11600 HOUSE RESOURCES

The West Coast is a rather isolated market. There is insufficient East-West infrastructure in place to move excess supplies out of the market. Most forecasts project about 2 bcf/d of additional supplies may be required in the next 10-15 years[24]. Shell and BP have already committed to supply Sempra a combined 1 bcf/d of Asian and Australian gas, and Sempra recently conducted an open season to procure the balance. Attempting to sell all 4 bcf/d of Alaska gas in the West Coast market would be a challenge as the Alaska gas would be competing with lower cost competitors.

Moreover, this market will grow incrementally, not all at once. Placing the entire 4 bcf/d into the market at once will be particularly difficult. However, because of the large fixed cost of the pipeline it is necessary to market all of the gas rather quickly. Projects that do not have that large fixed cost, and can put smaller amounts of gas into the market over a shorter time, will have an advantage. Placing 4 bcf/d on the West Coast market would drastically suppress prices.

PFC estimates that 4 bcf/d landed on the West Coast would affect the supply balance such that it would command $0.61/mmbtu less than the same volume landed in Chicago. This is attributable to:

- Much of the gas is landed in next exporting regions. The gas must travel considerable distances to market areas or compete with other sources of supply transiting the region to serve local demand.
- As mentioned above, the size of the incremental supply relative to the market weighs on the West Coast price.

PFC's projection is contingent on the timely construction of West-East pipeline infrastructure to move excess supplies from the region. They warn:

> PFC Energy expects that given the lead time required for either Alaskan gas transportation project, companies would incorporate the incremental supplies in their pipeline planning activities, smoothing the transition. If companies do not do so, then the introduction of Alaskan supplies could prove more disruptive than indicated here, and price discounts for the new gas supplies would be greater than projected here.

As for supplying Asian markets with LNG, it appears unlikely that North Slope gas could compete with the plethora of closer tidewater sources that do not have to build an 800-mile pipeline just to reach the coast.

C. Siting Issues

PFC concluded that it is unlikely any of the proposed U.S. or Canadian West Coast LNG receiving terminals will be built. They rated the likelihood of construction of any of the

[24] This includes forecasts from Cambridge Energy and the California Energy Commission.

terminals in the next decade at poor to negligible, based on environmental, community, permitting, financing, and market issues.

D. Netback Comparison

Between the additional cost and the reduced price, PFC estimates the netback value would be $1.64/mmbtu ($1.80/mcf) less for the LNG project relative to the ALCAN project. This would be $10/bbl less on an oil-equivalent basis.

XIII. Conclusion

Stranded gas is gas that is not being marketed due to cost and price conditions. North Slope gas today certainly fits this criterion. This paper summarizes many of the reasons and presents analysis conducted by the Department of Revenue. The commercialization of North Slope gas will be subject to market forces. Markets fluctuate with the lowest cost supplies coming in to the market first. The cost of these supplies set the price. Higher cost supplies are shut out until the lower cost supplies are depleted.

It has been shown that the reason North Slope gas has not been marketed is the distance from market coupled with Alaska's geography, the existence of vast supplies of lower cost gas in other parts of the world, and the problem that other supplies are not subject to the size risk inherent in the North Slope project. These are the cost and price conditions that are at risk of prevailing during the period in which this project will operate. Therefore, the Department of Revenue concludes that Alaska's North Slope natural gas is stranded.

BP Testimony

House Resources Committee

June 3, 2006

Thank you for the opportunity to testify this morning. For the record, my name is David Van Tuyl. I work for BP as the commercial manager of the Alaska Gas group. It's a privilege for me to be able to offer my testimony on HB-2004. We support the intent behind the bill which provides amendments to the Stranded Gas Development Act, and believe this bill will help progress the gas pipeline fiscal contract.

The Administration did a good job in structuring these amendments and in explaining them to this committee. However, there is one point that we see a bit differently than the Administration, and that we'd like to take a moment to clarify for the record. The Administration stated that the amendment to AS 43.82.220(a) paragraph (2) that allows for the inclusion of terms in the contract related to the State reimbursing the producers for certain upstream costs was required because this was not a right the producers currently hold under either existing lease or unit agreements. We don't agree. In old form leases (known as "DL-1" leases). the State is obligated to pay for upstream costs associated with any of its gas it takes in kind. So we feel that this is a lease right associated with these DL-1 leases. The vast majority of the known North Slope gas resource, around 90%, is found on these DL-1 leases. The fiscal contract simply extends that existing lease right to all gas from all leases.

To conclude my brief comments, I want to emphasize that BP stands ready, willing and able to advance the gas pipeline project, along with our partners ConocoPhillips, ExxonMobil and the State of Alaska. The gas pipeline fiscal contract, coupled with HB-2004, makes that objective possible. BP also stands ready to work with the legislature as you complete your work on this bill.

We support passage of HB-2004, and then encourage the legislature to approve the gas pipeline fiscal contract to enable all Alaskans to benefit from one of the largest energy projects on the planet.

Thank you for the opportunity to testify. I'd be happy to try and answer any questions you might have.

Jun 1, 10:47 PM EDT

Hearings begin on changes to Stranded Gas Act

By ANNE SUTTON
Associated Press Writer

JUNEAU, Alaska (AP) -- Hearings began in the state House and Senate Thursday on legislation meant to move forward Gov. Frank Murkowski's contract with three oil companies to develop the North Slope's natural gas reserves.

The House Resources Committee began taking testimony on a measure that would amend the state's Stranded Gas Development Act, the law under which the governor negotiated the contract's fiscal terms with ConocoPhillips, Exxon Mobil Corp. and BP PLC.

The bill, introduced by the governor on Wednesday, would allow the state to take gas in place of tax payments as part of its 20 percent ownership in the proposed gasline. It would also lock in the producers' tax and royalty rates by 30 years for oil and 45 years for gas. The oil companies have said that kind of tax stability is a condition to them building a North Slope natural gas pipeline.

Kevin Jardell, the governor's legislative liaison, told lawmakers the changes would smooth the way toward final ratification of the contract.

But lawmakers have opposed the governor's proposal to freeze the producers' tax rates.

After the committee meeting, co-Chairman Ralph Samuels, R-Anchorage, said the administration should have the authority to negotiate gasline terms for the state, but locking in the tax rates is another matter.

"I don't have any problem with their ability to have those tools, but the oil tax, that's taking a tool away from us. That's a different story," he said.

Samuels said he and other lawmakers are discussing how best to modify the tax rate provisions. One idea has been to create a "reopener" clause that would allow lawmakers to change the tax rates in the future if economic conditions call for it.

Lawmakers were also concerned that the governor may bypass their efforts to pass a tax rate that is higher than the one he has proposed. A proposal to tax the Alaska profits of oil companies is also before lawmakers in special session after the measure failed in the regular session.

Murkowski wants to set the oil production tax at 20 percent. Lawmakers have considered a number of different rates between 20 and 25 percent.

Asked by House lawmakers if the final contract would contain whatever terms pass the Legislature, Jardell said he could not give a definitive answer.

"Our position is the Legislature needs to set the rates and we will take them to the bargaining table to negotiate from those rates," he said.

Lawmakers also had concerns about a proposed amendment to the section that requires the Commissioner of Revenue act in the best interest of the state. The language was modified to read the "long-term fiscal" interests of the state.

Rep. Harry Crawford, D-Anchorage, said the change could be read to say that any deal would be a good deal.

"It gets them a 'get out of jail free' card," he said.

The administration said the change was made in order to make the language consistent with other parts of the law.

Meanwhile, the newly formed Senate Special Committee on Oil and Gas, made up of members of the Senate Resources and Finance Committees, also began hearing the bill on Thursday.

The committee also took testimony on another measure that would create a public corporation within the Department of Revenue called the Alaska Natural Gas Pipeline Corporation.

Committee hearings are expected to continue over the weekend.

It could be near the end of July before the final terms are back before the Legislature.

A 45-day public comment period on the natural gas contract is currently under way, and the governor has said he will extend that if need be. The Commissioner of Revenue then will have 30 days to consider the comments and proposed amendments before issuing a final determination. That's when the Legislature must decide whether to ratify or reject the contract.

Fairbanks Daily News-Miner

Changes to Stranded Gas Act weighed
By R.A. DILLON

Friday, June 02, 2006 - Staff Writer

JUNEAU--Alaska legislators on Thursday took up amendments to the state's Stranded Gas Development Act.

Gov. Frank Murkowski is asking lawmakers to approve changes that would allow him to lock-in the producers' taxes and royalty for 30 years on oil and 45 years for gas, as well as take the state's share of production in natural gas instead of cash.

The 10-page bill contains more than a dozen alterations to the Stranded Gas Development Act, the law under which Murkowski negotiated a deal with Exxon, BP and ConocoPhillips to develop the North Slope's 35 trillion cubic feet of gas reserves.

Kevin Jardell, Murkowski's legislative director, said the amendments provide the administration with greater authority to negotiate the terms of the contract with the producers.

Murkowski has been in talks with the producers for nearly two years but the proposed deal goes beyond the limits of the stranded gas act, so he needs lawmakers to amend the act to make the contract legal.

Jardell and other administration officials provided members of the House Resources Committee and the newly formed Senate Special Committee on Natural Gas Development a page-by-page walkthrough of the amendments. The amendments would:

* Repeal language in the Stranded Gas Act that prohibits significantly altering tax and royalty rates on existing oil and gas production.

* Allow the state to take royalty and production tax on gas in-kind instead of cash.

* If approved, the final contract would override the state's existing leases on the North Slope.

* Require the state to agree to arbitration to settle all disputes with the producers and prohibit the state from taking the companies to court.

While some of the changes are likely to receive the approval of lawmakers, others face a much tougher battle, said House Resources Co-Chairman Ralph Samuels, R-Anchorage.

"We're not going to lock oil in for 30 years," he said. "That we can't do."

Lawmakers have been consistent in their opposition to freezing taxes on oil for the life of the contract, something the producers argue is needed before they can invest billions of dollars to build a gas pipeline from the North Slope to markets in Alberta, Canada, and perhaps Chicago. The state needs

time to make sure the new tax system works and no one can guarantee the future price of oil, Samuels said.

"Nobody's crystal ball is perfect; not even the industry's," he said.

Samuels said he would try to remove or alter the provision before the bill leaves his committee.

Sen. Ralph Seekins, chairman of the Senate Special Committee on Natural Gas Development, said the Legislature may reduce the length of fiscal certainty to reduce the risk to the state.

"We can improve the economics of the pipeline without having to put a fixed date on it," he said.

Seekins said the chief concern was whether the Legislature should increase the powers the governor already has under the 1998 Stranded Gas Act to negotiate with the producers.

Samuels had fewer problems with granting the governor wider powers to negotiate a gas deal. The final decision still remains with the Legislature, he said.

"The point is, 60 people are never going to be able to negotiate a contract," he said, "so we are turning it over to the administration and if we don't like what they do, we vote it down."

Rep. Harry Crawford raised concern over the administration's attempt to change the requirement that the contract be in the "best fiscal interest" to the "long-term interest" of the state.

The Anchorage Democrat said the change would allow the administration to approve almost any contract.

"It gives them huge latitude on what is in the long-term interest of the state," he said. "That's a big difference to what's in the best fiscal interest of the state."

Jardell said the change was a minor technical amendment to make sure the language in the contract is consistent with the findings released by the commissioner of the Department of Revenue.

Crawford also objected to language in the amendments that would exempt the producers from tax increases passed through the public initiative process.

Crawford is one of the sponsors of an initiative on the November ballot that would tax leaseholders $1 billion a year if they fail to develop gas fields on the North Slope.

Crawford said he planned to meet with other members of the minority caucus to discuss possible amendments to the administration's bill.

House Resources will take up the amendments again today at 9 a.m. Samuels said he expects to have a committee substitute ready by Saturday and the measure could be passed out the same day.

Seekins, R-Fairbanks, said the special Senate gas committee would hear from the administration and the Legislature's legal advisers this morning and take public testimony starting at 9 a.m. on Saturday.

He said the committee would consider amendments Sunday, but he did not know when a committee

substitute might be introduced.

The special session must end no later than midnight on June 8.

"If we don't hit that deadline, we don't hit it," he said. "This is too important to hurry."

The governor can call a second special session beginning June 9 if he wants to keep lawmakers working on the gas contract.

Staff writer R.A. Dillon can be reached at (907) 463-4893 or rdillon@newsminer.com .

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LEGISLATIVE AFFAIRS AGENCY
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Juneau, Alaska 99801-1182
Deliveries to: 129 6th St., Rm. 329

MEMORANDUM June 4, 2006

SUBJECT: Purchase of a gas pipeline sponsor's share (HB2004; Work Order No. 24-GH2046)

TO: Representative Jay Ramras
Attn: Jane

FROM: Dennis C. Bailey DCB
Legislative Counsel

You have asked whether the purchaser (an LLC) of a pipeline sponsor's share of an interest in the pipeline would be responsible for state income and other taxes. Although you mentioned an "individually owned" LLC, the ownership structure is not a deciding factor in answering your question.

The short answer to the question is if the sponsor/seller was liable for state income taxes and other taxes, the purchaser would also be responsible for the taxes unless the contract or purchase agreement provides otherwise.

In order for an interest in a contract to be purchased, the contract interest must be assignable. A contract may allow or prohibit assignment or restrict assignment of a party's interest. The Stranded Gas Development Act addresses the issue of assignment in AS 43.82.260. It provides:

> Sec. 43.82.260. Change of parties to an application or a contract; assignment of interests.
>
> (a) A qualified sponsor or member of a qualified sponsor group may assign an interest in or add or withdraw a party to an application under AS 43.82.120 only if the commissioner has
>
> (1) made a finding that the assignment, addition, or withdrawal is consistent with the requirements of AS 43.82.110; and
>
> (2) given prior written approval for the assignment, addition, or withdrawal.
>
> (b) A contract developed under this chapter may provide for the assignment to or withdrawal of a qualified sponsor or member of a qualified sponsor group.
>
> (c) Upon being added to an application under this section, a party becomes a qualified sponsor or a member of a qualified sponsor group, as appropriate, for the relevant project.

> (d) The commissioner may not unreasonably withhold approval under (a) of this section, but may condition the approval in any way reasonably necessary to protect the fiscal interests of the state and to further the purposes of this chapter.
>
> (e) For purposes of this section, an assignment includes a transfer of stock or a partnership interest in a manner that changes control of a qualified sponsor or member of a qualified sponsor group.

In general terms, a purchaser undertakes the rights and the duties of the seller. If the seller is responsible for state income and other taxes, the purchaser becomes responsible, and vice versa. These terms may be negotiable within the purchase agreement, but may be affected by limitations on the assignment in the original agreement.

I have enclosed copies of the sections of the pipeline contract and the fiscal findings related to the contract that address this issue but I have not reviewed or analyzed them.

