured, stewardable and transparent approach with the aim to commercialize North Slope natural gas resources within an AGIA framework. As a result of the rapidly evolving global market, large-scale liquefied natural gas (LNG) exports from south-central Alaska will be assessed as an alternative to gas line exports through Alberta. In addition to broadening market access, a south-central Alaska LNG approach could more closely align with in-state energy demand and needs. We are now working together on the gas commercialization project concept selection, which would include an assessment of major project components including in-state pipeline routes and capacities, global LNG trends, and LNG tidewater site locations, among others.

Commercializing Alaska natural gas resources will not be easy. Unresolved issues that must be resolved, and we cannot do it alone. Unprecedented capital for gas development will require competitive and stable financing in Alaska first be established. Appropriately structured, stable financing will create new opportunities around the world, and will play a pivotal role in making Alaska competitive in the global market and unlocking the economic potential of North Slope resources.

Point Thomson is an excellent example of a challenged, world-class resource. With approximately 25% of known North Slope natural gas, Point Thomson development is an important element in consideration of North Slope gas commercialization. However, economic models must span decades into an uncertain future to estimate economic returns. Your Administration has taken the lead in forging a Point Thomson settlement that will bring long-term resources, revenues and jobs to help Alaska's economy. With settlement now finalized, our companies are moving forward, as participating co-venturers, with the initial development phase at Point Thomson with confidence that North Slope gas development will ultimately bring the Point Thomson resource to market.

We agree the next generation of North Slope resource development is achievable, working together with the APP parties, as well as with the State of Alaska. Thank you for your leadership and your confidence in us to take on these challenges. We join you in a vision of prosperity and promise. There is much work to do and opportunities yet to discover.

Sincerely,

Rex Tillerson

Jim Mulva

Bob Dudley

Serious discussions between our companies have taken place over the past several months, along with the Alaska Pipeline Project (APP) parties who are supporting the AGIA License. We have aligned on a structured, stewardable and transparent approach with the aim to commercialize North Slope natural gas resources within an AGIA framework. As a result of the rapidly evolving global market, large-scale liquefied natural gas (LNG) exports from south-central Alaska will be assessed as an alternative to gas line exports through Alberta. In addition to broadening market access, a south-central Alaska LNG approach could more closely align with in-state energy demand and needs. We are now working together on the gas commercialization project concept selection, which would include an associated timeline and an assessment of major project components including in-state pipeline routes and capacities, global LNG trends, and LNG tidewater site locations, among others.

