



# SUMMARY OF THE 2006 SOUTHCENTRAL ENERGY FORUM

SPONSORED BY ALASKA OIL AND GAS CONSERVATION COMMISSION

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## WHY WAS THERE AN ENERGY FORUM?

Nearly 70% of Alaskans rely on relatively inexpensive natural gas from Cook Inlet. That gas heats homes and businesses, generates electricity, and fuels industrial processes.

Cook Inlet gas benefits the state economy not only because it provides inexpensive energy for homes and businesses but also because industrial uses of the gas create jobs and add to the local tax base. More than half the gas currently being produced is either processed and exported as liquefied natural gas (LNG) or used to create fertilizer for export.

But growing demand has depleted 80% of the known Cook Inlet gas reserves. Many Alaskans are concerned about where Southcentral Alaska will get affordable energy in the future.

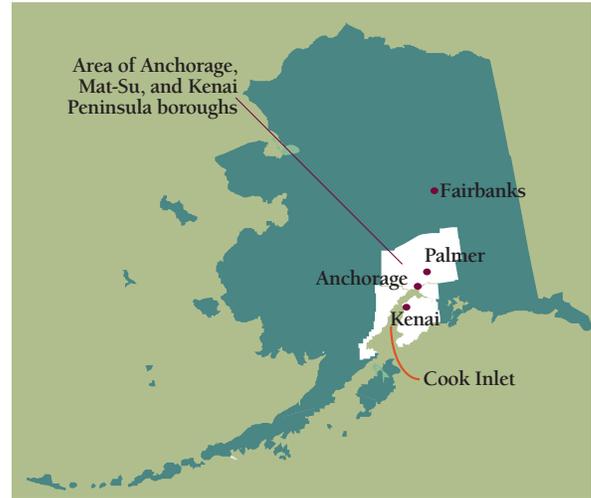
There are big unknowns. Will the Cook Inlet producers look for more gas? When will a natural gas pipeline from the North Slope be built, and will there be a spur line to bring gas to Southcentral? What will future industrial demand be? Will alternative energy sources help offset demand for gas?

In September 2006, the Alaska Oil and Gas Conservation Commission brought community leaders, gas producers, large consumers, geologists, engineers, economists, and the general public together at a two-day forum in Anchorage to talk about the problem and propose solutions for meeting the region's future energy needs.

The commission asked the Institute of Social and Economic Research (ISER) at the University of Alaska Anchorage to summarize forum proceedings. The information presented here is not a product of ISER research. It is a summary of statements, opinions, and projections of those attending the forum.

## WHY IS THIS GAS "INEXPENSIVE"?

"Inexpensive" natural gas from Cook Inlet means relative to prices of gas in the rest of the country and to prices of other energy sources in Alaska. The price residential customers pay for Cook Inlet gas has more than doubled since 1996—but it remains 30% to 50% below prices in other states, according to ENSTAR Natural Gas Company. It's also far cheaper than the diesel Alaskans without access to natural gas rely on.



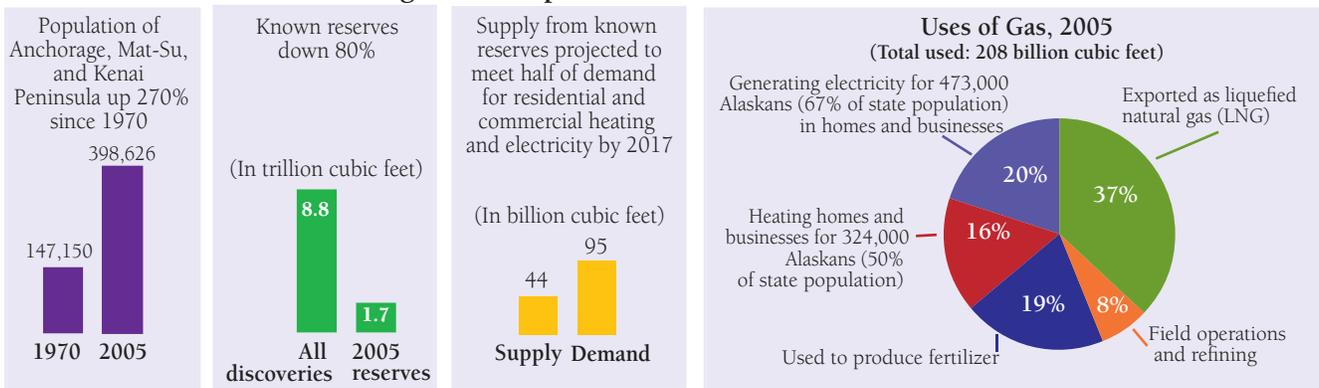
The price of Cook Inlet gas has historically been low because oil companies incidentally found trillions of cubic feet in the 1950s and 1960s, while they were looking for oil. The absence of a ready market for that gas provided Alaskans with a much less expensive energy source, compared with oil, and it made some industrial development possible.

## WHO ARE CONSUMERS AND HOW DO THEY USE GAS?

Most of the consumers are in Anchorage and the Kenai Peninsula and Mat-Su boroughs—where more than 60% of all Alaskans live (see map). That regional population has almost tripled since 1970. Communities along the railbelt north to Fairbanks also use electricity generated by Cook Inlet gas, and some gas is super-chilled to a liquid form so it can be trucked to Fairbanks.

The biggest current uses of Cook Inlet gas are industrial—37% is liquefied and exported and another 19% is used to produce fertilizer for export. Heating homes and businesses in Southcentral Alaska takes about 16% of production, and another 20% is used to generate electricity throughout Southcentral and into the Interior. The remaining 8% is used for oil and gas field operations and refining oil.

