Looking Ahead at the Alaska Economy:
Business As Usual

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BUSINESS OF CLEAN ENERGY IN ALASKA
CONFERENCE
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Looking Back Before Looking Ahead: The Alaska State Seal
Looking Back: Alaska Natural Resources

1961 Market Value (Million 2007 $)

- Mining $62
- Seafood $243
- Timber $na
- Agriculture $30
- Tourism $na
- Oil & Gas $94
Statehood: Constraints

- Small Size of Economy
- Far from Markets
- High Costs
- Seasonal Labor Supply
- Undeveloped Infrastructure
- Federal Dependence
Statehood: Some Hopes

- Cheap Energy-Rampart Dam
- Transport Links-Railroad Extension
- Steel Production
- Cement Production
- Aluminum Production
- Nuclear
- Timber
- Value Added Processing of Oil
<table>
<thead>
<tr>
<th>Category</th>
<th>Jobs in 1961 (Thousand)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Military</td>
<td>33</td>
</tr>
<tr>
<td>Fed Civilian</td>
<td>16</td>
</tr>
<tr>
<td>Seafood</td>
<td>7</td>
</tr>
<tr>
<td>Other Basic</td>
<td>4</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>9</td>
</tr>
<tr>
<td>Trade</td>
<td>6</td>
</tr>
<tr>
<td>Services</td>
<td>6</td>
</tr>
<tr>
<td>State and Local Govt</td>
<td>8</td>
</tr>
<tr>
<td>Other Support</td>
<td>5</td>
</tr>
<tr>
<td>Resource</td>
<td>Market Value (Million $2007)</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Mining</td>
<td>$1,506</td>
</tr>
<tr>
<td>Seafood</td>
<td>$1,392</td>
</tr>
<tr>
<td>Timber</td>
<td>$142</td>
</tr>
<tr>
<td>Agriculture</td>
<td>$23</td>
</tr>
<tr>
<td>Tourism</td>
<td>$1,592</td>
</tr>
<tr>
<td>Oil &amp; Gas</td>
<td>$18,925</td>
</tr>
</tbody>
</table>

Value determined at point of production except for mining.
| Natural Resource Industry: Job Growth (Thousands) |
|-----------------------------|---|---|---|
|                            | STATE HOOD 1961 | 2006 | Change |
| TOTAL                      | 10            | 45   | 35     |
| Tourism                    | 1             | 22   | 21     |
| Fishing                    | 7             | 17   | 10     |
| Air Cargo                  | -             | 3    | 3      |
| Mining                     | 1             | 2    | 1      |
| **Timber**                 | **1**         | **1**| **-**  |
Big Economic Driver Since Statehood: Part 1 Petroleum
Alaska with Oil:
Bigger, Richer, Healthier

- Job Opportunities
- Business Opportunities
- High Incomes
- Low Taxes
- Low Prices
- New People
- Public services
- Public Infrastructure
- Business infrastructure
- Consumer goods and services
Big Economic Drivers Since Statehood: Part 2 Federal Spending
Alaska Economic Drivers: The Foundation of the Economy

Shares of Personal Income in 2005

- Federal Govt: 34%
- Non-Pet Resources: 33%
- Oil and Gas: 33%
Historical Job Growth

Oil and the Alaska Economy
Job Shares

[Graph showing the share of employment in different sectors in Alaska from 1960 to 2005, with categories including State/Local Government, Infrastructure, Basic Industries, and Support.]

Oil and the Alaska Economy
Next 50 Years: Constraints
(Deja Vu all over again)

- Small Size of Economy
- Far from Markets
- High Costs
- Seasonal Labor Supply
- Undeveloped Infrastructure
- Federal Dependence
Next 50 Years: Hopes

(Deja Vu all over again)

- Cheap Energy
- Value Added Processing
- Transportation Expansion
Looking Ahead: The Audacity of Projections

- WW II
- The pill
Looking Ahead: The World Outside

- Petroleum Based Economy
- Climate Change
- Rise of China, India, etc.
- Paying for Federal Programs
Looking Ahead: Drivers of the Economy

- Petroleum
- Other Natural Resources
- Federal Government
Petroleum Resources for a Sustainable Economic Future (Billion Barrels of Oil)