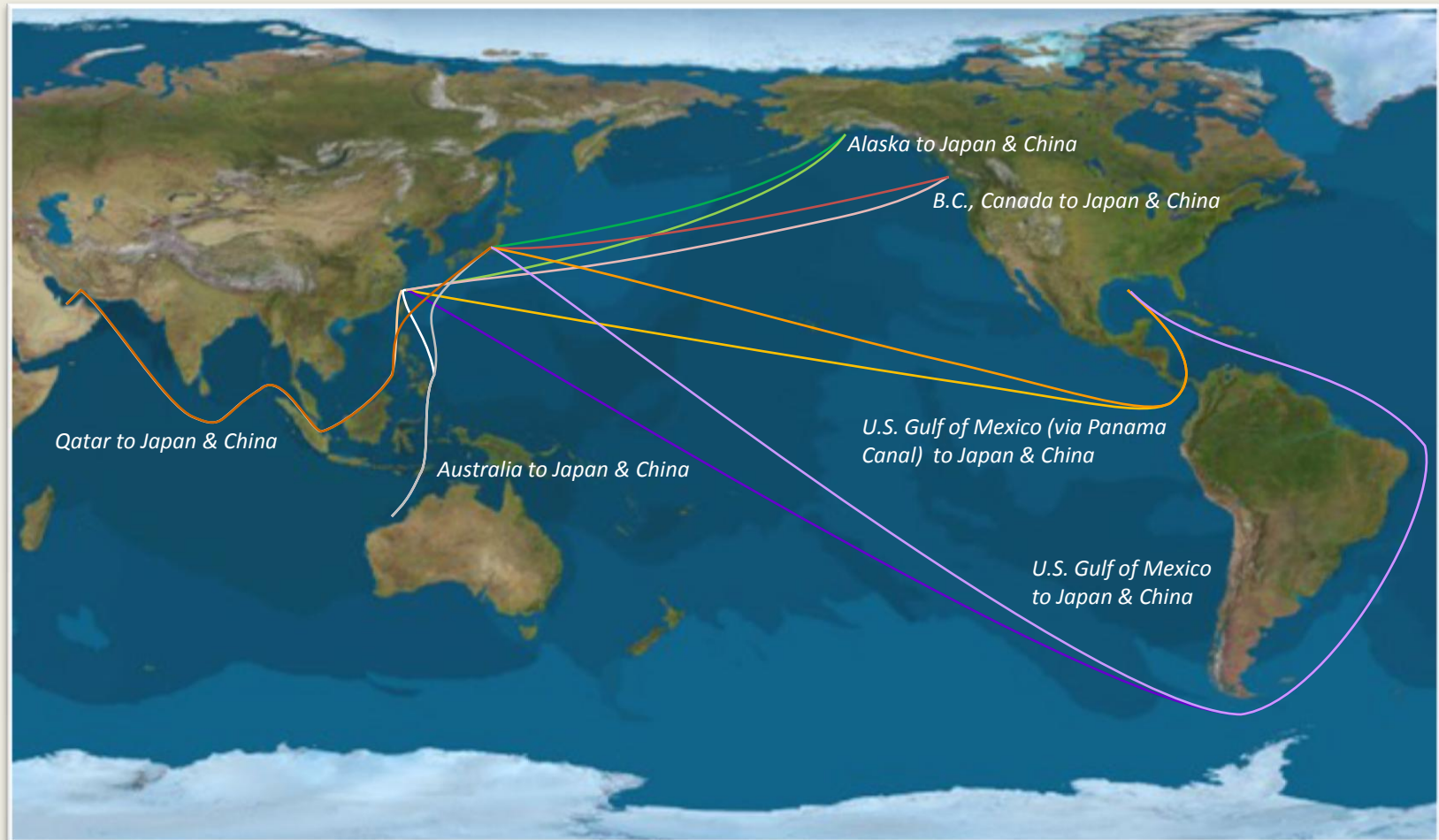
COMPARATIVE ADVANTAGES *of* ALASKA LNG

- Huge conventional gas resources next to existing infrastructure
- Limited environmental impact
- Liquid-rich gas
- Longstanding tradition of exporting to Asia—40 years of LNG exports to Japan with accompanying DOE export licenses
- Not part of shale LNG export debate in the Lower 48
- Stable investment and political climate
- World-class businesses already investing
- Trained workforce
- Close proximity to markets; avoids strategic shipping choke points
- Cost competitive
- State regulatory approvals are in place to produce and transport gas
- Geo-strategic portfolio diversification



LNG tanker at the Kenai, Alaska LNG marine export terminal.
Photo from ConocoPhillips, "The Kenai LNG Plant celebrates 40 years."

COMPARATIVE ADVANTAGES *of* ALASKA LNG



COMPARATIVE ADVANTAGES

- COST COMPETITIVE: WOOD MACKENZIE STUDY & BROOKINGS INSTITUTION POLICY BRIEF -

Wood Mackenzie, the global research and consulting firm, recently completed a study for the State of Alaska to evaluate the economic competitiveness of Alaskan LNG exports relative to other projects.