Figure 1. Snapshot of Cook Inlet Natural Gas



Sources: Alaska Department of Labor; Alaska Division of Oil and Gas; Science Applications International Corporation

## HOW DOES COOK INLET GAS GET TO CONSUMERS?

Current gas producers in Cook Inlet include Chevron, Marathon Oil, Conoco Phillips, and others. Most, but not all, the gas for heating goes through ENSTAR Natural Gas Company, a major public utility in Alaska and a subsidiary of Semco Energy, headquartered in Michigan. The producers themselves also market a small amount of gas directly to consumers.

ENSTAR is regulated by the Regulatory Commission of Alaska (RCA). ENSTAR and the producers negotiate, with RCA oversight, future prices and conditions for gas delivery from the producing fields to the consumer. The RCA must approve rates ENSTAR proposes to charge consumers.

ENSTAR supplies gas to about 325,000 commercial and residential users and also delivers gas to electric utilities. It has about 3,000 miles of distribution and transmission mains.

Municipal Light and Power and Chugach Electric Association are electric utilities also regulated by the RCA. They generate electricity almost entirely with gas. Together they serve about 473,000 residential and commercial customers from Southcentral into the Interior, either directly or through sales to other electric utilities.

## WHY WORRY?

With the reserves declining, it's become harder to deliver gas to consumers as they need it, on a daily basis. Assuming no new investments in exploration or development, that problem is expected to worsen, especially in the winter. Consultants to the U.S. Department of Energy and others have projected the future demand for and supply of Cook Inlet gas.

The assumptions used in individual studies vary somewhat, but they all show the same general result: that the demand for Cook Inlet gas will soon exceed the current supply, even if industrial uses drop sharply.

Projections by Science Applications International Corporation (Figure 2), a consultant to the U.S. Department of Energy, are based on specific assumptions that other analysts may disagree with. Those include:

- Assumption: that the Agrium fertilizer plant will cease operating in the near future. Agrium hasn't run at full capacity since 2001, and it recently announced it will shut down during peak use winter months. Agrium has identified high gas prices as the main reason for the cutbacks—but high prices are related to short supply. (Agrium is, however, investigating alternatives to gas; see page 7.)
- Assumption: that the federal Office of Fossil Energy in the U.S. Department of Energy will not renew the export license for the LNG facility, which expires in 2009. To have the license renewed, the operator has to show that exporting LNG will not jeopardize local gas supplies.
- Assumptions: that a spur pipeline to carry North Slope natural gas to the Southcentral region will be built by 2015 and that most of the future demand will be residential and commercial, including the proposed Pebble mine in southwest Alaska.
- Assumption: that some industrial uses might be feasible, but that the cost of North Slope natural gas will make the current methane-intensive industrial uses (like producing fertilizer) uneconomic.

The projected decline in gas supply is essentially based on known reserves. Economists would argue that as supply shrinks, prices rise—and that rising prices would ultimately cause the producers to look for more gas. (But in the largely regulated Cook Inlet market, that might not happen).

## IS THERE MORE UNDISCOVERED GAS?

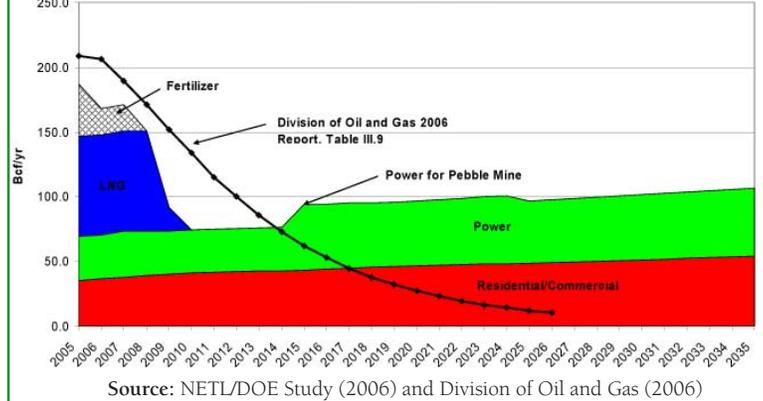
In the 1950s and 1960s, oil companies drilled as many as 30 wells a year in Cook Inlet (Figure 3). They were looking for oil—and found oil as well as trillions of cubic feet of natural gas. Those gas reserves, large enough to last for many years, left no need to look for more.

Then, in the late 1960s, world-class oil reserves were discovered at Prudhoe Bay, on the North Slope, and the petroleum industry's focus shifted away from Cook Inlet. The last commercial gas discovery in Cook Inlet was in 1979 and the last major oil discovery in 1991.

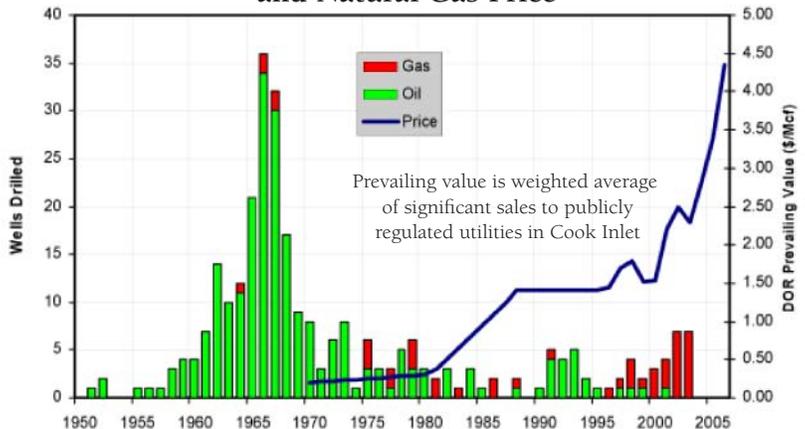
Net gas production—that is, production beyond what the producers re-injected to increase oil recovery—peaked in 1996 at 223 billion cubic feet. By 2005, net production had dropped to 208 billion cubic feet.