If I may be of further assistance, please advise.

DCB:ljw
06-259.ljw

Enclosures

PART G - RELATIONSHIP OF THE PARTIES

ARTICLE 31 - ASSIGNMENT, ADDITION AND WITHDRAWAL

31.1 Assignment and Addition of a Person.

(a) Assignment. A *Producer* may assign its rights. privileges and obligations in a *Property* under this *Contract* to a qualified *Person* ("Assignee") as provided in Article 31. A *Producer* may initiate an assignment by providing the other *Parties* a *Notice* that contains the following information:

(i) identity of the *Assignee*;

(ii) the rights, privileges and obligations that are assigned to the *Assignee*; and

(iii) any other information the *Producer* deem appropriate.

The *DNR Commissioner* shall approve an assignment of an interest in a *Property* from a *Producer* to a *Person* other than a *Producer* or an *Affiliate* unless the *DNR Commissioner* makes a written finding that the transfer would adversely affect the interests of the *State*. The *DNR Commissioner* may request additional information reasonably necessary to make the finding. An assignment of an interest in a *Property* from a *Producer* to an *Affiliate* or to another *Producer* is effective upon *Notice*. Any other assignment is effective upon approval by the *DNR Commissioner*.

(b) Additional Person. A *Producer* shall add to this *Contract* any *Person* that owns a *Midstream Element* in which one or more *Producers* or their *Affiliates* have an interest

("Additional Person") by providing a *Notice* to the other *Parties* that contains the following information:

(i) a brief description of the reason for adding the *Additional Person*;

(ii) the identity of the *Additional Person*;

(iii) the rights, privileges, and obligations that are assumed by the *Additional Person*; and

(iv) any other information the *Producer* deems appropriate.

The rights, privileges and obligations of the *Additional Person* are subject to the conditions set out in Article 31.1(d). The addition of the *Additional Person* is effective upon *Notice*.

(c) Conditions Regarding Assignees.

(i) Except for *Assignees* under Article 31.1(c)(ii), an *Assignee* that is not an *Affiliate* of the assignor is subject to the following conditions:

(A) any obligation to pay *SCIT* is modified only by the adjustments provided under Articles 19.3, 19.4, and 19.5; and

(B) the exemptions and covenants provided the *Contract* are limited to *Taxes*, other than *SCIT*, on that portion of the *Assignee's* oil and gas related business activity in *Alaska* that has been assigned to it.

(ii) The conditions under Article 31.1(c)(i) do not apply to an *Assignee* that is:

(A) an *Affiliate* of the assignor; or

(B) another *Producer* or its *Affiliate*.

(d) Conditions Regarding Additional Person. For an *Additional Person*, the exemption and covenants provided in the *Contract* are limited to *Taxes*, other than *SCIT*, on that portion of the *Project* that has been assumed by the *Additional Person*.

31.2 Effect of Assignment, Addition, and Transfers.

(a) Rights, privileges and obligations of an Assignee or Additional Party. An *Assignee* and each *Additional Person* is deemed a *Participant* and, to the extent the rights, privileges and obligations are assigned or added, this *Contract* binds and benefits the *Assignee* and the *Additional Person*. A *Person* that owns an interest in a *Project Entity* is not a *Participant*, based on that ownership alone.

(b) Retained rights, privileges and obligations of the Producers and their Affiliates. Each *Producer* and its *Affiliates* retain all their rights, privileges and obligations under this *Contract* other than those assigned to an *Assignee* or assumed by an *Additional Person* under Article 31.1.

(c) Transfers.

(i) If the ownership of a *Producer*, or an *Affiliate* of a *Producer* that holds the ownership interests of all or substantially all of the *Properties* held by that *Producer* and its *Affiliates*, is transferred by sale of stock, merger, corporate reorganization, or similar transaction, that transfer is not subject to the limits in Article 31.1(c) or (d).

(ii) If a *Producer* and its *Affiliates* sell or otherwise dispose of all or substantially all of their *Alaska* oil and gas assets, that sale or disposition is not subject to the limits in Article 31.1(c) or (d).

31.3 No Fee for Additional Persons. No *Party* shall charge a *Person* a fee solely because the *Person* is becoming an *Additional Person* to this *Contract*.

31.4 Acquisition.

(a) Exhibit D Properties. If a *Producer* acquires or is assigned an interest in any *Property* listed on Exhibit D, the *Producer* may add its interest in that *Property* to Exhibit D.

(b) Leases not on Exhibit D. If a *Producer* acquires or is assigned an interest in an *ANS* lease not listed on Exhibit D, the *Producer* may add its interest in that lease as a *Property* to Exhibit D subject to the following limitations:

(i) if that lease was acquired in a *State* lease sale, that *Property* must be removed from Exhibit D if *Gas* from that *Property* is not delivered to the *Mainline* within fifteen (15) *Calendar Years* after the effective date of its addition to Exhibit D;

(ii) if that lease was acquired in a federal or private lease sale, that *Property* must be removed from Exhibit D if *Tax Gas* from that *Property* is not delivered to the *Mainline* within twenty (20) *Calendar Years* after the effective date of its addition to Exhibit D; and

(iii) a *Law* of general applicability providing for a uniform upstream fiscal contract is enacted substantially in the form of Attachment 1 ("Uniform Upstream Fiscal Contract Act").

(c) Notice. To add an interest in an *ANS* oil and gas lease to Exhibit D, a *Producer* shall provide a *Notice* ("Notice of Additional Property") to the *Commissioner*. That *Notice of Additional Property* must include the following information:

(i) the date the additional *Property* was acquired and the effective date of its addition to Exhibit D;

(ii) the *Producer's Working Interest* share of the additional *Property*; and

(iii) the other categories of information included in Exhibit D.

31.5 Withdrawal Before Open Season. Subject to Article 31.8, any *Participant* may withdraw from this *Contract* before the execution by the *State* of the binding precedent agreements associated with the initial *Open Season* to reserve transportation capacity.

31.6 Withdrawal After Open Season. Subject to Article 31.8, any *Participant* may withdraw from this *Contract* after the execution of the binding precedent agreements associated with the initial *Open Season* to reserve transportation capacity, provided that the *Withdrawing Participant* and its *Affiliates* have either assigned or otherwise relinquished and hold no interest, directly or indirectly, in any *Midstream Element* or in any *Property* before the *Participant's Notice* of withdrawal.

31.7 Notice and Effective Date. A *Withdrawing Participant* shall provide sixty (60) *Days* prior *Notice* of withdrawal to the *State* and to the other *Participants*. The withdrawal is effective upon the expiration of the sixty (60) *Day* period.

ARTICLE 31: ASSIGNMENT, ADDITION AND WITHDRAWAL

1. **Assignment of a Person**.

   - A Producer can assign its rights, privileges and obligations in a Property to a qualified assignee by providing the other Parties notice with the following information: (i) identity of assignee; (ii) the rights, privileges and obligations that are assigned; and (iii) any other information the Producer deems important.

   - The DNR Commissioner shall approve an assignment to a Person other than a Producer or an affiliate unless the Commissioner makes a written finding that the assignment would adversely affect the interests of the State.

   - An assignment from a Producer to an affiliate or to another Producer is effective upon notice.

2. **Addition of a Person**.

   - A Producer shall add any Person to the Contract owning a Midstream Element in which one or more Producers or their affiliates have an interest [or a Producer affiliate that owns an interest in an oil pipeline that will be subject to the payment in lieu of oil pipeline ad valorem taxes.]

   - To do so, the Producer must provide a notice to the other Parties containing: (i) a description of the reason for adding the additional Person, (ii) identity of the additional Person, (iii) the rights, privileges and obligations assumed by the additional Person, and (iv) any other information the Producer deems appropriate.

   - For an additional Person, the exemptions and covenants provided in the Contract are limited to Taxes, other than SCIT, on that portion of the Project that has been assumed by the additional Person.

3. **Conditions Regarding Assignees**.

   - For assignees that are not affiliates of the assignor and additional Persons:

     (i) obligations to pay SCIT are modified only by the adjustments provided by Articles 19.3, 19.4 and 19.5; and

     (ii) the exemptions and covenants in the Contract are limited to Taxes, other than SCIT, on that portion of the assignee's oil and gas activity in Alaska that has been assigned to it.

   - The above conditions do not apply (i) to assignees that are affiliates of the assignor or another Producer or its affiliate; (ii) if ownership of a Producer or affiliate is transferred by stock sale, merger, reorganization or similar transaction; and (iii) if a Producer and its affiliate sells all or substantially all of their Alaska oil and gas assets.

4. **Effect of Assignment, Addition and Transfers**.

- Each assignee and additional Person is deemed a Participant and the Contract binds and benefits both. A Person owning an interest in a Project Entity is not a Participant based solely on that interest.

- Each Producer and its affiliates retain all their rights, privileges and obligations other than those assigned or assumed.

5. **No Fee for Additional Person**. No Party may charge a fee solely because the Person is becoming an additional Party to the Contract.

6. **Acquisition**.

- If any Producer acquires or is assigned any interest in any Property listed on Exhibit D, the Producer may add its interest in that Property to Exhibit D.

- If a Producer acquires or is assigned an interest in any lease not listed on Exhibit D, the Producer may add its interest as a Property to Exhibit D subject to the following:

  (i) for leases acquired in a State lease sale, the Property must be removed from the Exhibit if Gas is not delivered to the Mainline within 15 years after its addition to the Exhibit;

  (ii) for leases acquired in a federal or private lease sale, the Property must be removed from the Exhibit if Tax Gas is not delivered to the Mainline within 20 years of its addition to the Exhibit; and

  (iii) a law of general applicability is enacted providing for a uniform upstream financial contract substantially in the form of Attachment 2 to the Contract.

- To add an interest in an ANS oil and gas lease to Exhibit D, a Producer must provide a notice to the Commissioner that includes the date Additional Property was acquired and the effective date of its addition to Exhibit D, the Producer's Working Interest share of the Additional Property, and other information required to be included in Exhibit D.

7. **Withdrawal**.

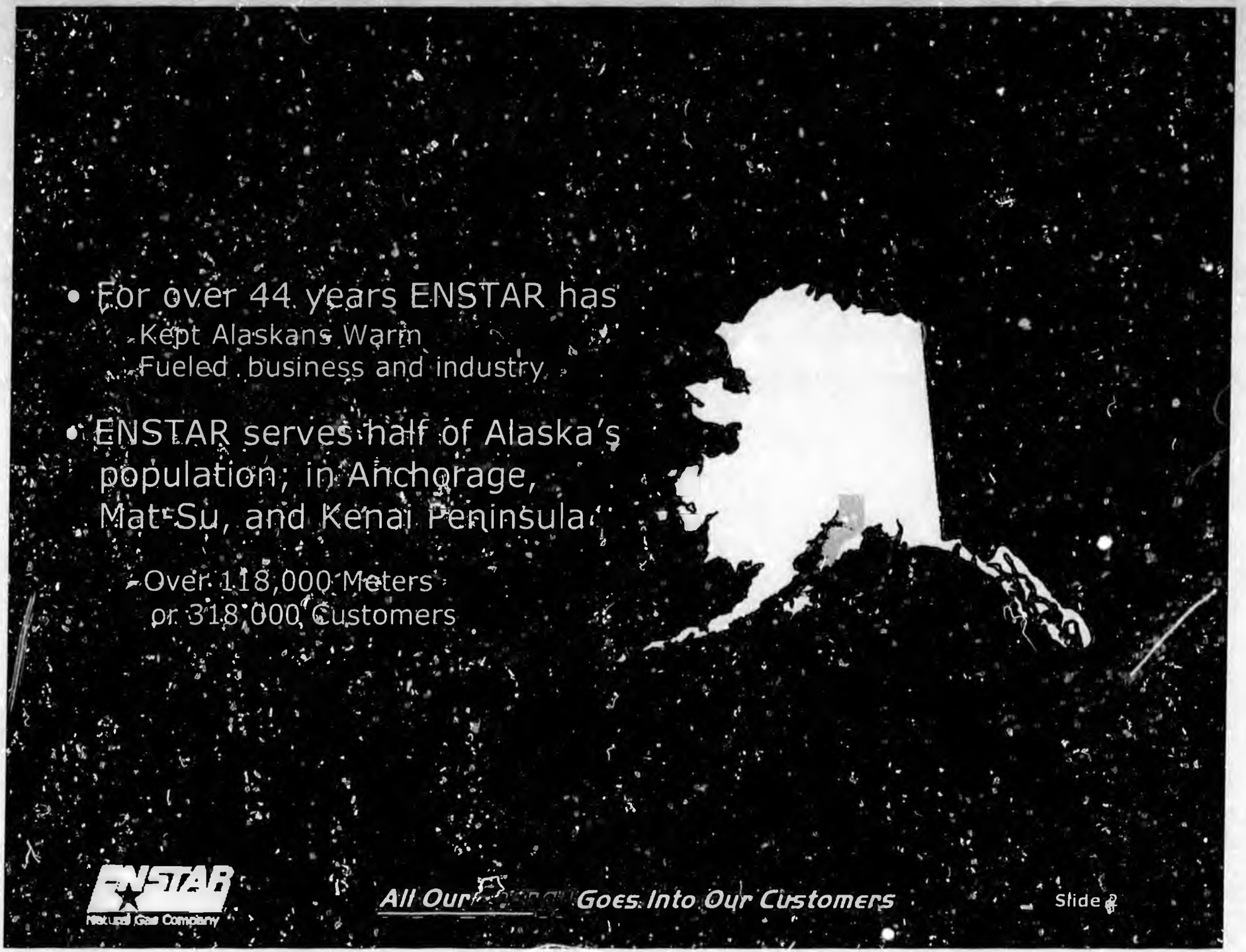
- Before Open Season. Any Participant may withdraw from the Contract before execution by the State of the binding precedent agreements associated with the initial Open Season to reserve transportation Capacity.