- From an economic perspective Alaskan LNG exports would be competitive and could generate between \$220 and \$419 billion
- Alaskan LNG exports have a delivered cost structure *below* \$10/MMBtu
- Most competing Australian projects and proposed North American LNG exports yet to secure Final Investment Decision are expected to deliver LNG to Asia at a cost of \$10-\$12/MMBtu under current gas price assumptions
- ***Taking all into account—basis, shipping, capital requirements—Alaska LNG export facilities can deliver LNG to Asia less expensively than the U.S. Lower 48 or Canada and competitively vis-à-vis traditional Australian LNG sources.***

Alaskan LNG Exports Competitiveness Study, AGPA, Final Report, July 27, 2011”

Brookings Institution, the public policy organization, recently published a policy brief that discussed the strong competitive position of a potential, large-scale Alaska LNG to Asia project.

- Alaskan exports may prove to be a source of strong competition at the margin for U.S. LNG in the Pacific Basin. An Alaska project may be one of the least costly alternatives for delivering LNG to Japan in 2020

Brookings Institution Policy Brief,
“Liquid Markets: Assessing the Case for U.S.
Exports of Liquefied Natural Gas,” May
2012

STRATEGIC & CRITICAL MINERALS

- RECENT MINING ACTIVITY -



In 2011, the gross mineral production value from Alaska totaled \$3.8 billion, up 16% since 2010.

Mineral production had an export value of \$1.3 billion in 2010, or 31% of Alaska's total exports.

- **Statewide strategic minerals assessment identifying additional significant resources**
- **Producing Mines in Alaska**
 - **Red Dog:** one of the world's largest zinc mines, produced over 593k tons of zinc, 121k tons of lead, and 6.7 million ounces of silver in 2010
 - **Greens Creek:** among the world's top 10 silver mines, produced over 7.2 million ounces of silver, 68k ounces of gold, and 75k tons of zinc in 2010
 - **Pogo:** produced 383k ounces of gold in 2010
 - **Fort Knox:** produced 350k ounces of gold in 2010
 - **Usibelli:** produced over 2 million tons of low sulfur coal in 2010; exported half of its production in 2011
 - **Nixon Fork:** gold and copper mine re-opened in 2011
 - **Kensington:** 2011 was first year of production for this new gold mine—production expected to be nearly 90,000 ounces of gold in 2011

STRATEGIC & CRITICAL MINERALS

- RECENT MINING ACTIVITY -



In 2011, mineral exploration investment in Alaska totaled \$300 million - accounting for about one-third of the total spent on exploration in the U.S.

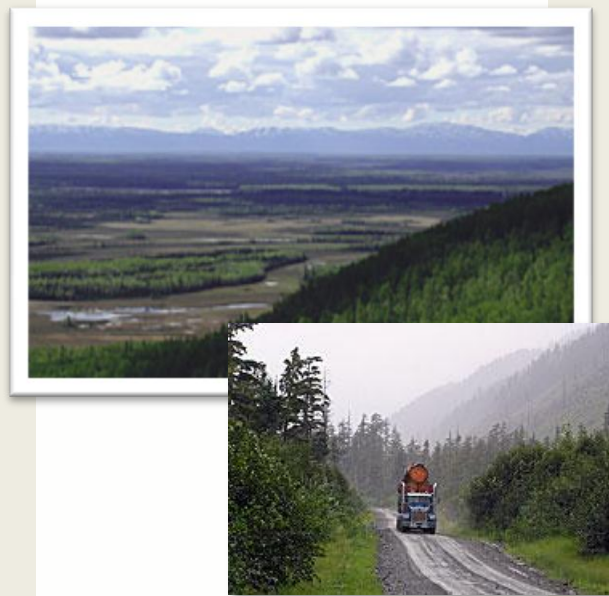
- **Advanced exploration projects include:**
 - ***Donlin:*** ~ 42.3 million ounces of gold; board recently approved company moving forward with permitting
 - ***Pebble:*** ~ 80.6 billion pounds of copper, 107.4 million ounces of gold, and 5.6 billion pounds of molybdenum
 - ***Bokan Mountain:*** enriched in yttrium, dysprosium, and critical heavy Rare Earth Elements
 - ***Money Knob:*** ~20.6 million ounces of gold
 - ***Niblack:*** ~7.3 million tons of polymetallic (copper, gold, silver, and zinc) volcanogenic massive sulfide project
- 30 exploration projects spent over \$1 million in 2011
- \$2.8 billion has been spent on mineral exploration in Alaska since 1981