Many geologists think Cook Inlet basin is under-explored, compared with other gas exploration regions. Speakers at the forum said analysis of the distribution of field sizes in the basin suggests there may be large undiscovered fields remaining.

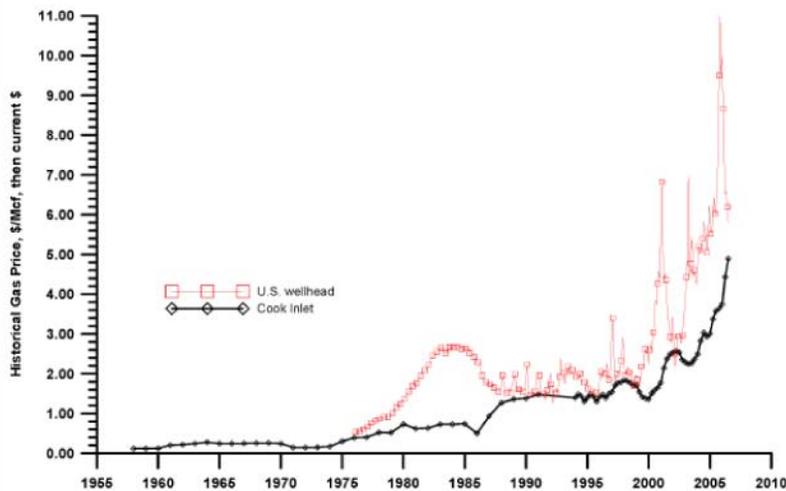
**Figure 2 . Projected Supply of and Demand for Cook Inlet Gas**



**Figure 3. Exploration Wells Drilled in Cook Inlet and Natural Gas Price**



**Figure 4. U.S. and Cook Inlet Natural Gas Price**  
(Wellhead Price per Thousand Cubic Feet, In Current Dollars)



Source: Alaska Department of Revenue and EIA

But no one is certain how much gas may be left in the basin, because few exploratory gas wells have been drilled there since the 1970s. Data from the Alaska Department of Revenue show that the bulk of the 240 exploration wells drilled in Cook Inlet since 1955 have been for oil. Only in the last five years has there been any focus on locating more natural gas—and that increased exploration coincides with rising gas prices (Figure 3).

The Alaska Department of Natural Resources estimates that 8.8 trillion cubic feet of gas have been found in Cook Inlet basin to date, with 7.1 already produced and 1.7 remaining. The U.S. Department of Energy estimates potential undiscovered natural gas reserves at between 13 and 17 trillion cubic feet. Other estimates are lower, with no analysis conclusively showing where new fields may be located. Whatever the remaining reserves, the level of future exploration will depend on gas prices.

**HOW HAVE PRICES CHANGED?**

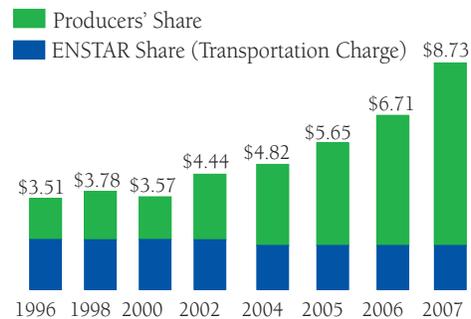
As the supply dwindles, the price of Cook Inlet gas has increased rapidly—although not as rapidly as elsewhere in the nation (Figure 4).

The price residential customers pay for Cook Inlet gas roughly doubled between 1996 and 2006, and it will increase another 30% in 2007 (Figure 5).

But that price includes both what the oil companies get for producing the gas and what ENSTAR charges for transporting it to customers.

ENSTAR is a regulated utility, and it reports charging about the same (per thousand cubic feet) to transport gas today as in 1996. Virtually all the recent increase in the price to residential customers has gone to the producers.

**Figure 5. Residential Natural Gas Price**  
(Per Thousand Cubic Feet)



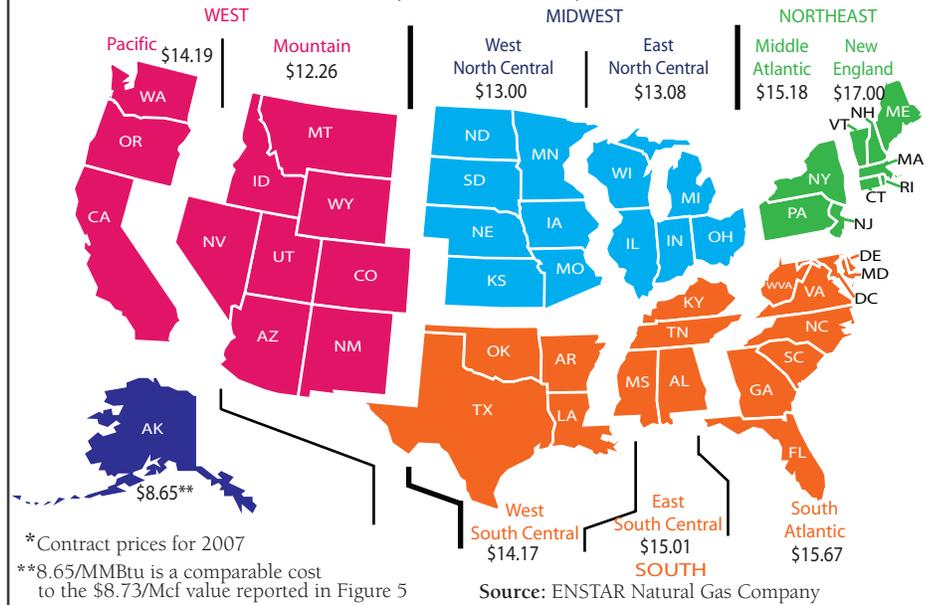
Source: ENSTAR Natural Gas Company

ENSTAR also reports that despite sharp increases in what Alaskans pay for natural gas, they still pay about 30% to 50% less than other Americans.