- After Open Season. Any Participant may withdraw after execution by the State of those precedent agreements, provided that it and its affiliates have either assigned

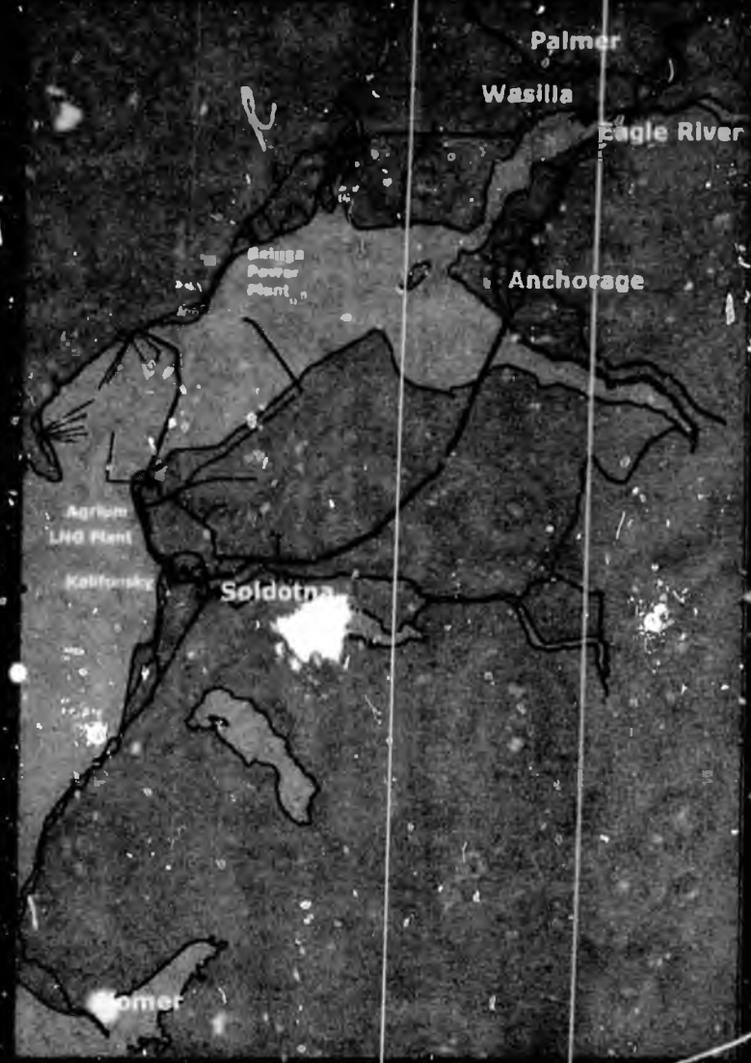
Presentation by ENSTAR Natural Gas Company

Tony Izzo, President

All Our Energy Goes Into Our Customers

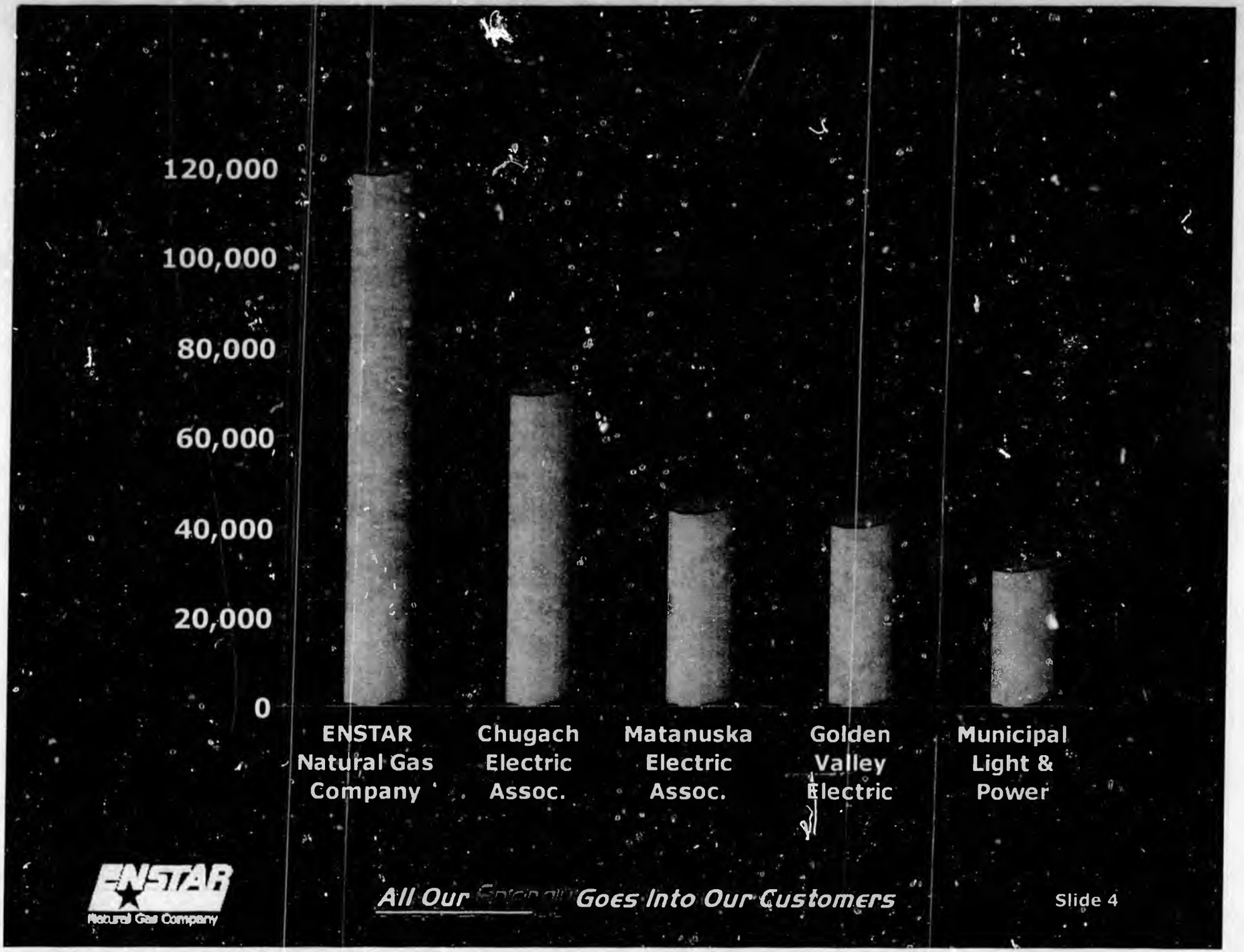

• For over 44 years ENSTAR has
- Kept Alaskans Warm
- Fueled business and industry
• ENSTAR serves half of Alaska's population; in Anchorage, Mat-Su, and Kenai Peninsula
- Over 118,000 Meters or 318,000 Customers
ENSTAR
Natural Gas Company
All Our Energy Goes Into Our Customers
Slide 8

- 393 miles of high-pressure transmission pipelines
- 2461 miles of gas distribution mains



ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers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ENSTAR Natural Gas Company
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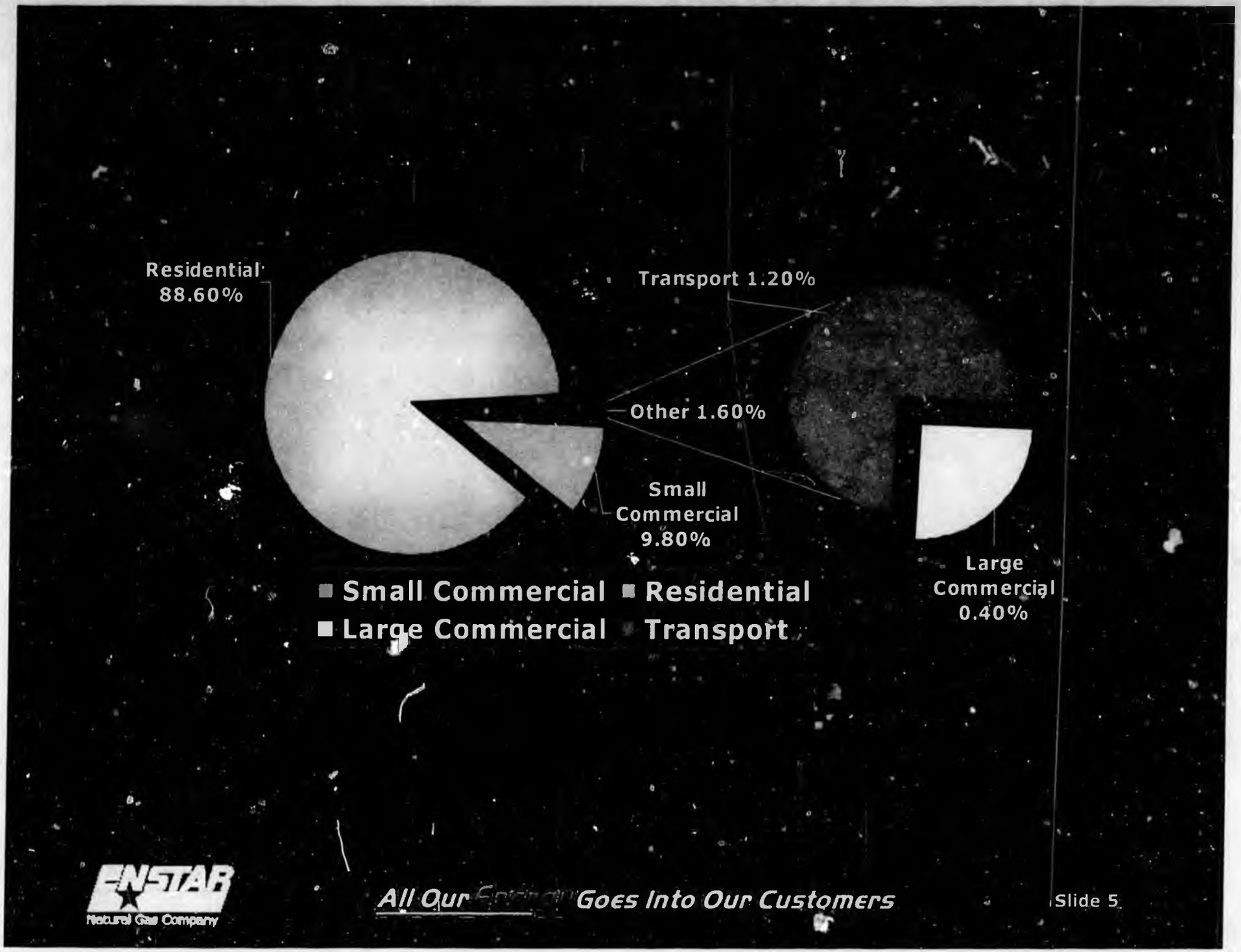
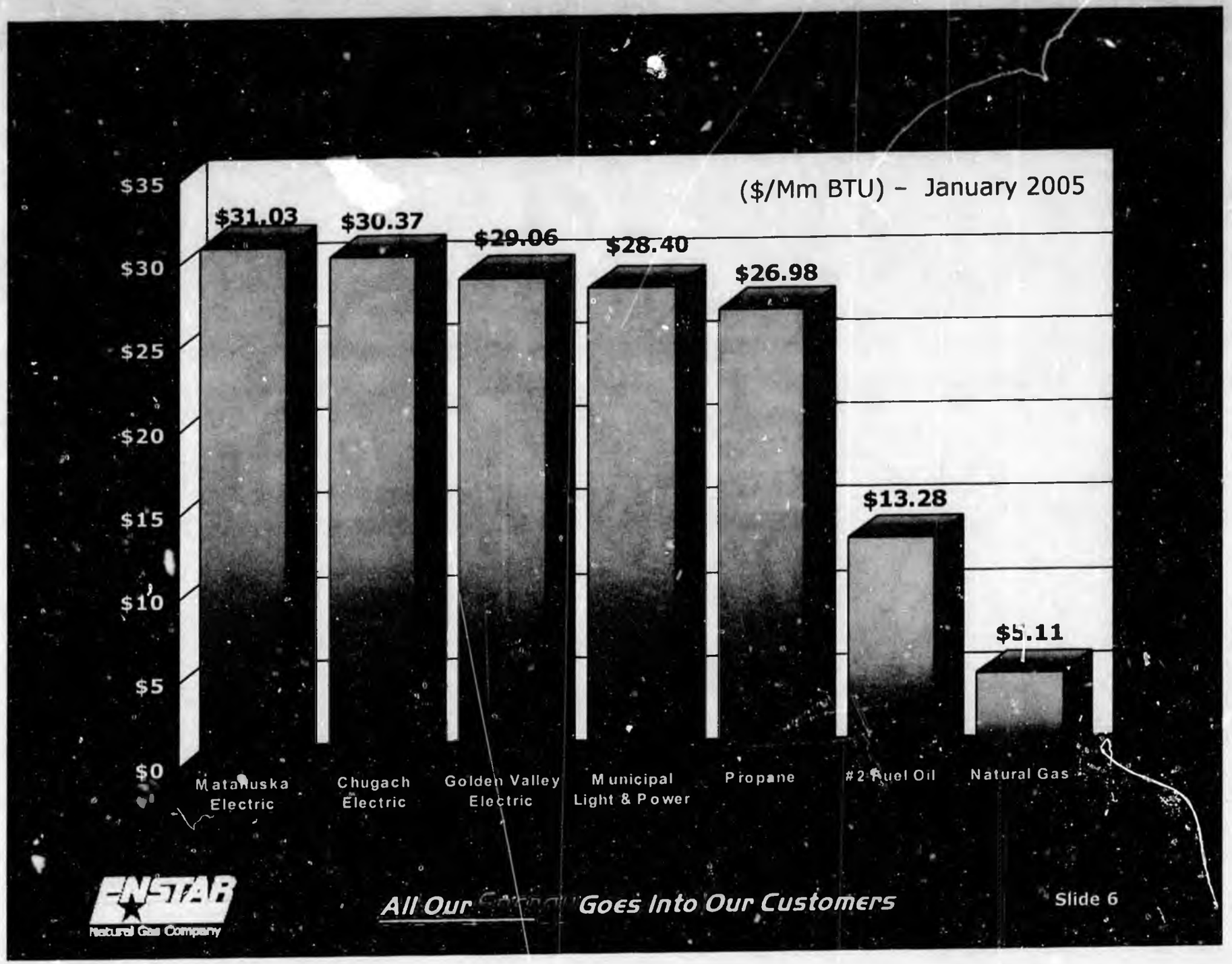
Golden Valley Electric
Municipal Light & Power
ENSTAR
Natural Gas Company
All Our Energy Goes Into Our Customers
Slide 4