TIMBER RESOURCES

- RECENT ACTIVITY -

- Division of Forestry manages forests for multiple uses and the sustained yield of renewable resources on 20 million acres of State land
- The Governor's initiative to double the size of the Southeast State Forest (first est. in 2010) was successful with the help of the Legislature (*now approx. 50,000 acres total*)
- Support for Susitna State Forest in the Legislature is promising for multiple-use recreation and firewood and timber access for Southcentral
- Alaska Timber Jobs Task Force was established by Administrative Order 258 to advise the Governor on specific actions he can take to grow and revitalize the state's timber industry. Final report soon to be released.
- 69 individual timber sales statewide in 2011, totaling 30.9 million board feet—on target for local job creation and community support
- Timber industry in SE Alaska still faces significant challenges

Alaska has 17% of the nation's forest land



WATER RESOURCES

- RECENT ACTIVITY -

- State of Alaska has more than 3 million lakes and half of the world's glaciers
- State of Alaska has approximately 40% of the nation's freshwater supply
- Alaska Water Use Act established the Alaska Department of Natural Resources (DNR) as the state manager of water resources for purposes of water allocation of surface and subsurface waters; amendments in 1992 added provisions for water export
- DNR recently issued a permit to appropriate water for an overseas water export project at Adak, Alaska
 - Authorized to withdraw up to 500,000 gallons of water per day/per lake from two freshwater lakes on Adak Island for export to China and India (the project has not yet begun); there is a third application pending for an additional 500,000 gallons per day
- There is also interest in exporting water from Southeast Alaska to overseas markets

PERMITTING REFORM

- SIGNIFICANT PROGRESS MADE -

- In FY12, the Legislature provided approximately \$2.7 million in operating funds for the Division of Mining, Land & Water to create efficiency, timeliness and certainty in the permitting process
- We are utilizing capital funding from FY12 (\$2.5M for the Unified Permit Project and Document Management) to focus on business management software and services
- In FY13, the Legislature approved the continuation of FY12 operating funds as part of the ongoing base for permitting and an additional \$950.0 to cover increased personnel costs and fill vacant positions focused on permitting
 - FY13 capital budget included \$3.3M to continue work on the Unified Permit Project, including the continuation of IT strategies and Business Process Management
- We have filled 31 of 36 new/vacant positions
- We reclassified and updated over 50 position descriptions
- During FY12, the backlog was reduced by 31.4% or 835 cases
- We have conducted public meetings statewide for input on state permitting processes
- We are evaluating internal processes to identify and fix inefficiencies



PERMITTING REFORM

- SIGNIFICANT PROGRESS MADE -

Statutory Changes – HB361

- The Division of Mining, Land and Water has identified over 30 statutory changes that would help reduce applicant costs, create efficiencies, reduce redundancies, and reduce opportunities for legal challenges
- During the 2012 Legislative session, the Governor introduced HB 361, which included the highest priority changes related to leasing and disposal programs that would help reduce the permitting burden on the applicant and free more time for staff to work on processing applications
- The Legislature passed HB 361 and it has been signed by the Governor



PART IV

Environmental Standards

RESPONSIBLE RESOURCE DEVELOPMENT

- ROBUST ENVIRONMENTAL STANDARDS -

- Responsible resource development and protecting the environment go hand in hand
- ***We all must be leaders in this regard***
- In Alaska, our efforts to protect the environment and wildlife have been successful. For example:
 - When debating the development of the Trans-Alaska Pipeline System (TAPS), many predicted that oil and gas development would decimate caribou herds
 - These predictions have not come true
 - In fact, caribou have thrived over the past 35 years. The Central Arctic caribou herd, which occupies summer ranges surrounding Prudhoe Bay—the largest oil field in North America—has grown from 5,000 in 1975 to over 66,000 today

Because of efforts taken by federal, state, and local governments and the energy industry, oil and gas development in Alaska is conducted in a safe and responsible manner with standards that exceed most other jurisdictions in the world.