Figure 6 compares 2007 contract prices for residential customers nationwide. In 2007 Alaskans will pay \$8.65 per million Btus (British thermal unit, a standard energy measurement). Customers in the mountain states and the north-central states will pay \$12 to \$13. The highest natural gas prices will be in the mid-Atlantic, south-Atlantic, and New England states, where prices are expected to be nearly double the Alaska price.

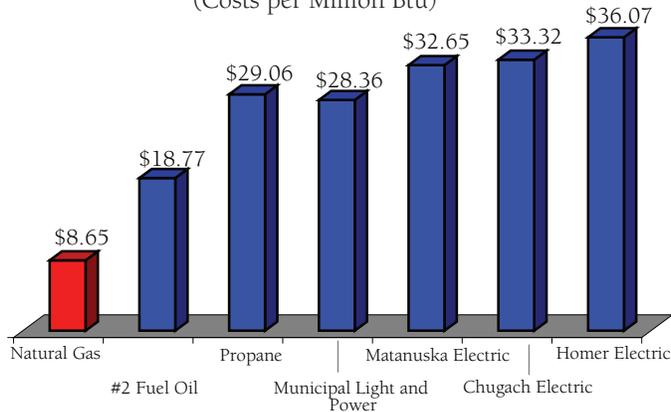
Natural gas is also much less expensive than alternative ways of heating homes and businesses in Alaska. Figure 7, provided by ENSTAR, shows that natural gas for heating is about one-quarter to one-half the price of diesel, propane, or electricity, as measured by energy content.

**Figure 6. Prices of Natural Gas for Residential Customers, 2007\***  
(Per Million Btu)



**Figure 7. Comparing Current Costs of Home Heating Sources for Southcentral Alaska**

(Costs per Million Btu)



Source: ENSTAR Natural Gas Company

As for the electric utilities using Cook Inlet gas, Municipal Light and Power is not actively seeking new gas contracts now—because it owns part of a Cook Inlet gas field estimated to meet its demand for the next 10 to 15 years. Chugach Electric Association has sufficient gas under contract to meet demand only until 2011.

**WHERE IS THE PRICE HEADED?**

As Figure 8 shows, the Alaska Division of Oil and Gas forecasts that the price of Cook Inlet gas will increase until 2008 and then drop, staying in the range of \$6 per thousand cubic feet through 2016. (This forecast takes into account the recent ruling by the RCA.)

Figure 9 shows the division's estimates of the potential range of future demand from residential and commercial consumers, at higher or lower gas prices. The higher the price, the less consumption increases.

**WHAT DETERMINES PRICE?**

The price residential customers pay for Cook Inlet gas is actually the average of various prices in several contracts ENSTAR currently has with the producers. The contracts were all negotiated separately, and each has its own terms that can influence price.

In some contracts, for instance, the gas price is linked to oil prices. In two of the most recent contracts, Cook Inlet gas prices are linked to gas prices at what is known as the Henry Hub. That hub is in Louisiana, near where gas supplies from the Gulf of Mexico arrive. It is the pricing point for natural gas futures contracts traded on the New York Mercantile Exchange.

Increasingly, gas contracts in the U.S. are being set in relation to the Henry Hub benchmark price, with transportation and other charges added to that base to determine local prices.

Some analysts believe linking Cook Inlet prices to that hub will stimulate exploration, by raising those prices closer to the U.S. average.

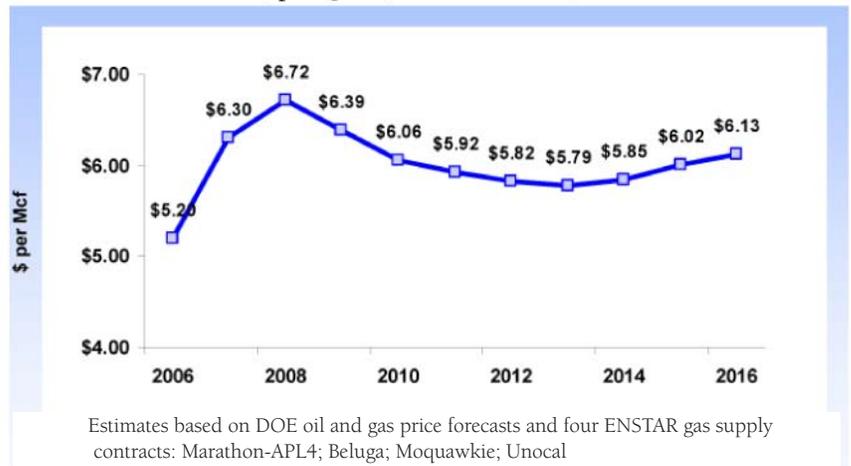
However, application of Henry Hub prices to Cook Inlet gas has been controversial, and the RCA recently rejected a proposed new contract between ENSTAR and Marathon Oil Company, benchmarking a portion of ENSTAR's future purchases of Cook Inlet gas to that hub.

The RCA found that “responsibility for paying gas prices that encourage new gas exploration and production should not rest exclusively with gas ratepayers.”

ENSTAR is now in the process of renegotiating that contract with Marathon, which—if successful—would give it enough gas to meet its projected requirements through 2017. Today the utility has enough gas contracted only through 2008.