ENSTAB
Natural Gas Company

All Our Energy Goes Into Our Customers


($/Mm BTU) – January 2005
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$30
$25
$20
$15
$10
$5
$0
$31.03
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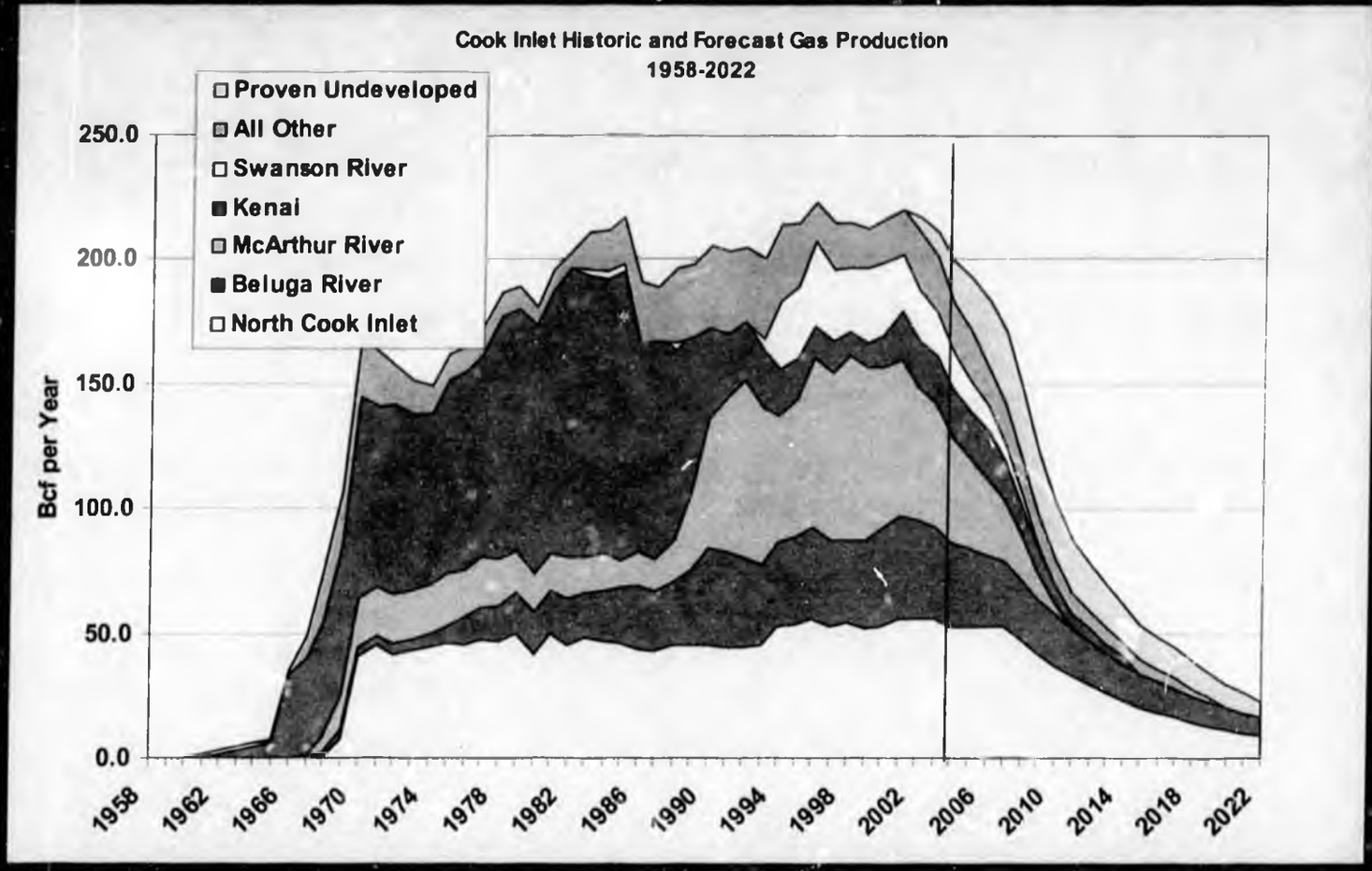
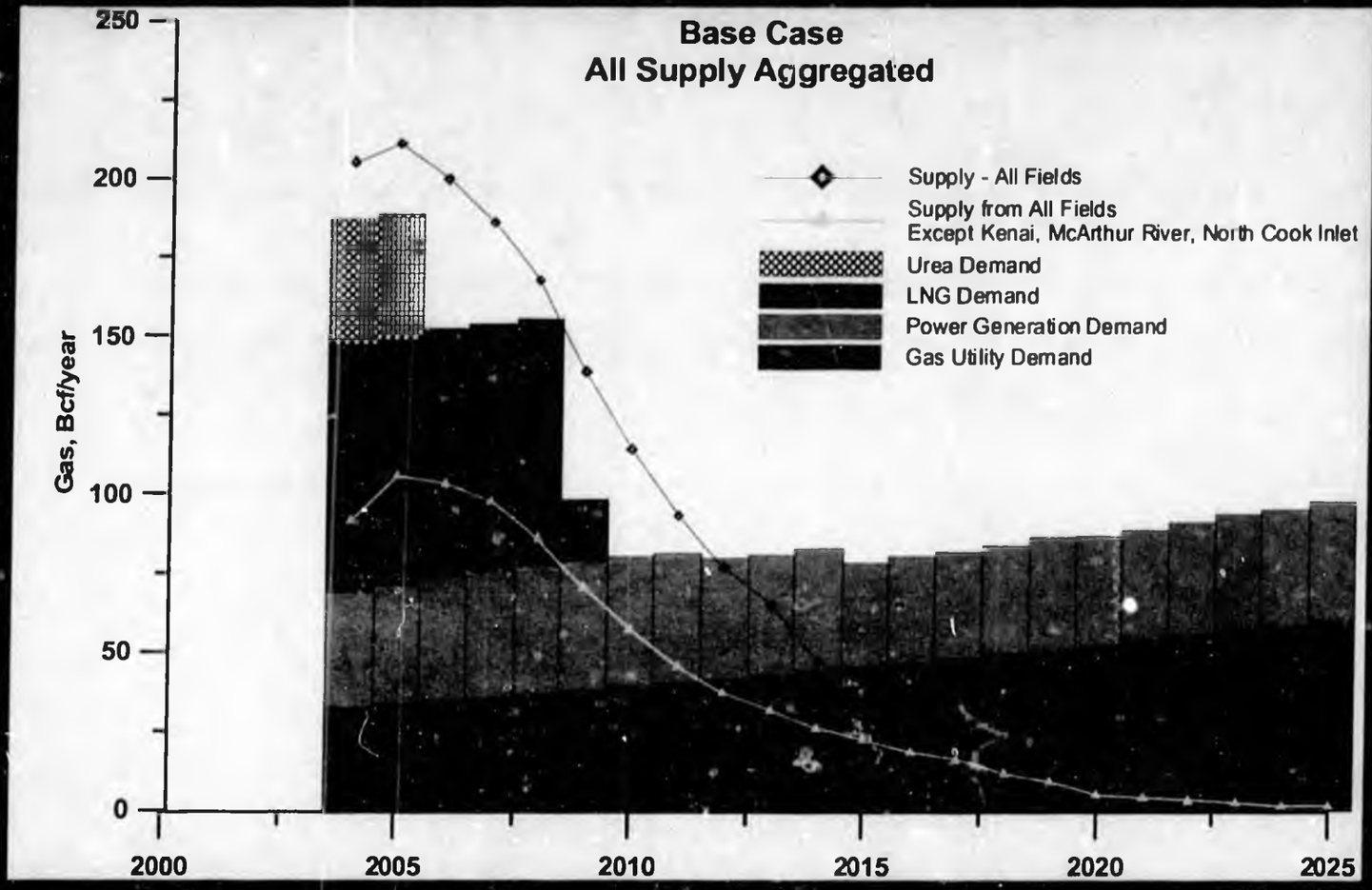
$28.40
$26.98
$13.28
$5.11
Matanuska Electric
Chugach Electric
Golden Valley Electric
Municipal Light & Power
Propane
#2 Fuel Oil
Natural Gas
ENSTAR
Natural Gas Company
All Our Energy Goes Into Our Customers
Slide 6



ADNR Division of Oil and Gas. Alaska Oil & Gas Report. December 2003 has been updated and the new forecast is included



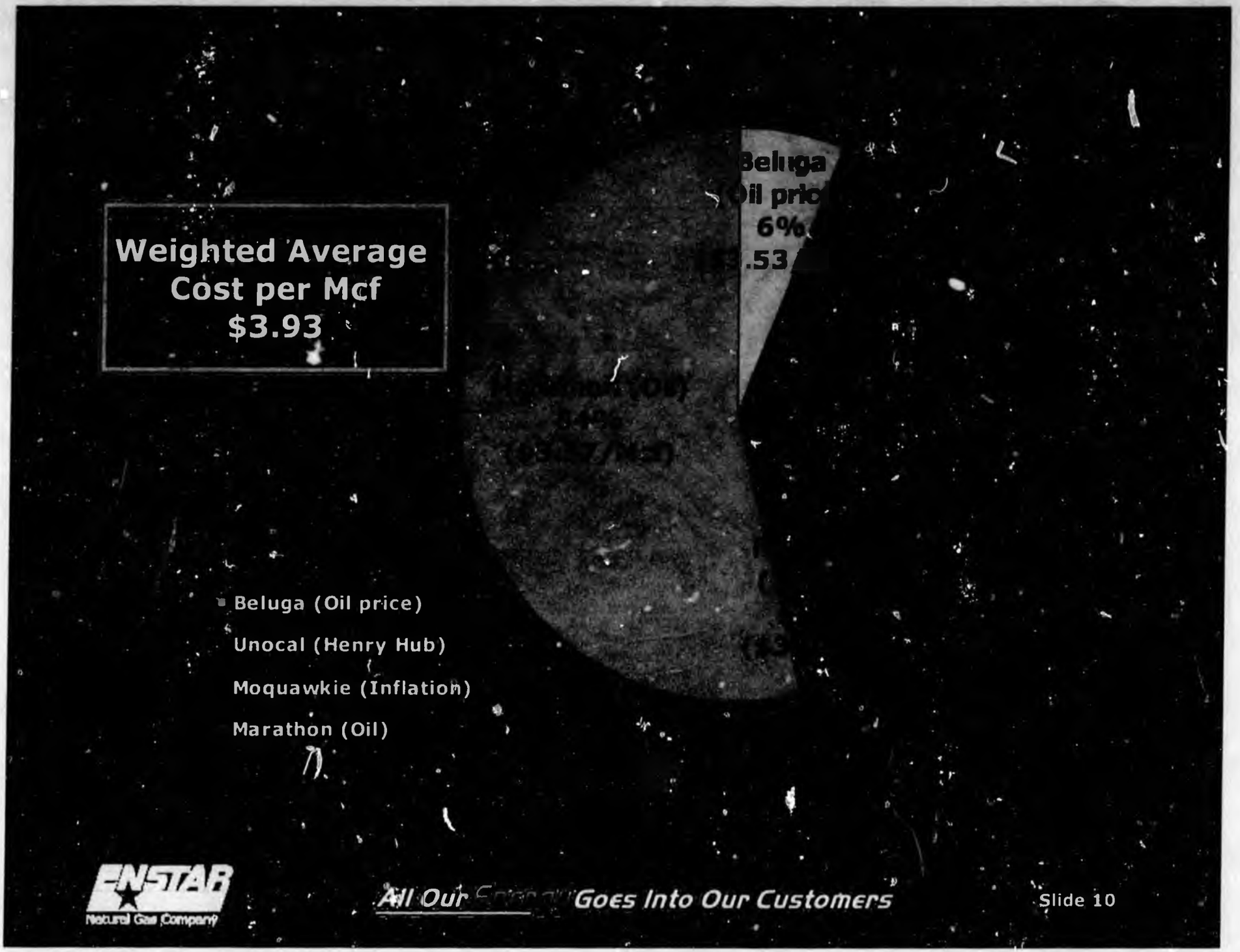
Department of Energy, June 2004

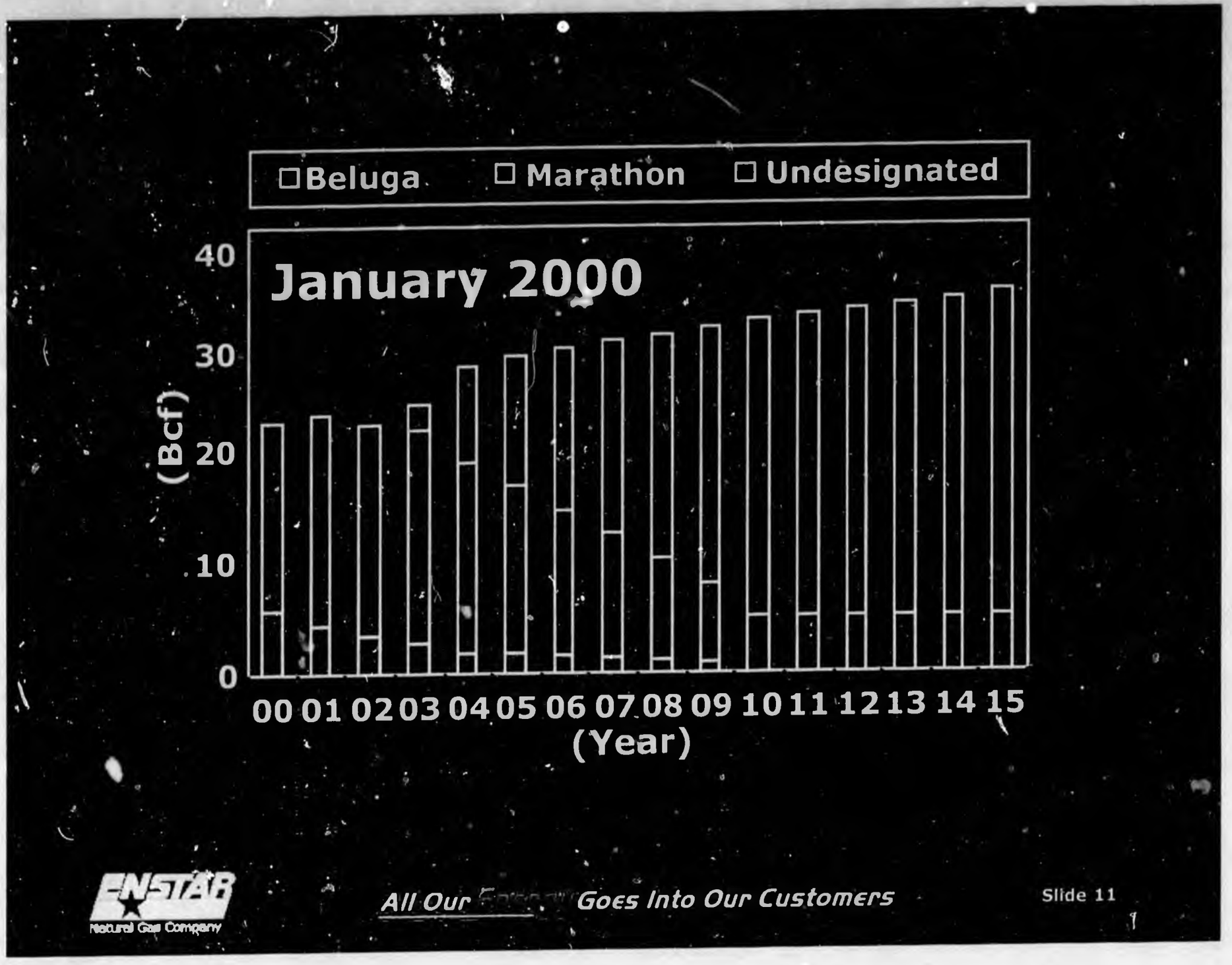
ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

- Over 473,000 electricity consumers
  - 67% of electricity generated by natural gas
  - 15% hydropower
  - 13% diesel
  - 5% coal