RESPONSIBLE RESOURCE DEVELOPMENT

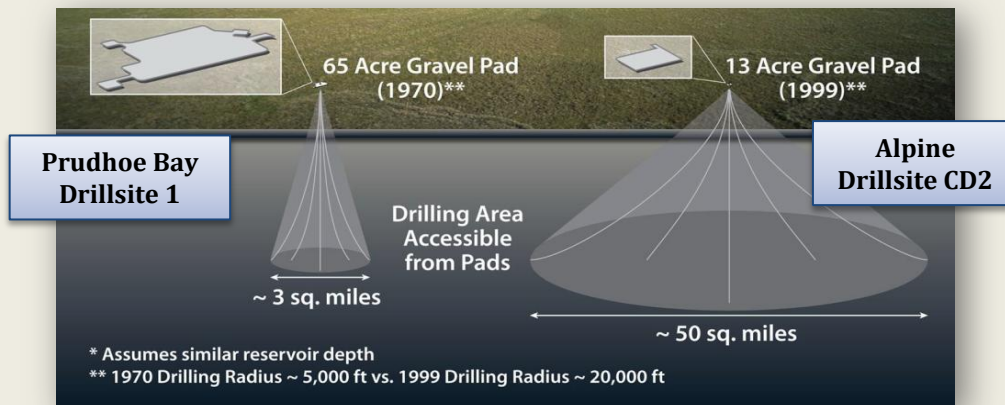
- ROBUST ENVIRONMENTAL STANDARDS -

- Oil and gas development in Alaska is conducted in a safe and responsible manner with some of the most stringent standards in the world
 - “No impact exploration”
 - No operations can be conducted within one mile of polar bear dens
 - The state will not lease acreage in sensitive areas
 - The state encourages the unitization of leases
 - Whenever possible, onshore pipelines are buried to minimize impacts on wildlife – if pipelines are built above ground, they are elevated so caribou can migrate
 - Alaska mandates that operators use the best available technology for oil discharge containment, storage, transfer, and cleanup
 - Nearly 50 years of operations in Cook Inlet have coexisted with world-class fisheries