**Figure 8. Projected Price of Natural Gas**

(Price per Thousand Cubic Feet)

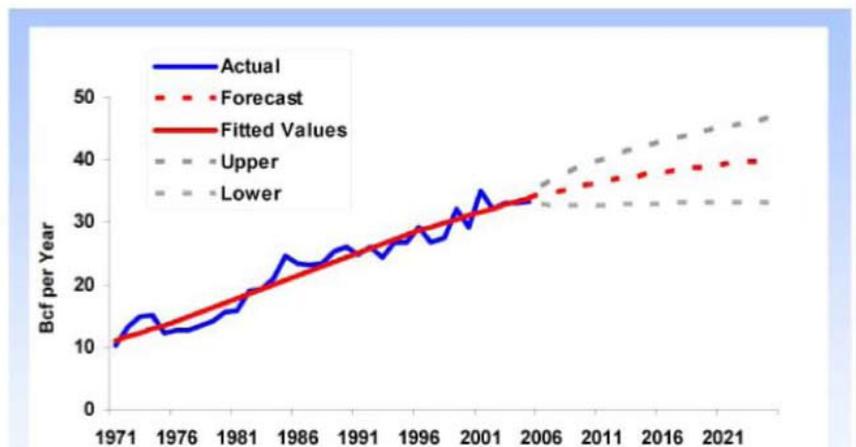


Estimates based on DOE oil and gas price forecasts and four ENSTAR gas supply contracts: Marathon-APL4; Beluga; Moquawkie; Unocal

Source: Alaska Division of Oil and Gas

**Figure 9. Projected Residential And Commercial Demand for Cook Inlet Gas**

(In Billions of Cubic Feet per Year)



Source: Alaska Division of Oil and Gas

These forecasts are based on the best current information—but it is difficult to predict future costs of natural gas, because all public gas and electric utility contracts are subject to approval by the RCA.

**WHAT IS THE CURRENT SITUATION?**

The Alaska Division of Oil and Gas reports that with gas reserves shrinking, increased residential and commercial consumption in the winter has occasionally outstripped the system’s capacity to deliver. Figure 10 shows the sharp winter increases in demand for Cook Inlet gas. Spokesmen for the division say that if no new reserves are added, the number of days when peak demand exceeds the system’s capacity will increase as time goes on.

Current industrial users—the Agrium and LNG plants and oil and gas field operations—consume almost two-thirds of the gas produced in Cook Inlet. (See Figure 1). Industry representatives at the forum said that industrial demand for gas is driven by export markets and depends on the availability of cheap gas to use in industrial processes.

The fertilizer plant has not run at full capacity since 2001. With the price of gas rising and supplies uncertain, Agrium reported at the forum that it is now making only year-to-year contracts for Cook Inlet natural gas. It is looking for long-term solutions—like coal gasification—to replace Cook Inlet gas.

The other big industrial user is the LNG plant at Nikiski, which currently uses more than a third of the gas produced. However, the plant needs approval from the federal Office of Fossil Energy to export LNG, and its current export license will expire in early 2009. (As of late 2006, no application to renew had been filed.)

To renew the license, the company needs to show that it is in the public interest to extend the contract and that exporting LNG would not jeopardize gas supplies for local consumers. Demonstrating that will become increasingly difficult as the supply of Cook Inlet gas declines.

However, representatives of the producers said at the forum that the loss of these big industrial users would reduce their incentive to explore and, consequently, hurt long-term stability of the supply of Cook Inlet gas

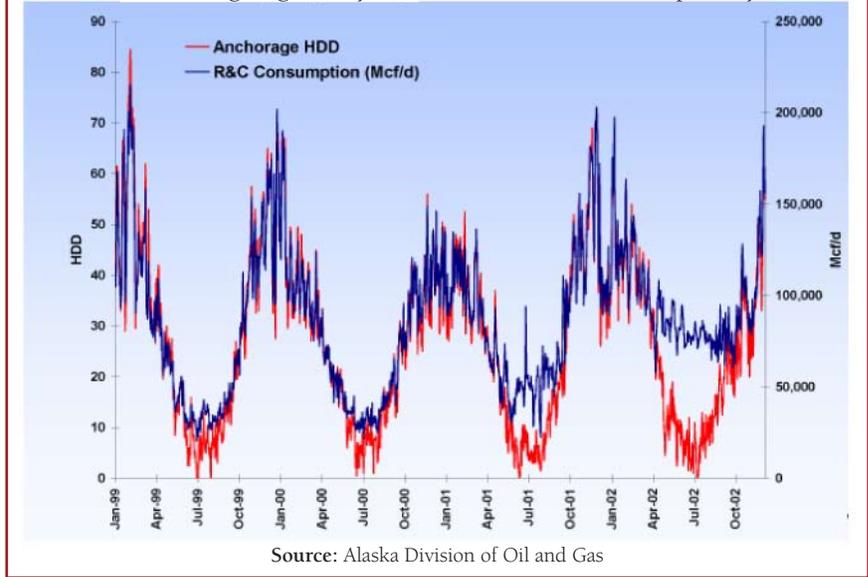
**WHAT ARE SHORT-TERM SOLUTIONS?**

One short-term way of meeting peak utility demand is temporarily storing gas. Since 2001, producers in Cook Inlet have stored their own gas underground in depleted reservoirs, to help meet utility demand.