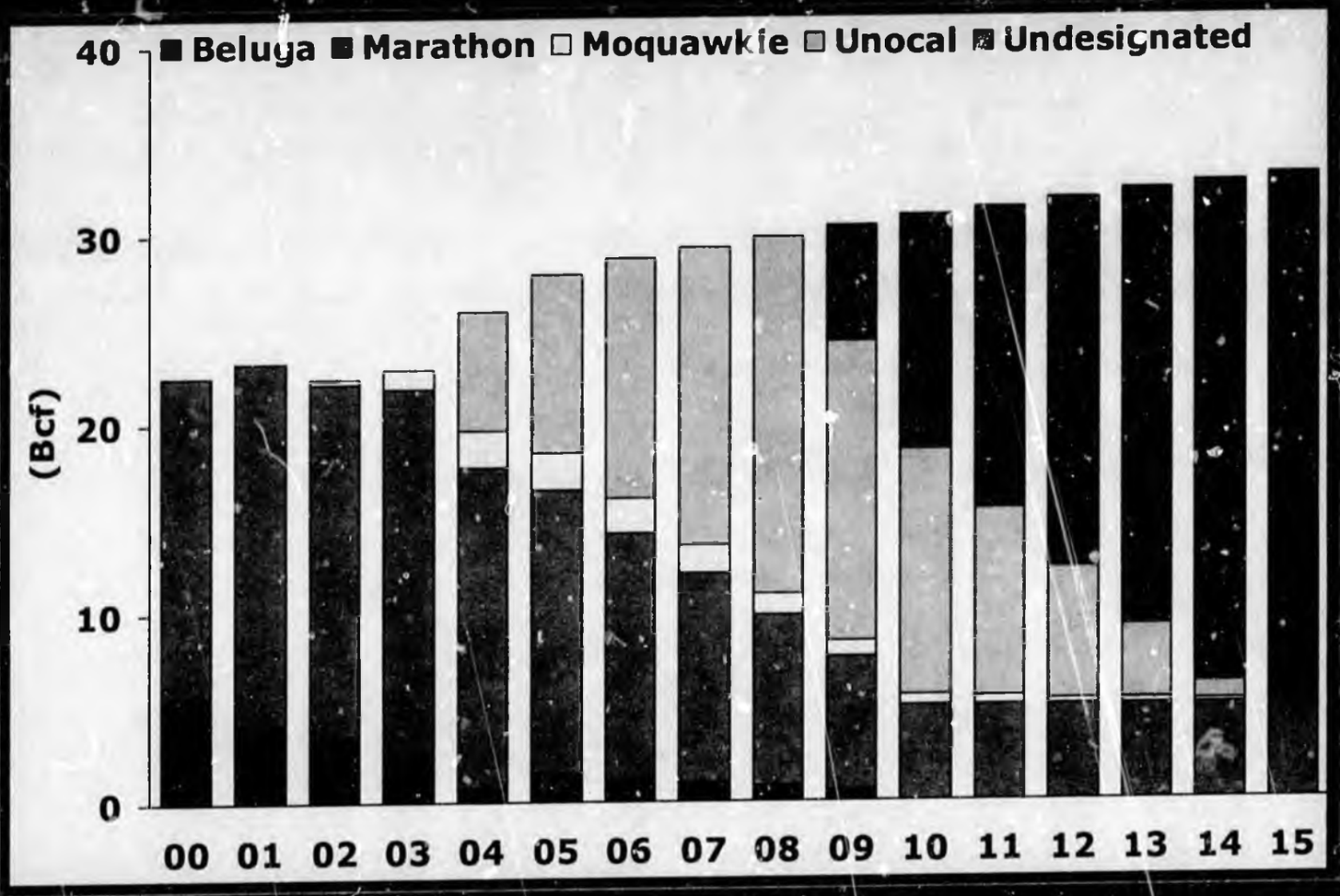
- Over 318,000 natural gas consumers


Weighted Average
Cost per Mcf
$3.93
Beluga
6%
.53
Beluga (Oil price)
Unocal (Henry Hub)
Moquawkie (Inflation)
Marathon (Oil)
ENSTAR
Natural Gas Company
All Our
Goes Into Our Customers
Slide 10



ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers



ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

- Contract for additional supply
  - We have clearly moved from an "Excess Supply" market to a "Supply & Demand" market
- Identify and evaluate options to meet future natural gas demand
  - Achieved Federal support for an in-depth Department of Energy study of Cook Inlet supply and demand

- Determine future demand and supply of natural gas in South Central Alaska (Cook Inlet Basin) and **evaluate options** to meet the long-term demand

- Final Report released: July 2004
  - Full report can be found at: www.fe.doe.gov

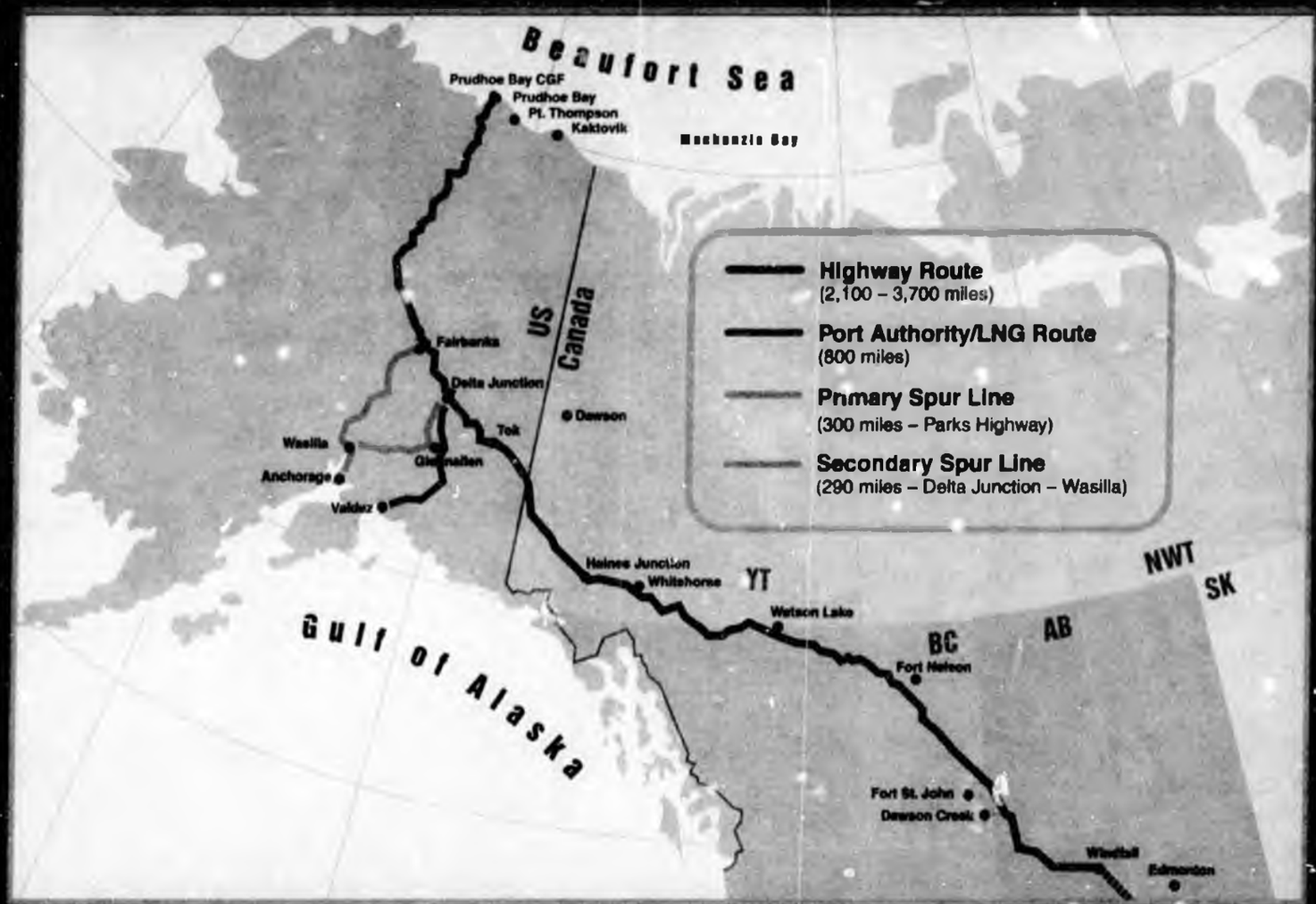
1. Reserves Growth in Cook Inlet

2. New Exploration in Cook Inlet

3. North Slope Gas to Cook Inlet

- Exploration, reserves growth, or some combination can provide additional supply
- With assumed reserves growth (1.5 Tcf), there may be sufficient gas through 2025 for commercial and residential consumers and perhaps one industrial user
  - Reserves growth is estimated at $465 million

- The potential exists for an additional 13-17 Tcf of conventionally recoverable gas
- Investment required to explore and develop 50% of the estimated resources ***potentially*** available to be discovered could require investment of $5 to $6 billion, if the fields are onshore
  - If the fields are offshore, the investment needed would be higher



ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

A North Slope gas pipeline has potential to moderate prices in the south central Alaska region

- Opportunity for a favorable price differential between Henry Hub and South Central Alaska

- Depending on North Slope to Chicago tariff charges, a spur could provide a $1.00/Mcf cost advantage over Henry Hub prices

- Opportunities:
  - Create value-added products in Alaska
  - Competitive industrial businesses

- Partnering with Department of Energy, ML & P & Chugach Electric and all concerned parties
- Analyzing the optimum mix of energy supply options to ensure continued economic growth in Alaska
- Measure possible benefits, costs and challenges of developing gas storage facilities in South Central Alaska
- Provide a detailed conceptual analysis to define the cost and benefits of a spur pipeline between South Central Alaska and Fairbanks

Access to North Slope gas for all utilities is absolutely critical

- Alaska could enjoy a 20-25% price advantage over the lower 48 with access to North Slope gas
- Who will commit to delivering gas to Alaska consumers by 2012?
- Who is ready, willing and able to begin a gas line to meet this schedule?
- Who has economic interests most closely aligned with Alaska Consumers?

Now is the time to focus on responsible resource development with the appropriate urgency to ensure low cost energy for this and future generations

All Our Energy Goes Into Our Customers

HCR

2

REPRESENTATIVE RALPH SAMUELS

HOUSE DISTRICT 29

HCR 2

This resolution is a request to Governor Murkowski to take quick action to carry out a study of in-state needs for natural gas within Alaska. As the FERC regulations that were issued in Order No. 2005 specify that this study must be completed before an open season and pipeline design can occur, time may be a critical factor. The sponsor intends the Legislature to offer support and encouragement to the governor in this endeavor.

Email: Representative_Ralph_Samuels@legis.state.ak.us

Session: Alaska State Capitol, Juneau, Alaska 99801-1182 • Phone: (907) 465-2095 Fax: (907) 465-3810

Interim: 716 W. 4th Ave., Anchorage, Alaska 99501-2133 • Phone: (907) 269-0240 Fax: (907) 269-0242

SUMMARY OF FERC ORDER
ON
ALASKAN GAS PIPELINE OPEN SEASON
(ORDER NO. 2005)
PREPARED BY
DONALD C. SHEPLER

ROLLED-IN PRICING FOR EXPANSIONS

Establishes a "rebuttable presumption" for use of rolled-in pricing for expansions (Pp. 43 and 56).

Finds that a rate increase from an expansion is not a "subsidy" if the new rate is no higher than the original rate. Leaves for future determination the question of whether the original rate itself was subsidized by virtue of the loan guarantees and the tax benefits (P. 43).

PRE-SUBSCRIPTION AGREEMENTS

Pre-subscription/anchor shipper agreements are allowed but only for the initial pipeline capacity (not for expansions).

Pre-subscription agreements must be made public within 10 days and other qualified bidders are entitled to negotiate the same terms and conditions and rates with the project sponsors

In case of oversubscription of capacity through pre-subscriptions and open season bids, the design capacity must be adjusted to accommodate all qualified bidders or pre-subscription shippers (and others adopting pre-subscription terms/conditions/rates) must bear all pro-rata reductions in capacity (Pp. 13-14 and 51)

IN-STATE NEEDS, DELIVERY POINTS AND STUDIES

Open seasons must conduct or adopt a study of consumption needs and prospective delivery points in the state, and rely on such study to develop the contents of the open season notice (Pp. 20 and 51).

Study shall be identified in the Notice and, if practicable, include or consist of a study conducted, approved or otherwise sanctioned by an appropriate governmental agency, office or Commission of the State of Alaska (Pp. 20 and 51).

Order cites to 2002 Study of in-state gas demand conducted by DNR (Pp. 17-18).

Notice of open season shall include an estimate (based on State's study) of how much capacity will be used in-state (P. 51).

Notice of open season must include a proposed in-state transportation rate based on the cost of providing that service (i.e., excluding costs related to out-of-state deliveries) (Pp. 20 and 52).

TIMING AND DURATION OF OPEN SEASONS FOR INITIAL PIPELINE

Sponsors must provide 30-day notice prior to start of open season and open season must last at least 90-days (Pp.18, 51 and 54).

Sponsors must also file at FERC for approval by FERC detailed plans for proposed open season. This filing must be made at least 90-days prior to the start of the 30-day notice period (thus total "heads-up" time is at least 90-days (FERC filing) plus 30-days (public notice of open season) plus 90-days (duration of open season process) = 210 days) (Pp. 38 and 56).

EXPANSION EVALUATION DATA

Order does not require posting and updating of data that would allow independent assessment of expansion economics but indicates FERC will review project design for

expansibility at the outset and indicates that open season data plus certificate filing data should provide adequate information for independent evaluation (Pp. 29 and 36).

BID-EVALUATION CAPS

Order does not adopt bid-evaluation caps, but adopts "Standards of Conduct" rules to prevent affiliate abuse (production affiliate gaining information from pipeline affiliate) (Pp.26-28 and 53-54).

FERC will monitor results of open seasons to determine the appropriateness of any "unusually long contract terms (*e.g.*, a term exceeding the projected life of the pipe)" to determine whether shippers incorporated such terms in their bids to obtain an allocation of capacity (P. 33).

RULES RESPECTING ALLOCATION OF CAPACITY

Project sponsors must indicate in open season materials how capacity will be awarded and allocated (Pp. 32 and 53).

Any award/allocation methodology must not be unduly discriminatory or unduly preferential, and it is the Commission, not the sponsors who will apply those criteria to an open season (Pp. 32 and 55).

While no particular methodology for awarding/allocating capacity is being prescribed, any departure from a Net Present Value ("NPV") methodology heretofore standard in Lower-48 open seasons will be examined carefully (P. 32).

