

***Shale gas
and energy legislation
can be our friends***



Alaska State Chamber of Commerce

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Find the best market

- Pipeline from Alaska to North America would feed into the largest natural gas market in the world
- North America consumes 75 to 80 bcf per day
- Pipeline grid can move Alaska gas from California to New York, and every other state in between
- North America market is three times the size of China, India, Japan, South Korea and Taiwan natural gas markets combined
- In-state delivery is part of the deal for Alaskans

LNG market is tough

- Australia, Indonesia, Russia, Malaysia, Brunei, Papua New Guinea, Qatar, Oman, Yemen, United Arab Emirates, Egypt, Algeria, Nigeria, Trinidad, Peru and Norway
- All operating or building LNG export projects
- Projects totaling 16 bcf/d 2009-2015 in Asia alone
- Floating LNG too; Shell's multibillion-dollar order with Samsung to access smaller Australia fields
- Floating LNG for Indonesia, Papua New Guinea, too

Australia wants to be No. 1

- ❑ \$50 billion in LNG projects under construction
- ❑ \$50 billion more in projects will be ready for investment decisions by next year
- ❑ Shell, Chevron, ExxonMobil, ConocoPhillips, Hess, Total, Apache, Woodside and others are spending serious money in Australia
- ❑ Shell alone looking at \$50 billion this decade
- ❑ Nothing in Australia needs 800-mile Arctic pipeline

Shale on the march in U.S.

- ❑ Shale gas production close to 10% of U.S. supply
- ❑ Growing rapidly across the U.S. and Canada
- ❑ Horizontal drilling efficiency improves each year
- ❑ CERA: “Nobody drills a dry hole in a shale play. If they did, they’re not very good.”
- ❑ Close to markets; easy to adjust production
- ❑ The truth is, much of shale goes toward replacing declining production from conventional gas wells

Shale Gas Plays, Lower 48 States



Source: Energy Information Administration based on data from various published studies.
 Updated: March 10, 2010

Shale has its problems

- ❑ Fracking becoming about as popular as an oil spill
- ❑ EPA review under way; possible federal legislation
- ❑ More questions as it moves closer to urban areas
- ❑ States not waiting; considering their own laws
- ❑ Moratoriums, restrictions, zoning, TV documentaries
- ❑ An environmental disaster could change the game
- ❑ Shale also needs tens of billions of dollars
of new pipelines and water treatment plants

And more problems

- Hydraulic fracturing for shale gas requires 3 million to 5 million gallons of water per well
- EPA technical lead on fracking study:
“Where is that water coming from?”
- Produced water disposal is another issue
- Treatment costs? Disposal costs? Recycling costs?
- American Public Power Association:
“Environmental costs always go up.”

Shale is Alaska's friend

- Shale could help by eliminating price spikes and getting utilities to think gas for the long term
- Worldwatch Institute: “Price volatility remains the Achilles’ heel of natural gas.”
- No utility can afford repeat of \$14 price spikes
- Utility president: “Building a 1,000-megawatt, gas-fired plant doesn't make sense if you can't be sure what your fuel costs will be.”
- Shale makes utilities feel more comfortable with gas

Utilities are thinking gas

- Growth in electrical power plant demand essential
- American Public Power Association: Clean Air Act is pushing utilities to decide which plants survive
- The future is natural gas, not coal, for new plants
- TVA, Calpine, Xcel Energy, Constellation Energy, Progress Energy planning new gas-fired plants
- Colorado's Xcel: Gas will cost \$1.3 billion, but \$225 million less than upgrading coal plants

Demand growth is key

- Electrical demand grew from 14 billion cubic feet per day in 2000 to 19 bcf per day in 2009
- CERA: Electrical utility demand for gas could almost double 2009 - 2030; additional 16 bcf/day
- Interstate Natural Gas Association of America:
Replacing half of oldest, least-efficient coal plants would require 5.5 bcf of gas per day
- It's not taking from coal, but going after new plants and replacement of older, costlier coal plants

Energy legislation can help

- Anything that helps drive the nation to clean-burning natural gas is good for gas producers, gas pipelines, Alaska's treasury, Alaska workers
- Shale gas producers, coal-fired power plants, LNG regas plants, other pipelines will all have to deal with the same new laws and costs
- There are a lot of options for reasonable legislation
- But an energy bill must be fair to natural gas

It really can help

- Utilities see new laws coming, but don't know when
- They are factoring it into investment decisions now
- Energy legislation also could help promote compressed natural gas-fueled vehicles
- The Anchorage Assembly resolution:
“Efforts to reduce pollution and to promote cleaner energy sources will increase demand for natural gas and help create favorable conditions for bringing Alaska's gas to market.”

It's not easy, but it's possible

- Wood Mackenzie: “Whether the project proceeds ... depends on if the producers and the state can reach agreement on the applicable tax terms and, ultimately, what the producers believe to be the long-term value of natural gas in the North American marketplace.”
- At some point everyone needs to sit down and talk
- Alaska needs the gas line to help replace declining oil revenues and spur North Slope development

Thank you

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