To date the federal Bureau of Land Management has approved three gas storage agreements with Chevron at the Swanson River field; two of those are currently storing and delivering gas. The Alaska Department of Natural Resources and the Alaska Oil and Gas Conservation Commission have approved

**Figure 10. Seasonal Residential and Commercial Demand for Cook Inlet Gas, 1999-2002**

(In Heating Degree Days and Millions of Cubic Feet per Day)



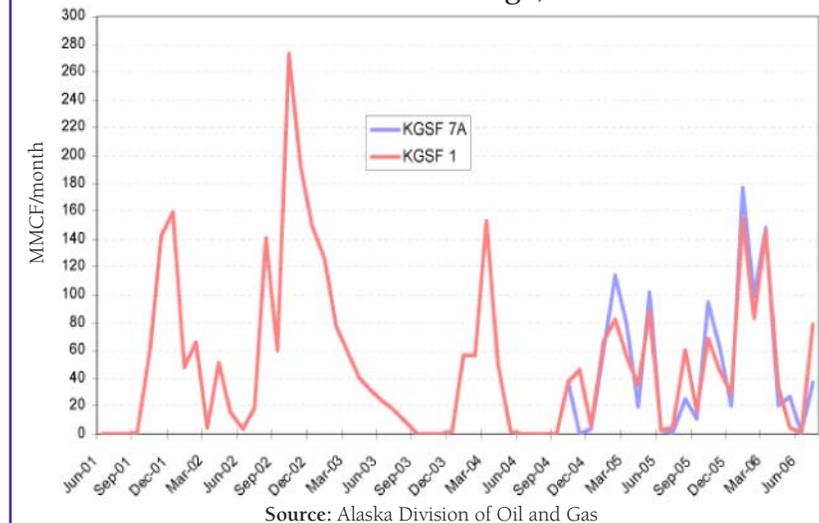
two gas storage leases for active facilities at Chevron’s Pretty Creek field and Marathon’s Kenai field.

Figure 11 shows how draw-downs for utility demand from the storage facilities at the Swanson River field vary with the season, spiking in the winter.

Another way of easing short-term supply problems is interruptible contracts (allowing producers to curtail sales when demand is high). Agrium’s fertilizer plant uses them to accommodate winter shutdowns. Also, as long as the LNG plant is operating, it can continue its historical role of providing “swing” gas that can be diverted to consumers when needed.

But industry speakers said at the forum that in the long run better solutions are needed—encouraging more exploration in Cook Inlet; bringing gas in from elsewhere (North Slope gas or imported LNG); or examining the feasibility of alternatives to natural gas—ranging from coal to tidal power.

**Figure 11. Seasonal Draw-Downs for Utility Demand from Cook Inlet Storage, 2001-2006**



## WHY ISN'T THERE MORE EXPLORATION?

There is some ongoing exploration in Cook Inlet basin. A number of both established and new companies are looking for oil and gas in the basin, according to petroleum industry presenters at the forum. Chevron, Marathon Oil, Aurora Gas, Forest Oil, and Conoco Phillips are among the Cook Inlet producers exploring for oil or gas.

Chevron reported in late 2006 that it has found about 150 billion cubic feet of gas since 2000, and that Chevron and its partner companies expect to spend \$300 to \$350 million for exploration and capital projects in Cook Inlet over the next several years.

Newer companies include Benchmark Oil and Gas, which is focusing on Upper Cook Inlet; Pioneer Natural Resources, which has one oil-producing project in Southcentral; and Rutter and Wilbanks, which is operating three projects: the Copper River project (gas), the Northern Lights project (oil), and the onshore Eagle/West Eagle project (oil and gas). Renaissance Resources and Stormcat Energy are also involved in exploration of undeveloped areas.

Many of the smaller companies are staying onshore, according to industry spokesmen, and all companies are affected by the higher costs of exploration in Alaska and the lower price of gas, compared with other areas of the country.

The number of exploratory wells in the past few years falls far short of the numbers in the 1960s, despite rising prices. At the forum, representatives of the gas producers said the price still hasn't offset the high costs of doing business in the inlet. The U.S. Department of Energy estimates the cost of identifying and developing just half the reserves it believes may remain in the inlet (13 to 17 trillion cubic feet) at more than \$5 billion, in current dollars.

Figure 12 shows the U.S. Minerals Management Service's estimate of how much the supply of Cook Inlet gas would increase, at different wholesale prices for that gas. MMS estimates that at a price of \$4.50 per thousand cubic feet, the additional supply might be 0.64 trillion cubic feet. But at double that price, the additional new supply would also nearly double—because the oil companies would have more incentive to explore.

The Cook Inlet producers also argue that they need more access to prospective fields. The producers estimate that between 30% and 50% of the prime exploration areas have restricted access or are entirely off limits, because they fall within protected areas of federal or state conservation units.

Industry spokesmen and representatives of the Minerals Management Service identified other things hindering large-scale exploration in Cook Inlet. Those include aging platforms, lack of a jack-up rig, regulatory matters—including gas well spacing and bonding requirements—and a general lack of 3-D seismic data of the basin. They say that these problems, as well as company reorganizations and the limited sale area in 1997, continue to hinder exploration.

The next Cook Inlet Special Interest lease sales are scheduled for 2009 and 2011.

**Figure 12. Estimated Effects of Price on Additional Cook Inlet Gas Supply**



## WHAT ABOUT TAX INCENTIVES?

In 2006 the Alaska Legislature passed the Petroleum Production Tax (PPT), a major revision in the state's method of taxing oil and gas production. Among other things, the new PPT is intended to encourage more investment in oil and gas exploration.

The PPT operates differently on the North Slope and in Cook Inlet. It caps per-unit tax liability for Cook Inlet producers at the level of the old production tax system, during the year before the PPT was passed in April 2006. This means that even if the price of gas or production rises, Cook Inlet producers—current and future—will never pay more than the average per-unit tax rate in April 2006.

In essence, the PPT will not just limit or lower taxes in Cook Inlet—it *should also encourage new exploration and production*. Because the PPT is so new, it's too early to say what effect it might have on future gas supplies.

## WHAT ARE THE ALTERNATIVES?

What about finding other energy sources or reducing consumption as a means of dealing with falling gas reserves? At the forum Dunmire Consulting discussed alternatives for increasing gas supplies from outside Cook Inlet, reducing consumption, and replacing gas with other sources.