HCR 2
Background Memo regarding In-State Alaska Natural Gas Demand
Division of Oil and Gas
February 23, 2005

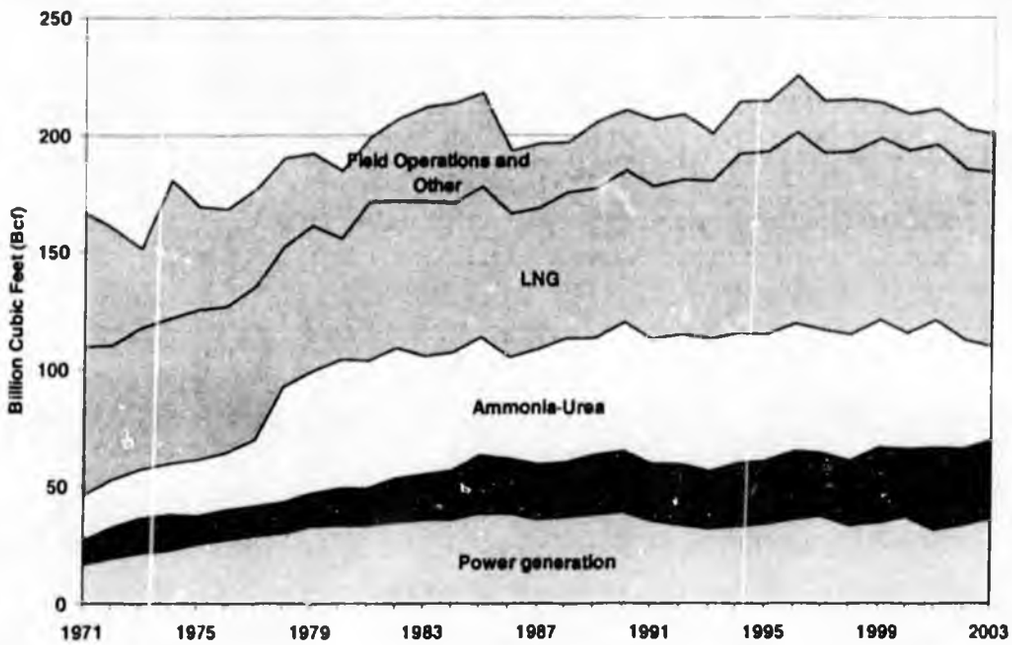
This memo summaries potential in-state gas demand in the Southcentral Energy Belt and the greater Fairbanks area based on a review of three recent studies:

- *Alaska Natural Gas In-State Demand Study* for DNR by Econ One. January 2002.
- *ANGDA Revenue and Cost Model Instruction Manual* (and model) for ANGDA by Northern Economics, June 2004.
- *Fairbanks to Anchorage Spur Report – Updated Analysis* for DNR by Lukens Energy Group, June 2004.
- *South-Central Alaska Natural Gas Study* – Prepared for the U.S. DOE by Charles Thomas et al., Science Applications International Corporation, August, 2004.

Sourth-Central Alaska

Current gas usage in Southcentral Alaska for all sectors is approximately 200 billion cubic feet per year (Exhibit 1.) Industrial usage from fertilizer manufacture and LNG exports accounts for about 60 percent of total gas consumption in the Cook Inlet Basin (CIB).

Exhibit 1. Cook Inlet Basin Natural Gas Consumption by Major Group, 1971-2003.



The future of industrial gas demand in the CIB, which relies on inexpensive, baseload gas supply, is uncertain due to tightening supply and the rising cost of gas in the Cook Inlet Basin. For example, the Agrium has been operating at reduced levels during 2003-04 and has indicated that plant closure is a possibility before the end of 2005 if adequate gas supply is not secured. Also, the Kenai LNG Plant export license expires in April 2009. So far, ConocoPhillips and Marathon have taken no steps publically to renew this license. The Department of Revenue (DOR) Prevailing Value for Cook Inlet gas is currently $3.00 per mcf and has risen steadily over the past few years, in part due to high oil prices.

Greater Fairbanks Area and Interior Alaska

Current gas usage in Fairbanks in 2004 is approximately 500 million cubic feet per year (0.5 Bcf per year). This usage arises from an incipient but rapidly expanding local gas distribution (LDC) system operated since 1998 by Fairbanks Natural Gas, LLC (FNG). The FNG residential and small commercial customer base increased from 130 to 631 between 2000 and 2004.[1] Despite the rapid growth, this total Fairbanks usage of 0.5 Bcfy is, by comparison, a small fraction of the 200 Bcfy produced and consumed in the Cook Inlet Basin (CIB), as shown in Exhibit 1 (below).

Steady LDC expansion of residential and commercial usage in the greater Fairbanks area could result in growth to about 3 Bcfy by 2009 but would probably require gas supplies from sources beyond those currently used by FNG (E.g., new North Slope and/or Nenana Basin supplies). Central station electric power usage could increase consumption by another 6.5 Bcfy (assuming 50% gas-by-wire penetration). These potential residential, commercial, and power usages in 2009 combine to about 10 Bcfy, or about 5% of the current gas usage in the CIB. It still would amount to a fractional 6/10th of one percent of expected throughput for a major sales gas pipeline from the North Slope (1,570 Bcfy based on 4.3 Bcf per day at outlet of GTP).

The outlook for gas use and offtake beyond 2009 is less certain but it is possible explore some contingent scenarios. If we assume higher gas-fired, central-station power penetration plus fuel-switching among interior-region utilities within range of a major gas pipeline, then power usage could increase to 27 Bcfy but this is a stretch.[2] Adding industrial load (including new industries) would increase the range of possible gas usage by another 30 to 300 Bcf per year depending on the particular industrial application. On top of this, a potential CIB gas supply shortfall could be served by a spur pipeline from Fairbanks to Anchorage. This highly uncertain shortfall could range from zero to 90 Bcfy by 2020, depending on assumptions about future CIB recoverable reserves growth, continued industrial usage, and spur pipeline economics. Plausible CIB shortfall estimates of between 18 and 91.5 Bcfy are considered in Exhibit 2, based on the analysis of Lukens Energy Group.[3]

Summary for Interior and South-Central

Exhibit 2 summarizes combined medium- and high-case outcomes for 2020, conditioned on assumptions about power and industrial usage, the potential future gas supply shortfall in the CIB, and Fairbanks-to-Anchorage spur line economics. When industrial usage and CIB gas shortfall are considered, the amount of total gas offtake in the greater Fairbanks area could rise to levels ranging from 4-to-27 percent of total gas pipeline throughput. Gas demand in the greater Fairbanks area rising to 400 Bcfy is very unlikely. It would occur only in conjunction with a major industrial usage, such as a large-scale NGL processing plant of the class found in the Alberta NOVA system. Future natural gas usage in the neighborhood of 10-to-70 Bcfy – not counting the potential CIB gas shortfall – is probable given the Interior region's high prevailing heating degree day load and energy costs, and its proximity to a major source of future natural gas transmission. Nenana Basin gas resources, which are estimated to range from 250 to 3,000 Bcf, could serve this potential future demand and/or provide a source of supplemental gas for replacement of offtake volumes for transmission to North American markets.[4]

---

[1] FNG liquefies and transports LNG by truck and trailer from Point McKenzie to its storage facility in Fairbanks. The operation involves 2-to-4 truckloads per week of about 9,500 gallons of LNG (760 Mcf) per truckload.

[2] Interior region fuel-switching power plants include the communities: Chena, Chistochina, Dot Lake, Healy, Mentasta, North Pole, and Tok.

[3] Energy in the form of "gas-by-wire" could be generated in Fairbanks and delivered to Southcentral Alaska, as an alternative to a gas spur pipeline.

[4] Nenana Basin gas resource estimates are: 250-to-1,000 Bcf (Doyon); 3,000 Bcf (Andex); and 867 Bcf (USGS).

Exhibit 2.
Potential In-State Demand for Natural Gas in the Greater Fairbanks Area

	Actual		Projected		
	2000	2004	2009	2020	
				(medium)	(high)
	(Billion Cubic Feet per year)				
Res & Comm[1]	0.1	0.5	3.1	6.5	
Power[2]			6.5	12.0	27.0
Industrial[3]			-na-	30.0	300
SubTotal	0.1	0.5	9.6	42.5	333.5
Expected Southcentral Shortfall[4]				18.0	91.5
TOTAL	0.1	0.5	9.6	66.5	425.0
Proportion of Cook Inlet Basin		0.3%	4.8%	33.2%	212.5%
Proportion of Gasline Throughput		0.035%	0.6%	4.2%	27.1%

[1] Equal to 2000 and 2004 actual gas usage in the Fairbanks local gas distribution system operated by Fairbanks Natural Gas, LLC.
Projection in 2009 based on Econ One (2002) study for DNR assuming 50% penetration for both residential and commercial space heating.
Projection in 2020 based on extrapolation of actual usage growth during 1998-2004 using 2nd order polynomial time-trend model.

[2] Based on central station (gas-by-wire) civilian and military power generation in Greater Fairbanks region assuming 50% penetration in 2009 and 83% penetration in 2020 (Econ One).

High-case power consumption (27 Bcfy) based on combination of central station (gas-by-wire) and fuel-switching in interior region utilities that could be served by gas pipelines.

[3] Examples of Industrial usage are:
Internet Server Farm - 4.3 Bcfy (Econ One)
Petchem Plant - 30-to-300 Bcfy (Econ One and ANGDA)
Fairbanks Separator Plant - 73 Bcfy (ANGDA)
Fertilizer Plant - 50 Bcfy (Agrium)

[4] Medium-case based on 50 Mmcfd assuming 1.5 Tcf reserves expansion in Cook Inlet Basin (CIB), LNG closure in 2009 and Fertilizer at 50%.
High-case based on 250 Mmcfd assuming zero reservers growth in CIB, Fertilizer plant clos in 2006, LNG plant closure in 2009. (Lukens)

Areas for Further Research

- Feasibility for Petchem in Fairbanks
- Spur pipeline costs
- Gas-by-wire feasibility (reverse the Railbelt Intertie)
- Engineering/ cost study for installation of gasline offtake and step-down equipment in Fairbanks and other Interior Alaska locations.

HOUSE COMMITTEE REPORT

(9)

Date Referred to Committee: February 18, 2005 **FURTHER REFERRALS:**

Date of Committee Action: 02/23/05

The RESOURCES Committee considered: **HCR 2**

HOUSE CONCURRENT RESOLUTION NO. 2 **IN-STATE NATURAL GAS NEEDS**

Urging Governor Murkowski to take quick action to conduct, approve, or sanction a study of in-state natural gas needs and take-off points for intrastate use of natural gas transported in a North Slope natural gas pipeline.

Recommends it be replaced with [ ] HCS *or* [ ] CS *for* _____(_____)
For Senate Bills with new title: [ ] Technical Title [ ] New Title: HCR_____ **[ ] Same Title [ ] New Title**

[ ] attach amendments
[ ] add new referral to _____Committee
[ ] Letter of Intent_____Committee

List of Abbrev for Depts.:
ADM
CED
COR
CRT
EED
DEC
DFG
GOV
HSS
LEG
LAW
LWF
MVA
DNR
DPS
REV
DOT
UA

***NEW* FISCAL NOTES**
*Assigned by Chief Clerk's Office

List by Dept(s):	*FN#	Fiscal	Indet.	Zero

***PREVIOUS* FISCAL NOTES**

List by Dept(s):	FN#	Fiscal	Indet.	Zero

Signing with recommendations	Printed Last Name	DP	DNP	NR	AM
	OLSON	✓			
	KAPSNER	✓		✓	
	Seaton	✓			
	ELKINS	✓			
	LaDoux	✓			
Chair:	RAMKAS	X			
Chair:	SAMUELS	X			

HCR

3

Representative Jay Ramras
Co-Chair, House Resources
V-Chair, Economic Develop.
Tourism & Trade
House State Affairs
119 N. Cushman St. Suite 207
Fairbanks, Alaska 99701
Phone: (907) 452-1088
Fax: (907) 452-1146

Alaska State Legislature

While in Session
State Capitol, Room 104
Juneau, Alaska 99801-1182
(907) 465- 3004
Fax: 465-2070
Toll Free: (877) 465-3004

House District 10

House of Representatives

Sponsor Statement

HCR 3

House Concurrent Resolution 3 follows action taken by the 23rd Alaska Legislature to begin the process of determining a broad understanding of the State of Alaska's future energy needs.

While we continue to rely on oil and gas as our primary energy source, HCR 3 opens the door for renewable energy as a key component of long-term cost effective sources of energy for both urban and rural Alaskan communities. HCR 3 acknowledges that the development of renewable sources of energy is a strong potential source of economic development in the State of Alaska. With the expertise and resources available in the state, Alaska could lead the way in wind, geo, tidal, hydrogen, and biofuels.

HCR 3 encourages Governor Murkowski to join the Legislature by taking action in relation to further the development and production of renewable energy resources.

Representative_Jay_Ramras@legis.state.ak.us

HOUSE COMMITTEE REPC T

(9)
Date Referred to Committee: March 3, 2005 **FURTHER REFERRALS:**

Date of Committee Action: 03/14/05

The RESOURCES Committee considered: **HCR 3**

HOUSE CONCURRENT RESOLUTION NO. 3 **RENEWABLE ENERGY ALASKA PROJECT**

Relating to renewable energy resource development.

Recommends it be replaced with [ ] HCS *or* [ ] CS *for* _____(_____)
For Senate Bills with new title: [ ] Technical Title [ ] New Title: HCR_____ **[ ] Same Title [ ] New Title**

[ ] attach amendments
[ ] add new referral to _____Committee
[ ] Letter of Intent_____Committee

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NEW FISCAL NOTES *Assigned by Chief Clerk's Office

List by Dept(s):	*FN#	Fiscal	Indet.	Zero

PREVIOUS FISCAL NOTES

List by Dept(s):	FN#	Fiscal	Indet.	Zero
CED				✓

Signing with recommendations	Printed Last Name	DP	DNP	NR	AM
	OLSON	✓			
	ELKINS	✓			
	LOVE	✓			
	CRAWFORD	✓			
	SEATON	✓			
Chair:	SAMUELS			X	
Chair:	RAMRAS	X			

HOUSE COMMITTEE REPORT

3-3-05

(7)

Date Referred to Committee: February 22, 2005 **FURTHER REFERRALS: Resources**

Date of Committee Action: March 2, 2005

The LABOR AND COMMERCE Committee considered: **HCR 3**

HOUSE CONCURRENT RESOLUTION NO. 3 **RENEWABLE ENERGY ALASKA PROJECT**

Relating to renewable energy resource development.