Production History:
- North Slope: 15.4
- Cook Inlet: 1.3

Reserves Today:
- Central North Slope: 5.9
- Cook Inlet: 0.1

Potential Additional Reserves (Technically Recoverable—USGS, MMS):
- ANWR: 10.4
- NPRA: 10.6
- OCS: 23
- Central North Slope: 4
Looking Ahead: Petroleum

- Working Existing Assets
- Gasline
- NPRA
- OCS
- ANWR
- Heavy Oil
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>NR Production value since 1867</td>
<td>90%</td>
</tr>
<tr>
<td>State General Fund revenues</td>
<td>85%</td>
</tr>
<tr>
<td>Market value of resource production</td>
<td>82%</td>
</tr>
<tr>
<td>Industrial property tax base</td>
<td>80%</td>
</tr>
<tr>
<td>Private investment spending (Direct)</td>
<td>60%</td>
</tr>
<tr>
<td>Gross state product (Direct)</td>
<td>33%</td>
</tr>
<tr>
<td>Personal income (Total)</td>
<td>33%</td>
</tr>
<tr>
<td>Jobs (Total)</td>
<td>33%</td>
</tr>
<tr>
<td>Jobs in Oil Sector</td>
<td>3%</td>
</tr>
</tbody>
</table>
## Traditional Natural Resources: Seafood

### SEAFOOD: 2005 LANDED

<table>
<thead>
<tr>
<th>Fish Type</th>
<th>Value (Million $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>$1,295</td>
</tr>
<tr>
<td>Salmon</td>
<td>$303</td>
</tr>
<tr>
<td>Groundfish</td>
<td>$660</td>
</tr>
<tr>
<td>Halibut</td>
<td>$169</td>
</tr>
<tr>
<td>Shellfish</td>
<td>$148</td>
</tr>
<tr>
<td>Herring</td>
<td>$15</td>
</tr>
</tbody>
</table>

28 thousand harvesters, 39% non resident.  ??? processors, 73% non resident.
## Traditional Natural Resources: Mining

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Production Value (Mill $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc</td>
<td>$862 $2,003</td>
</tr>
<tr>
<td>Gold</td>
<td>$190 $336</td>
</tr>
<tr>
<td>Lead</td>
<td>$115 $184</td>
</tr>
<tr>
<td>Silver</td>
<td>$85 $130</td>
</tr>
<tr>
<td>Copper</td>
<td>- -</td>
</tr>
</tbody>
</table>

| Total         | $1,253 $2,653             |

Zinc is used to galvanize steel. Price went thru the roof in 2006.
New Natural Resources: Tourism

1.5 million tourists in 2006 bring $1.5 billion $$$ with them to Alaska.
### 2006 CARGO TRAFFIC (Million Metric Tonnes)

<table>
<thead>
<tr>
<th>Location</th>
<th>Traffic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memphis</td>
<td>3.69</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>3.61</td>
</tr>
<tr>
<td>Anchorage</td>
<td>2.80</td>
</tr>
<tr>
<td>Seoul</td>
<td>2.34</td>
</tr>
<tr>
<td>Tokyo</td>
<td>2.28</td>
</tr>
</tbody>
</table>

China Air alone averages 10 flights per day thru Anchorage.
New Natural Resources:
Retirees

52 thousand retirees ages 60+ in 2004. $1.5 billion of retirement and health care $$$$.
Looking Ahead: The Rest of the Drivers

- Military
- Federal Civilian
- Agriculture
- Timber
- Other Manufacturing
Looking Ahead:
Jobs and Wages

- Slower Support Sector Growth
- Health Care
- Competition Moderates Wages
Looking Ahead: Population and Households

- Older
- More Diverse
- More Stable
- More Urban
- More Taxes
Looking Ahead: Public Amenities

- Taxes on HH and Businesses
- Slower Growth of Services
- Cost of Infrastructure Maintenance
Looking Ahead: Value of Natural Resources

- Amenity Values
- Environmental Values
Looking Ahead: Transformations

- Resource Curse
- Shrinking Surplus
- Local Production for Alaska Market
Maine Economic History in a Nutshell

Throughout the second half of the twentieth century, Maine has struggled to find a proper balance between resource-based industrial development and environmental protection.

The state has come to rely heavily on tourism, small manufacturing enterprises and defense-related activities and installations for much of its economic base.
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