The Dunmire analysis was funded by the Alaska Natural Gas Development Authority, which is a state corporation approved by Alaska voters in 2002 to promote construction of a natural gas pipeline from the North Slope. ANGDA has so far concentrated on plans for some sort of pipeline—either a spur from a main pipeline or a pipeline directly from the North Slope to Southcentral Alaska—to supply in-state consumers with North Slope gas.

Below we just report the alternatives Dunmire Consulting identified. Their order below doesn't indicate feasibility or the length of time they would take to develop, if they were feasible. Some could help ease potential gas shortages relatively soon, but many would have long lead times and uncertain capital costs.

- **Conservation.** If Alaskans conserved more natural gas and electricity, they could save anywhere from 3.0 to 7.5 billion cubic feet of gas a year, according to estimates of Dunmire Consulting. Conservation measures include things like upgrading residential and commercial appliances and improving weatherization of houses and businesses. Some analysts believe Alaskans won't conserve more unless the prices of residential and commercial heat and electricity increase more than they already have.

- **North Slope Gas.** A major uncertainty affecting the future of Cook Inlet gas development is when North Slope gas might be available to Southcentral consumers. That uncertainty makes it more complicated for Cook Inlet producers to decide how much to invest in exploration and development in Cook Inlet and for utilities and other consumers to decide about investing in gas-using equipment.

The North Slope has very large known reserves of natural gas. The North Slope oil producers have said they support construction of a pipeline to carry natural gas to world markets—although by the end of 2006 they hadn't actually committed to building a pipeline.

But at some future time, Southcentral consumers could get North Slope gas either through a spur line from a main pipeline or through a direct bullet line—that is, a pipeline direct from the North Slope to Southcentral. A pipeline bringing North Slope gas to Southcentral could also be enriched with hydrocarbons, to make certain kinds of industrial development feasible.

- **Coal Gasification.** Agrium is investigating a proposal to substitute synthetic gas from coal for natural gas from Cook Inlet. The proposed Project Blue Sky would take coal from Healy in the Interior south by rail, transfer it to barge, and ship it to a coal gasification plant on the Kenai Peninsula. The synthetic gas would be used to produce fertilizer and could also add electricity to the Southcentral power grid.

Proponents say coal gasification allows for efficient capture of concentrated streams of carbon dioxide (CO<sub>2</sub>), virtually eliminating emissions of this greenhouse gas. The captured CO<sub>2</sub> could then be used for advanced oil recovery. It's estimated that 13 Cook Inlet oil fields might produce an additional 300 million barrels, through enhanced oil recovery using CO<sub>2</sub>.

- **Other Potential Sources of Gas in Southcentral.** The Bristol Bay area and Alaska Peninsula have been estimated to hold anywhere from 7 to 23 trillion cubic feet of gas and the Nenana Basin 3 to 10. It's beyond the scope of this paper to describe how this gas could be brought to market.

- **Import LNG.** Southcentral Alaska could import LNG via the Kenai LNG plant, if the plant were modified to import rather than export LNG. This option would not have as long a lead time as some other alternatives and it would ensure ample supply—but Alaskans would be exposed to world market prices (which are significantly higher than current local prices). A big consideration in the feasibility of this option would be the capital costs of modifying the LNG plant.

- **Coal-Bed Methane.** Coal-bed methane is a form of natural gas that has been identified in the Susitna Basin north of Anchorage. However, the economic potential of coal-bed natural gas has not been established, and its development in Alaska has been controversial.

- **Coal.** Alaska has abundant sources of coal. An objection to coal is that it has higher CO<sub>2</sub> emissions than other energy sources. But the state government sponsored construction of a clean-coal plant at Healy, to help generate electricity. That plant has yet to be operated, because the utility originally planning to use the coal decided not to—but there are now plans to start it up, possibly within the next 18 months. It could offset some demand for gas to generate electricity. Additional coal supplies could further reduce natural gas use for electricity but at a high capital cost.

- **Wind Power.** With support from Chugach Electric, Municipal Light and Power, and others, the Fire Island Wind project is underway, with preliminary permitting and feasibility to be completed by 2011. This project would involve construction of wind turbines on Fire Island, just offshore from Anchorage. The turbines would be able to supply electricity to the Southcentral power grid and help offset demand for natural gas. However, there is uncertainty about how the wind turbines might affect air traffic at Anchorage's nearby international airport.

- **Hydropower.** Chugach Electric already uses hydropower to a small extent. Proponents say use of this renewable resource has relatively few effects on land and water systems. But further development of hydropower in this region would require a long lead time for licensing and a significant amount of capital for plant development.

- **Nuclear Power.** A small-scale nuclear "demonstration project" is being proposed for the community of Galena along the Yukon River. It would start up in 2012. Power from this facility, if it were built, would not be available for Southcentral. However, if it were successful it could promote more local interest in this abundant but controversial source of energy. Problems with nuclear power include long-term land use, the risk of accidents, and nuclear waste storage.

- **Tidal Power.** A demonstration project of tidal power in Knik Arm is scheduled to be under construction by 2015. Tidal power is a renewable resource—but it might affect aquatic life and boat traffic.

- **Geothermal Power.** A geothermal unit began operating at Chena Hot Springs Resort in the Interior in August 2006. Other potential geothermal sites, including Mt. Spurr in Southcentral, are under consideration. Geothermal power is a renewable resource, but the costs of connecting to the local electrical grid may make many sites uneconomic to develop.

- **Distributed Generation.** Distributed generation is the practice of replacing central gas-fired generation with on-site co-generation, or fuel cells. If those systems were fueled by sources other than gas, they could reduce gas consumption. Distributed generation may eventually become a realistic option in Southcentral, as the costs of the technology continue to fall.