Recommends it be replaced with [ ] HCS *or* [ ] CS *for* _____ (_____)
For Senate Bills with new title: [ ] Technical Title [ ] New Title: HCR_____ **[ ] Same Title [ ] New Title**

[ ] attach amendments
[ ] add new referral to _____Committee
[ ] Letter of Intent_____Committee

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UA

NEW FISCAL NOTES *Assigned by Chief Clerk's Office

List by Dept(s):	*FN#	Fiscal	Indet.	Zero
H.L&C/CED	1			X

PREVIOUS FISCAL NOTES

List by Dept(s):	FN#	Fiscal	Indet.	Zero

Signing with recommendations	Printed Last Name	DP (3)	DNP	NR (1)	AM
Harry J Crawford Jr	CRAWFORD	X			
	LeDoux	X			
	ROKEBERG			X	
Chair: Tom Anderson	ANDERSON	X			
Chair:					

FISCAL NOTE

STATE OF ALASKA
2004 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: HCR 3
(H) Publish Date: 3/3/2005

Revision Date/Time (Note if correction):
Dept. Affected: DCCED
Title: RENEWABLE ENERGY PROJECT
BRU
Component
Sponsor: Rep. Ramras
Requester: Rep. Ramras
Component No.

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

OPERATING EXPENDITURES	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Personal Services	0.0	0.0	0.0	0.0	0.0	0.0
Travel						
Contractual						
Supplies						
Equipment						
Land & Structures						
Grants & Claims						
Miscellaneous						
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES						
CHANGE IN REVENUES ( )						

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other (Specify Type--Do not abbreviate)						
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2004) cost: 0.0
Mark this box (X) if funding for this bill is included in the Governor's FY 2005 budget proposal:

POSITIONS

Full-time						
Part-time						
Temporary						

ANALYSIS: *(Attach a separate page if necessary)*

This resolution has no fiscal impact.

Prepared by: Rep. Tom Anderson, Chair
Phone
Division: House Labor & Commerce Committee
Date/Time 3/3/05 10:01 AM
Approved by: Rep. Tom Anderson, Chair
Date 3/3/2005
Agency: House Labor & Commerce Committee

The Color of Electricity

Green power is coming to GVEA

What is green power?

While electrons may be undistinguishable from other electrons, their fuel sources can be quite different.

Green power is electricity supplied from one or more renewable energy sources. Wind, solar, water, geothermal, water, biomass and tides fall into this category. They're renewable because such energy is continually being rejuvenated by nature.

Historically most of our nation's electricity has been generated from fossil fuels such as coal, oil and natural gas. These fuels sources are commonly referred to as non-renewable energy because once such fuel is spent, it is not quickly regenerated by nature.

Why support green power?

Golden Valley has been evaluating programs and options for producing and purchasing green power for a few years. We know from surveying our members that:

- **86%** agree electric utilities need to plan now for when non-renewable resources start running out.
- **82%** agree GVEA needs to invest in developing alternative energy sources now to ensure long-term electric reliability.
- **79%** agree it means a lot to them if electricity comes from environmentally sound sources.
- **72%** agree that developing green power is necessary in order to reduce pollution emissions from burning fossil fuels.
- **64%** agree that increasing use of green power will reduce the nation's dependence on imported oil and increase national security.

Why does it cost more?

It may seem contradictory that green power – with its basically free fuel source – would cost more than non-renewable power. While the cost of producing green power is coming down, it is still more expensive than traditionally-generated power.

Wind power can be less expensive than coal or oil-generated power, but only in the situation of an optimally placed wind farm large enough to see significant economy of scale. The biggest wind farm GVEA could install before conflicting with the electrical limitations of our grid is not big enough to reach the desired economies of scale.

First electrical grid management technologies would need to be developed that allow us to feed the grid with 50 to 100 or more megawatts of wind. Then we would be able to install a wind farm that produced power at less cost than we could generate it. Currently a grid can have no more than 20 percent of its power from wind or a number of technical problems occur. Of course, this scenario relies on the availabili of sufficient wind resources to produ this much power.

Golden Valley is pursing wind gener tion sites in the Interior. We're als evaluating the potential for joint pr jects with other utilities in the state th may address the economies of scal and grid limitation issues.

In terms of technology, the trend fc renewable generation is like the tren for VCRs. When they first came on th market in the 1970s, costs exceede $2,000. But 30 years later you can nov find VCRs for about $50. In addition the technology is even better and th size of these units has decreased great ly. Such is the trend for nonrenewable generation technologies – the technology is improving, the efficiency is greater and the price is dropping.

Another reason green power is still more expensive than non-renewable power lies in capital costs. For example, the capital cost of a conventional power plant is lower than the capital cost of a wind generator. Solar and hydropower costs have even higher capital costs.

Another issue influencing cost is the fact that green power sources, such as wind and solar, only produce power when weather conditions are right. The rest of the time, a utility would need to rely on power produced by a conventional power plant.

So installing green power generation doesn't avoid the need for conventional plants. Instead, members must pay for the costs of two plants to cover the same amount of load. The only monetary savings is from the fuel not used in the conventional plant while green fuel sources are producing power.

How is it delivered?

Green power generated and distributed through Golden Valley's electric system would become part of the mix. Green power cannot be directed from a specific source to a specific meter.

For example, GVEA is part owner of the Bradley Lake Hydroelectric Project on the Kenai Peninsula. Our share of this green power source is 20 megawatts. The power is transmitted over the Intertie and is added to our total power generation mix.

The benefit is in the impact this green power project has on the environment. It reduces the amount of fossil fuel burned and subsequently the amount of emissions created.

When will green power be available at GVEA?

We expect to offer members a green power program before the end of the year. Our Alternative Energy Team is modeling the program after Chelan County Public Utility District's award winning SNAP program. SNAP stands for Sustainable Natural Alternative Power.

Chelan County PUD owns and operates the nation's second largest non-federal, publicly owned hydro generating system. In addition to the generation and sale of electricity, the District also provides water and wastewater service to residents of Chelan County. Chelan is located in central Washington.

Watch for this logo as we finalize plans to offer a green power program to GVEA members. The program would call for voluntary green power producers and voluntary purchasers of green power.

The SNAP program has two basic parts: Green power producers and green power purchasers.

The SNAP program would allow small scale power producers to distribute the power they generate using renewable resources through our electrical grid. These producers would not keep any of the power they produce.

The program would also allow members an opportunity to purchase alternative energy and support local producers of power from renewable resources. Members who wish to participate would sign up for a specific amount to be added to their bills on a monthly basis.

Like Chelan's SNAP program, funds collected would go directly to the local producers who supply power into the electrical grid for use by co-op members.

GVEA's Alternative Energy Team is working closely with the co-op's Green Power Advisory Committee, which was formed in 2003. We expect to offer a SNAP program at GVEA before the end of this year.

Chelan County PUD has more than 700 customers participating in their SNAP program as either producers or purchasers.

Who benefits?

Golden Valley members, the co-op and the environment all benefit from the advent of green power in our mix.

We know environmentally responsible power is a great concern for many members. We agree. The SNAP program will offer members the opportunity to support green power.

The cooperative benefits by expanding services to our members and by adding another fuel source to our mix.

Perhaps most importantly, a SNAP program is one more step we take as a community to take care of our environment.

While our SNAP program may look a bit different than Chelan's program, you can find more information at www.chelanpud.org.

GVEA

Golden Valley Electric Association

452-1151 • 1-800-770-GVEA • www.gvea.com

Alaska is blessed with some of the best renewable energy resources in the world, with wind, geothermal, tidal, hydro, and biofuels that all have commercial potential. Though solar is a proven application for small-scale use, there is currently no large-scale potential. Below is a short description of some of Alaska's renewable energy resources.

Wind

Alaska's wind resources are world class, with much of western Alaska and the Aleutians having the best wind in North America, according to the Department of Energy's wind atlas. The wind resource includes places like Kotzebue, which has proven that today's advanced technology works well even above the Arctic Circle. Last year Kotzebue Electric Association's turbines were available to make electricity 98% of the time and displaced over 100,000 gallons of diesel use. Kotzebue's success has led many other villages to look into the possibility of wind power to offset rapidly rising diesel costs. In 2004 the Denali Commission and the Alaska Village Electric Cooperative (AVEC) installed a wind system in Selawik. Over 50 other villages have been identified by the Alaska Energy Authority has having viable wind resources.

On the railbelt, Chugach Electric Association has been investigating wind near Anchorage for almost five years, and has found an excellent resource off the coast on Fire Island. The Fire Island wind development could eventually generate 100 megawatts of power. (To put that in perspective, the total peak electricity load on the entire railbelt is about 700 megawatts). In the U.S., wind energy is the fastest growing segment of the energy market, swelling at an average annual rate of 28% over the last five years. The highly efficient wind turbines that are being installed around the United States today can produce electricity for about the same cost as coal and natural gas fired plants.

Producing power from wind at Fire Island would provide a hedge against increasing natural gas prices which utilities currently rely on to generate power. Because there are zero fuel costs with renewable energy resources like wind, it's relatively easy for a utility to predict exactly how much power will cost for the 25 year life of the wind project. This allows utilities to plan well into the future. If the price of natural gas continues to increase rapidly, wind power could be cheaper than gas fired electricity relatively soon.

Municipal Light and Power (ML & P), Golden Valley Electrical Association, and Homer Electric Association are also all interested in the Fire Island wind development.

Geothermal

Alaska's geothermal resources are spread all over the state. The state has about 140 hot springs and over 40 active volcanoes. Chena Hot Springs Resort is in the process of building the state's first geothermal plant, which will generate 400 kilowatts and provide enough power for the resort 365 days a year. Private developers are also considering investments to produce geothermal electricity at Akutan and Dutch Harbor in the Aleutians, and Pilgrim Hot Springs near Nome. Besides interior hot springs like Chena, there is also geothermal activity in Southeast Alaska and the Wrangell Mountains. Mt.

Spurr could perhaps be the most promising prospect of all because of its close proximity to Southcentral's large electricity demand. The volcano is only about 40 miles from the transmission grid at Beluga. More exploration near Mt. Spurr could pay significant future returns.

Biofuels

Alaska has enormous untapped potential to make fuel from biological resources like fish oil, wood waste, and municipal garbage.

Perhaps the greatest potential source is the "biodiesel" being produced by collecting fish oil at fish processing plants. Last year the seafood producer UniSea, Inc., at Dutch Harbor displaced 1.25 million gallons of diesel by burning a 50/50 fish oil-diesel blend in its diesel generators and boilers. Fish oil requires minimal processing to be usable as fuel—an additional mechanical filtration step is all that is needed. Locally produced fish oil biodiesel blend fuels have the potential to create a cost-effective, sustainable energy supply for use in remote regions of Alaska, yielding cost savings and reducing dependence on imported diesel.

Advanced bioethanol technology turns ordinary low-value plant materials such as sawdust or waste paper into fuel ethanol. In 2004 Nova Fuels, Inc. announced that it would like to build an ethanol plant in Ketchikan that will convert wood waste and garbage into about 15 million gallons of ethanol per year. The company would take over the old Wards Cove site. The plant, which will cost an estimated $60 million, would employ between 35 and 50 people. The project could take garbage and wood waste from communities around the region and make it into a liquid transportation fuel.

Another potential biofuel project would capture the methane that is currently escaping from the Anchorage landfill. Today it's estimated that the gas has an energy potential equivalent to about 57,000 gallons of diesel per day. By the end of the landfill's life around 2045 it would be producing the energy equivalent of about 135,000 gallons of diesel per day.

REAP is investigating the potential for other biofuel projects around the state.

Tidal

Also known as marine power because energy can be captured from either tides or waves, this technology is in its infancy. It is currently being tested in Europe. Last year a wave project successfully brought power to 500 homes in Scotland. This spring six underwater turbines will be placed at the bottom of the East River in New York City to provide power to a food market on Roosevelt Island. San Francisco is also studying how it can tap into the energy of the waves and tides that surge under the Golden Gate Bridge. As the technology matures and becomes cost competitive, Alaska has enormous potential to develop tidal electricity projects in areas of great tidal fluctuation like Cook Inlet. REAP is following this technology and any proposals to test projects in Alaska.

Hydrogen

Many believe that using hydrogen in fuel cells to produce electricity for homes, industry, and vehicles is the future of power production. If this scenario develops, Alaska could use its renewable energy resources to make hydrogen through electrolysis. Electrolysis using electricity generated with gas or coal produces little net energy gain because of the fuel that is consumed in the process. However, if Alaska uses it vast wind and geothermal potential in the Aleutians to generate electricity to produce hydrogen from water, Alaska could become an exporter of hydrogen to Asia. Iceland is already positioning itself to use its geothermal resources and expertise to make hydrogen for Europe.

In the short term, if Fire Island is developed, Anchorage could elect to join a handful of cities in the world that are demonstrating fuel cell vehicles. (In 2003 Shell Oil built a "filling station" in Reykjavík, Iceland that dispenses hydrogen made through electrolysis into the city's fuel cell buses). Anchorage's hydrogen could be made through electrolysis fueled by wind-generated electricity. Fire Island could bring Anchorage to the forefront of changes in energy and transportation that are currently re-shaping the world.

Economic Development Benefits of Renewable Energy

From a Report by the Union of Concerned Scientists at http://www.ucsusa.org/clean_energy/renewable_energy/page.cfm?pageID=98

Renewable energy technologies can not only keep dollars in this country, but also create significant regional benefits through economic development. Many states are dependent on energy imports. Iowa and Massachusetts, for example, each import about 97 percent of the energy they use.[33] Renewable technologies create jobs using local resources in a new, "green," high-tech industry with enormous export potential. They also expand work indirectly in local support industries, like banks and construction firms. As the table shows, during the 1990s, the US renewable electricity industry employed nearly 117,000 people.[34]

TABLE 1

Employment in the Renewable Electricity Industry

	Direct Employment	Indirect Employment	Total Employment
Wind (1992)	1,260	4,350	5,610
Biomass (1992)			66,000
Photovoltaics (1994)			15,000
Solar Thermal (1994)	250	250	500
Geothermal (1996)	10,000	20,000	30,000
Total			**116,860**

Some renewable technologies, like biomass, are relatively labor intensive, which is one of the reasons they are slightly more expensive than their fossil fuel counterparts. For example, growing, harvesting, and transporting biomass fuels all require labor, as does maintaining the equipment. This means that much of the revenue for installing, fueling, and operating renewable power plants remains within the region where the power is used.