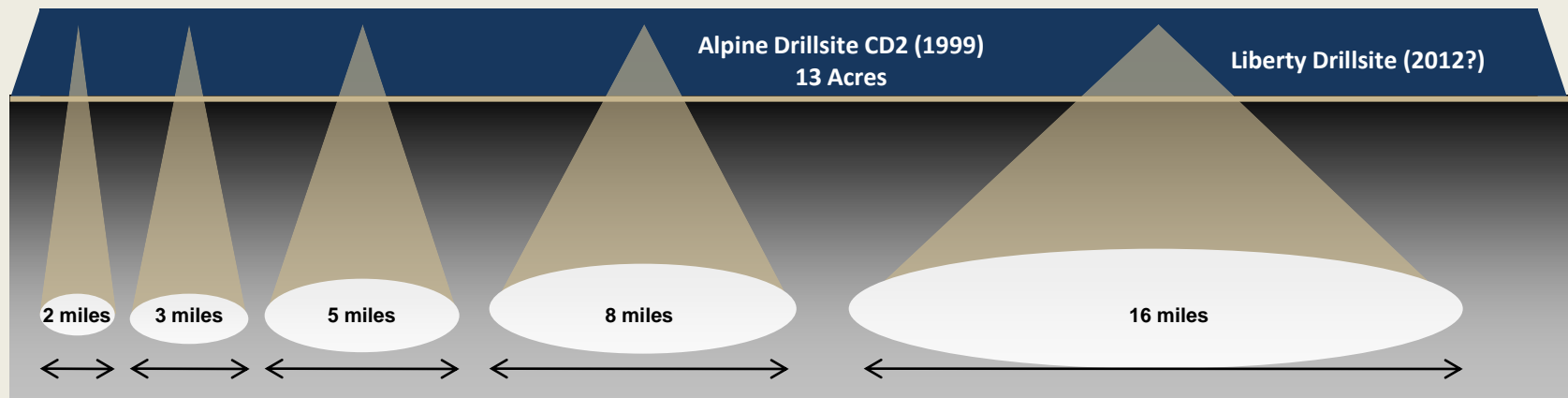
ROBUST ENVIRONMENTAL STANDARDS

- ADVANCES IN EXPLORATION & DRILLING TECHNOLOGY -



- In 30 years, surface footprint requirements have been dramatically reduced. At the Alpine field, 54 wells have been drilled from one 13-acre pad
- Wells can also reach a much larger radius – from 3 sq. miles in 1970 to 50 sq. miles in 1999 and, perhaps, 100 sq. miles in 2012
- If a rig was set at the U.S. Capital Building, the wells could extend out to Andrews Air Force Base in the southeast, Silver Spring to the north, and well into Fairfax County to the west

Prudhoe Bay Drillsite 1 (1970)	Kuparuk Drillsite 2B (1980)	Kuparuk Drillsite 3H (1985)
65 Acres	24 Acres	11 Acres



ALASKA'S ALL-INCLUSIVE ENERGY APPROACH

The State of Alaska has set a goal to have 50% of the state's electrical power come from clean and renewable sources by 2025.



Alaska's Energy Efficiency Programs

- Since 2008, the State has appropriated more than \$460 million for home energy efficiency rebates
- The program has produced an average 33.3% improvement in home energy efficiency with over 21,500 Alaskans participating in the program
- The state also provides a \$7,500 rebate to homeowners who finance a new home that is rated 5 Star +
- The Alaska Legislature has mandated that 25% of the state's public buildings be energy retrofitted by 2020 and created \$250 million revolving loan fund to finance that work

Alaska's Renewable Energy Fund

- The Alaska Legislature has created a renewable energy fund to help foster renewable energy projects throughout the state and appropriated over \$150 million for 133 renewable energy projects

Renewable Energy Projects

- Today, hydropower provides 21% of statewide electrical power and the state is supporting a new hydro-electric project that will be able to provide for nearly 50% of power for the majority Alaska's population
- Wind turbines have been installed in communities throughout Alaska, decreasing reliance on diesel for energy; some of these projects have nearly displaced reliance on diesel fuel – Kodiak wind farm has displaced ~ 930,000 gallons of diesel per year
- Wood fired boilers have been installed in rural communities and significantly reduce diesel fuel consumption
- Anchorage groups are converting waste fry oil into fuels for heating and transportation; producing over 250,000 gallons annually

PART V

Promoting Responsible Resource Development

WORKING TOGETHER *to* PROMOTE RESPONSIBLE RESOURCE DEVELOPMENT

- Alaska remains a world-class resource basin that is relatively underexplored
- Alaska has both conventional and unconventional resource opportunities
- State of Alaska has developed—and is implementing—comprehensive strategies to increase exploration and development, enhance the investment climate, reform and modernize our permitting processes, and commercialize natural gas resources
- There is significant oil and gas in Alaska, but it only scratches the surface of our state's potential and investment opportunities here



WORKING TOGETHER *to* PROMOTE RESPONSIBLE RESOURCE DEVELOPMENT

- **Advocacy efforts are continuing**
 - LNG Producer/Consumer Conference, Tokyo, Japan, September 19
- **Partnerships—it is important that we all work together**
 - Examples: DNR/NSB MOU, Point Thomson, Shell
- **Check out our presentations online at**
http://dnr.alaska.gov/commis/dnr_newsroom.htm