## WHAT ABOUT ECONOMIC CONTRIBUTIONS OF COOK INLET GAS?

So far in this summary we've talked about the importance of Cook Inlet gas to residential, commercial, and industrial consumers. The gas also broadly contributes to the state economy, because it is an inexpensive source of energy. ENSTAR estimates, for example, that it makes an annual economic contribution of \$230 million to the economy.

People attending the forum pointed out that petroleum operations in Cook Inlet also create jobs for Alaskans and add to local tax bases. The economic effects of Cook Inlet gas are most concentrated in the Kenai Peninsula Borough.

In 2006, the oil and gas industry paid property taxes of over \$10 million in that borough. The Cook Inlet producers and Agrium made up nine of the top ten taxpayers, with the highest assessed property valuations in the borough. In 2005, the industry supported 1,340 jobs, or 7.4% of borough employment, and 18.7% of total borough payroll.

Petroleum industry jobs also pay well—the average annual wage for oil and gas workers in 2005 was \$88,764, compared with the average of \$35,148 among all workers in the Kenai Peninsula Borough.

Statistics on the economic contribution of Cook Inlet gas for the other two boroughs were not provided at the forum. But it is clear that the petroleum industry also provides a significant wage and tax base for both Anchorage and the Mat-Su Borough.

## WHAT DID WE LEARN FROM THE FORUM?

In the past few decades, residents of Southcentral Alaska have enjoyed abundant gas supplies at low prices. Unfortunately for consumers, demand is now starting to run ahead of supply. Opinions differ on how much more gas is yet to be found in Cook Inlet and on the best way to stimulate exploration for new supplies.

Whether the two biggest current users of Cook Inlet gas—the LNG and fertilizer plants on the Kenai Peninsula—will keep operating in the face of shrinking supplies and rising prices makes the future market for gas uncertain. However, residential and commercial demand for both heating and gas-generated electricity are expected to keep growing.

Uncertainty also surrounds the future sources of gas supply (including gas from the North Slope) and the feasibility of developing alternative fuels that may be able to help offset some of the demand for natural gas. Many of the proposed alternatives come with long lead times and unpredictable costs.

But one thing is clear. Southcentral Alaska needs to find additional supplies of gas, or ways to offset demand. Otherwise, the region may soon see large-scale shortages.

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*A list of forum participants and transcripts of presentations are on AOGCC's Web site: [www.aogcc.alaska.gov](http://www.aogcc.alaska.gov)*

*Comments on this summary or the forum can be mailed or sent by e-mail to:*

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## FOR MORE INFORMATION

Agrium Inc.: [www.agrium.com/home.jsp](http://www.agrium.com/home.jsp)

Alaska Department of Natural Resources: [www.dnr.state.ak.us](http://www.dnr.state.ak.us)

Division of Oil and Gas: [www.dog.dnr.state.ak.us](http://www.dog.dnr.state.ak.us)

Alaska Department of Revenue, Tax Division: [www.tax.state.ak.us](http://www.tax.state.ak.us)

Alaska Natural Gas Development Authority: [www.angda.state.ak.us](http://www.angda.state.ak.us)

Alaska Oil and Gas Association: [www.aoga.org](http://www.aoga.org)

Alaska Oil and Gas Conservation Commission: [www.aogcc.alaska.gov](http://www.aogcc.alaska.gov)

Anchorage Chamber of Commerce: [www.anchoragechamber.org](http://www.anchoragechamber.org)

Anchorage, Municipality of: [www.ci.anchorage.ak.us/homepage/index.cfm](http://www.ci.anchorage.ak.us/homepage/index.cfm)

Aurora Power: [www.aurorapower.com](http://www.aurorapower.com)

Benchmark Oil and Gas: [www.benchmarkoil.se](http://www.benchmarkoil.se)

BP: [www.bp.com](http://www.bp.com)

Chevron: [www.chevron.com](http://www.chevron.com)

Chugach Electric Association: [www.chugachelectric.com](http://www.chugachelectric.com)

Conoco Phillips: [www.conocophillips.com/index.htm](http://www.conocophillips.com/index.htm)

Cook Inlet Regional Citizens Advisory Council: [www.circac.org](http://www.circac.org)

Dunmire Consulting, Carolyn Dunmire: [dunmire@fone.net](mailto:dunmire@fone.net)

ENSTAR Natural Gas Company: [www.enstarnaturalgas.com](http://www.enstarnaturalgas.com)

Kenai Peninsula Borough: [www.borough.kenai.ak.us](http://www.borough.kenai.ak.us)

Matanuska-Susitna Borough: [www.matsugov.us](http://www.matsugov.us)

Municipal Light and Power: [www.mlandp.com](http://www.mlandp.com)

National Energy Technology Laboratory:

[www.netl.doe.gov/technologies/oil-gas/index.html](http://www.netl.doe.gov/technologies/oil-gas/index.html)

Pioneer Natural Resources: [www.pioneerncr.com](http://www.pioneerncr.com)

Regulatory Commission of Alaska: [www.state.ak.us/rca](http://www.state.ak.us/rca)

Science Applications International Corporation: [www.saic.com](http://www.saic.com)

Stormcat Energy: [www.stormcatenergy.com](http://www.stormcatenergy.com)

U.S. Department of the Interior, Minerals Management Service:  
[www.mms.gov/alaska/re](http://www.mms.gov/alaska/re)

Usibelli Coal Mine: [www.usibelli.com/index.html](http://www.usibelli.com/index.html)

Information on Coal to Liquids and Fischer-Tropsch refining processes:  
[www.aidea.org](http://www.aidea.org)

*Cook Inlet Energy Supply Alternatives Study* available at:

[www.angda.state.ak.us](http://www.angda.state.ak.us)

Kenai Peninsula Borough information on Cook Inlet oil and gas:  
[www.cookinletoilandgas.org](http://www.cookinletoilandgas.org)

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