Renewables can mean increased revenues for local landowners. A Union of Concerned Scientists (UCS) analysis found that farmers could increase their return on land by 30 to 100 percent from leasing part of it for wind turbines while continuing to farm.[35] Another study found that adding 10,000 MW of wind capacity nationally would generate $17 million per year in land-use easement payments to the owners of the land on which the windfarms are situated, and $89 million per year from maintenance and operations.[36]

Renewables can contribute heavily to local taxes. Wind farms in California pay $10 million to $13 million in property taxes. And manufacturing capital-intensive renewables technologies can also be done domestically. According to the American Wind Energy Association, at least 44 states are involved in manufacturing wind energy system components.[37]

A UCS analysis for Wisconsin found that, over a 30-year period, an 800-megawatt mix of new renewables would create about 22,000 more job-years than new natural gas and coal plants would.[38] A New York State Energy Office study concluded that wind energy would create 27 percent more jobs than coal and 66 percent more than a natural gas plant per kilowatt hour generated.[39] A study of energy efficiency and renewable energy as an economic development strategy in Colorado by Economic Research Associates found an energy bill savings of $1.2 billion for Colorado ratepayers by 2010 with a net gain of 8,400 jobs.[40]

The California Energy Commission estimates that the 600 MW of new renewables that will be built using $162 million in public benefits funding in the state restructuring law will induce

- $700 million in private capital investment
- 10,000 construction jobs, with over $400 million in wages
- 900 ongoing operations and maintenance jobs with $30 million in long-term salaries
- gross state product impacts of $1.5 billion during construction and $130 million in annual ongoing operations.[41]

In addition to creating jobs, renewables can improve the economic competitiveness of a region by enabling it to avoid additional costly environmental controls on other industries, as well as by stabilizing long-term energy prices.

Renewables can also contribute to economic development by providing opportunities to build export industries. In developing countries that do not have electricity grids, pipelines, or other energy infrastructure, renewable energy technologies can be the most cost-effective options for electrifying rural villages. The American Wind Energy Association has estimated that global markets for wind turbines alone will amount to as much as $400 billion between 1998 and 2020.[42]

Other industrial countries are leaping ahead of the United States in renewable energy production, however, because they value the environmental benefits more highly and because they recognize the opportunity to supply export markets. In fact, Japan and various European nations are encouraging the development of renewables by providing

greater subsidies than does the United States.[43]

33. US Department of Energy, *Dollars from Sense: The Economic Benefits of Renewable Energy*, 1998, online at www.eren.doe.gov/utilities/pdfs/dollars.pdf. Includes many excellent examples of renewables/economic development synergy.
34. The US geothermal industry as a whole employs about 40,000. According to the National Corn Growers Association the corn-to-ethanol industry employs about 55,000 people (5,800 direct and 48,900 indirect).
35. Michael Brower, Michael Tennis, Eric Denzler and M. Kaplan, *Powering the Midwest: Renewable Electricity for the Economy and the Environment*, Union of Concerned Scientists, 1993.
36. Jamie Chapman, OEM Development Corp. and Steven Wiese, Planergy, Inc., *Expanding Wind Power: Can Americans Afford it?*, Renewable Energy Policy Project Research Report No. 6, October 1998. Available online at www.repp.org/index_ar.html.
37. *The Effect of Wind Energy Development On State and Local Economies*, National Wind Coordinating Committee, Wind Energy Series No. 5, January 1997.
38. Brower et al., *Powering the Midwest*, Union of Concerned Scientists, 1993, pp. 107-108. The study assumed 400 MW of wind, 110 MW conventional biomass, and 300 MW advanced biomass. Energy-employment studies are necessarily resource- and region-specific.
39. A.K. Sanghi., *Economic Impacts of Electricity Supply Options*, New York State Energy Office, July 1992.
40. Skip Laitner and Marshall Goldberg, *Energy Efficiency and Renewable Energy Technologies as an Economic Development Strategy*, April 1996, online at http://solstice.crest.org/renewables/era/index.html. Similar conclusions were found for the US and for nine other states studied.
41. Jan Smutney-Jones and John Stewart, San Jose Mercury News, November 22, 1998.
42. American Wind Energy Association, *Wind Energy and Climate Change: A Proposal for a Strategic Initiative*, October 1997, online at www.igc.org/awea/pol/ccwp.html.
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NonRailbelt Report
Findings and Recommendations
of the Alaska Energy Policy Task Force

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Alaska Energy Policy Task Force Report (non-Railbelt)

NonRailbelt Report
Findings and Recommendations
of the Alaska Energy Policy Task Force

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Letter from the Chair

Mike Barry

Many contributed to the work of this task force. I would like to thank each and every person and organization that presented to us. I would, especially, like to thank the individual members of the task force who set aside the needs of their particular organization to focus on those of the state as a whole. Special credit goes to Becky Gay and Bernie Smith who admirably and capably served as staff.

We have outlined many daunting challenges to meeting the electrical needs of the immense area and small population known as Alaska. It is vital that we become more efficient in our utilization of limited resources such as capital and human expertise in order to successfully meet these challenges.

To become better stewards we recognize that we must operate regionally rather than just one community at a time. We must plan and operate in the context of a model of sustainability, adhering to cost-effective principles of conservation and best practices. We need improved coordination between State and Federal efforts in funding infrastructure. We need to invest capital funding to achieve solutions that work as opposed to merely providing work.

We recognize that cost-effective electricity is crucial to quality of life and essential to economic health. Priority should be given to funding those projects which are regional in focus and management and which will support growth and diversification of our economy. Working together under a common set of principles and guidelines will allow Alaskans to meet the challenges ahead. We hope that the attached principles and guidelines will be helpful.

Legislative Directive

In the first session of the 23rd Alaska State Legislature, the Energy Policy Task Force (EPTF) was established by concurrent resolution to address the energy needs of Alaska. This was to be done in two reports, categorized for "Railbelt" and "NonRailbelt" areas. The Railbelt report was completed by December 31, 2003. This is the NonRailbelt report and it presents the Findings and Recommendations of the Task Force for those areas that comprise the largest geographic portion of the state.

For purposes of this energy report, NonRailbelt Alaska was defined as three distinct energy areas:

Four Dam Pool and Southeast Alaska,
Power Cost Equalization (PCE) communities, and
Southcentral Coastal communities.

The following mandates were met with the NonRailbelt report:

1. **Develop a long-term energy plan to efficiently enhance Alaska's economic future.**

2. **Review and analyze the state's current and long-term energy needs.**

3. **Address elements of Alaska's long-term energy needs that can be solved through action on the part of industry and/or government actions.**

With prior permission from the Joint Leadership of the House and Senate, the deadline for a report of task force findings for NonRailbelt areas was extended from March 31 to April 15, 2004, to coincide with the "sunset" provision of the Task Force.

I. A LONG-TERM ENERGY PLAN TO ENHANCE ALASKA'S ECONOMIC FUTURE

A. Vision Statement

Alaska holds a worldwide leadership role in energy supply, delivery and use solutions and environmental stewardship. Alaska will have reliable, economic, sustainable and secure power supplies for its citizens. Public funds will be invested only in infrastructure that is sustainable.

B. Mission Statement

Electricity is essential to meeting Alaska's economic, environmental, and educational development goals. The State will conduct its activities affecting energy in such a manner as to:

- **Promote reliable and secure electric power systems**
- **Promote the lowest cost for consumers**
- **Stimulate the economy**
- **Provide employment opportunities for Alaskans**
- **Improve the quality of life for all Alaskans**
- **Promote workforce development, including training Alaskans, for Alaska's utility sector.**
- **Enhance the State's social, cultural, economic and environmental assets**

C. Goals (Listed in no particular order)

- Achieve sustainability.
- Develop Alaska's position as a leader in competitively priced and reliably available electricity.
- Develop Alaska's electrical infrastructure while maintaining competitively priced energy.
- Ensure security of physical and cyber energy infrastructure.
- Promote research, development and demonstration of clean and renewable energy technologies.
- Promote conservation and energy efficiency across all of Alaska.
- Develop Alaska as a world leader in using and exporting competitively priced and reliably available fossil fuels.
- Ensure standardized and consistent permitting and regulatory processes.
- Establish Alaska as a national leader in developing energy projects using its natural resources, including its workforce.
- Develop viable local solutions to provide cost-effective electric energy for small, geographically remote Alaskan communities.

D. Recommendations

1. Workforce

Provide proper and focused workforce training to meet the challenges of 21st century energy industries.

Executive:

Perform an assessment of the opportunities for Alaska workers in the resource development and energy sectors and, based upon these opportunities, examine the deployment of a portion of Alaska's resources toward training and retraining of the workforce in these sectors.

Amend Department of Labor/Workforce Development (DOL/WD) regulations to facilitate the ability to develop training and internship programs, with an emphasis on jobs for Alaskans.

Fund education to ensure that Alaska workers have the education and skills required to maintain the vital role energy plays in our economy.

Update certificate of fitness requirements for utility linemen to enhance workforce availability and better track the successful practices of the other 49 states.

Ensure that Alaska workforce regulatory practices conform to national practices.

Private Sector:

Work with the DOL/WD in its assessment of opportunities for the Alaska workforce in the energy and utility sectors.

Maximize internship programs that will allow entry into the Alaskan workforce.

Encourage development of new energy and energy related businesses in Alaska.

2. Energy Generation

Alaska must be active in its pursuit of improving existing technologies and developing new generation technologies to increase efficiencies of present and future energy generation facilities.

Assist the private sector in its efforts to develop energy generation capacity

Executive:

Enhance the ability of public bodies, such as the Denali Commission and the Alaska Energy Authority (AEA), to assist the private sector and communities in efforts to develop adequate energy generation capacity, funded through conduit bonds and grants, to provide cost-effective electricity for all Alaskans.

Explore utilization of Alaska's abundant renewable resources in the production of hydrogen, which is a fuel for the emerging fuel cell technology

Executive:

Convene a workshop to discuss the potential for Alaska's leadership in hydrogen production. Such a workshop could serve as an educational tool and a platform for discussion between public, university research and private sector individuals and organizations.

Direct the University of Alaska and executive agencies to inventory ideal locations for future renewable energy generation sites that could be used as a source of hydrogen for in-state use and export.

3. Energy Infrastructure

The Task Force's goals and strategies focused on matters including, but not limited to: (1) generation infrastructure; (2) transmission and distribution; and (3) economic efficiency. As the electrical system ages, there will be increased concerns about reliability, sustainability and stability. Technology-driven system improvements will be required. There must exist within the State the capacity to deliver resources and energy to end-users.

Stimulate private-sector participation in Alaska's energy infrastructure to allow greater energy export capability to meet state, regional, and national energy demands.

Executive:

Provide tax-exempt bonding to fund projects, with the State retaining only the obligations that cannot be transferred to the participating utilities.

Work with Alaska's Congressional delegation to provide financing or economic incentives to promote energy infrastructure development.

Encourage adequate transmission infrastructure to increase economic development activity.

Conduct an assessment to identify the State's energy infrastructure security needs.

Executive:

The RCA should include in their deliberations the issue of cyber-security.

Private Sector:

Continue in the joint planning process to identify the State's energy infrastructure needs.

Encourage adequate and secure transmission infrastructure to increase economic development activity.

Continue to promote adequate fuel delivery infrastructure.

Assess the potential for the development of a locality into a sustainable energy community that utilizes novel distributed and/or renewable energy systems for residences and commercial enterprises.

Executive:

Examine the potential for the development of an Alaska locality into a sustainable energy community.

Legislative:

Examine opportunities to provide support for the development of such a community.

Alaska regional transmission planners should work to become leaders in energy infrastructure development.

Establish energy infrastructure development projects that will promote the reliable transportation of electricity throughout the entire State that meets the State's energy, environmental and economic needs.

4. Regulatory

Streamline all licensing, permitting, and regulatory processes of energy projects.

Executive:

Review agency practices regarding the licensing, permitting, and regulatory processes of energy projects. These agencies could also review the licensing, permitting, and regulatory processes of energy projects in other states so as to develop a study of best practices regarding these issues.

Establish and maintain regulatory processes that are consistent and have defined processing timelines and encourage utilities to maintain long-term financial health.

Legislative:

Enact appropriate legislation for the implementation of best practices regarding the licensing, permitting and regulatory processes of energy projects.

Private sector:

Provide input to the Executive and Legislative Branches to implement best practices regarding licensing, permitting and regulatory processes of energy projects for small and medium sized utilities.

II. CURRENT AND LONG-TERM ENERGY NEEDS

Findings

NonRailbelt Alaska is diverse, contains both rural and urban customers, and both roadless and road accessible communities. Their most common energy denominator is that none of the areas are connected to the Railbelt energy grid.

For purposes of this report, NonRailbelt Alaska is divided into three distinct energy areas:

- **Four Dam Pool and Southeast Alaska,**
- **Power Cost Equalization (PCE) communities**, and
- **Southcentral Coastal communities**.

A large state geographically with a very small population means in energy terms- - huge distances, minimal load. Most of Alaska is not accessible by roads. Access for most rural villages and Southeast Alaska is by air or water, making energy costs extremely high – as much as five times the national average. In Southeast Alaska, there is a lack of transmission interties to export surplus hydroelectric to other communities that need it.

As a comparison, in 2003, the average cost of power in Anchorage-Fairbanks-Juneau for residential customers was 10.6 cents/kWh, whereas in PCE eligible communities, the average residential cost of power prior to the State's rate reduction credit was 27.6 cents/kWh for 2003.

Over 66% of rural Alaska households use fuel oil as their heating source, priced at two to four times the national average. No electrical transmission lines interconnect the majority of Alaska's rural communities. In PCE Alaska, ninety utilities service 187 rural communities. Full funding of the Power Cost Equalization (PCE) program is not being met nor is a sustainable endowment provided.

A. Current Energy Needs NonRailbelt

Findings

- Over 50% of powerhouse structures and electrical distribution requires major repairs or replacement.
- Approximately 50% of fuel storage facilities are in poor condition.
- In Southeast Alaska, there is a lack of transmission interties to export surplus hydroelectric energy to other communities that need it.
- Average households in rural Alaska use approximately 425 kWh per month (compared to the average urban household in Alaska at approximately 700 kWh per month.)

See Appendix F
!SER Status Report

Southeast and Four Dam Pool

This region includes Juneau, Ketchikan, Sitka, Kodiak, Valdez and others and the following utilities.

See Appendix H

• Ketchikan (KPU)	Municipally Owned
• Petersburg (PMP&L)	Municipally Owned
• Wrangell (WL&P)	Municipally Owned
• Sitka (SMED)	Municipally Owned
• Juneau (AEL&P)	Investor Owned
• Valdez (CVEA)	Cooperative Owned
• Yakutat Electric	Municipally Owned
• Other SE communities (AP&T)	Investor Owned
• Four Dam Pool Joint Action Agency	Owned by participating cooperatives

The Four Dam Pool consists of Swan Lake, Lake Tyee, Terror Lake, and Solomon Gulch hydro plants. On January 31, 2002, AEA sold the Four Dam Pool projects to the Four Dam Pool Power Agency, an entity formed by Ketchikan Public Utilities, Wrangell Municipal Light & Power, Petersburg Municipal Light & Power, Copper Valley Electric Association, and Kodiak Electric Association, Inc.

Southeast Alaska has significant hydroelectric potential because of topography and climate. In Southeast, there is a lack of transmission interties to export surplus hydroelectric power to other communities that need it, including