



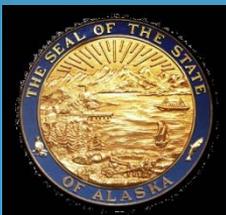
State of Alaska  
Governor's Climate Change Sub-Cabinet  
Stakeholder Process

**Oil and Gas Industry - Planning for the Future**

Interstate Oil & Gas Compact Commission

May 12, 2009

Jackie Poston, AK Dept. of Environmental Conservation



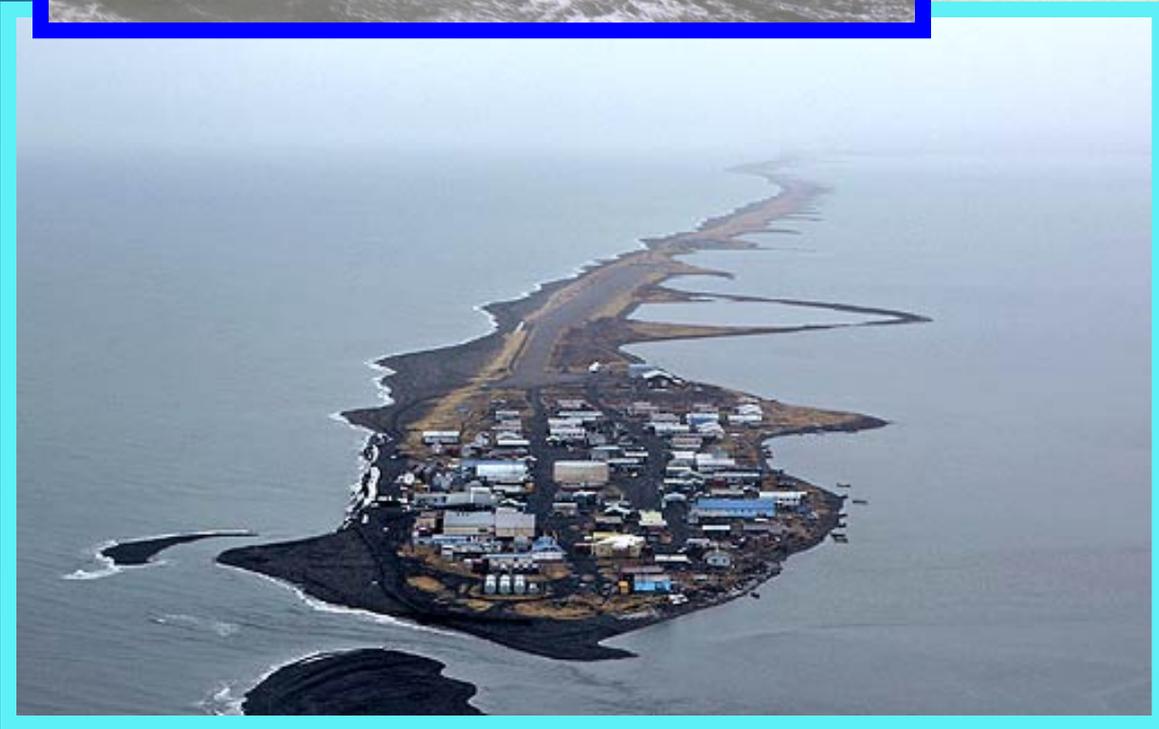
# Governor's Climate Change Sub-Cabinet

- Established by Governor through Administrative Order 238 on September 14, 2007
- Called for:
  - Immediate Action to address imminent threats to communities [**Immediate Action Work Group**]
  - Identification of Research Priorities [**Research Needs Work Group**]
  - Proposed Climate Change Strategy [**Mitigation and Adaptation Advisory Groups**]

# Immediate Action Work Group



Reports April 2008 and March 2009

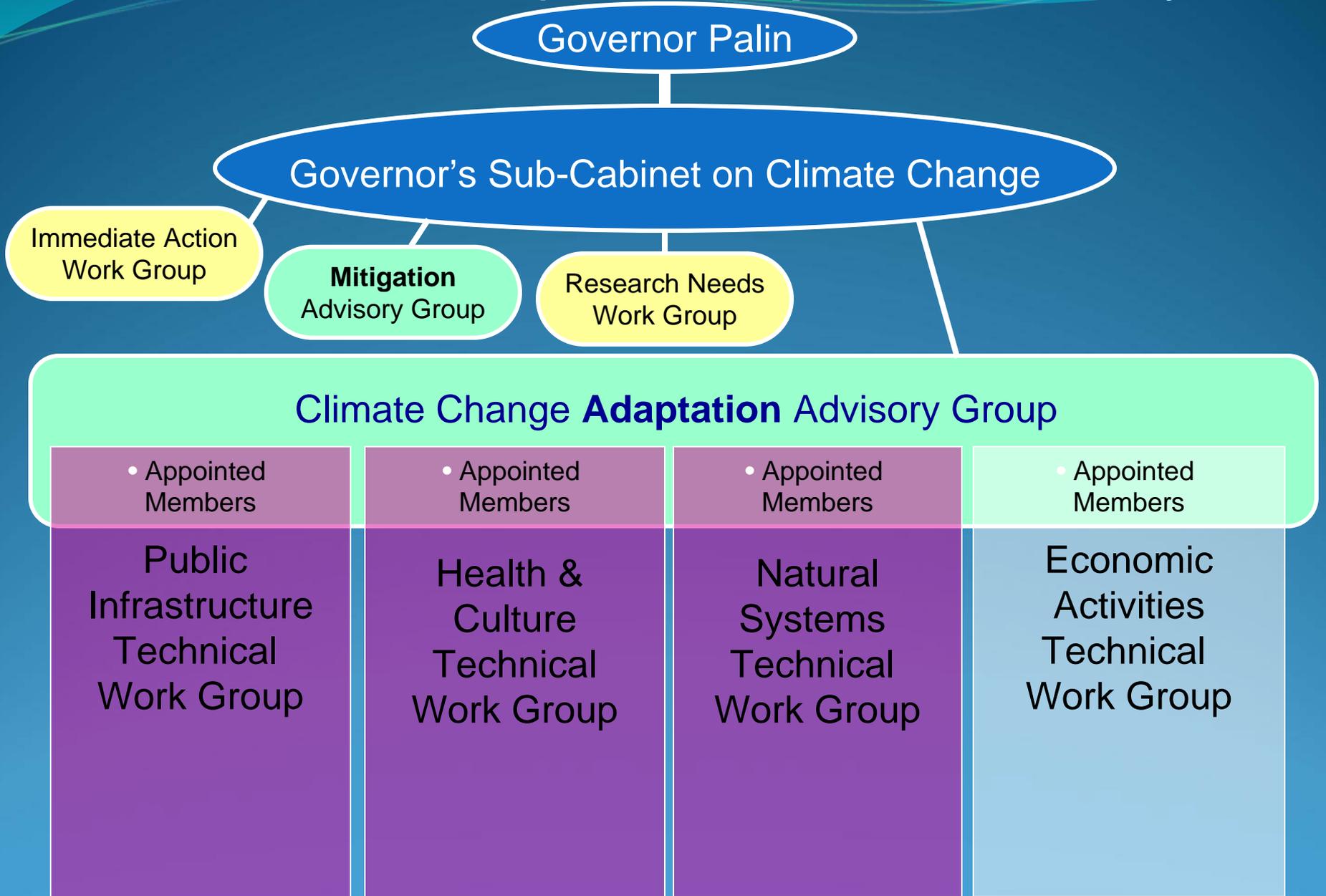


**Kivalina, Alaska**

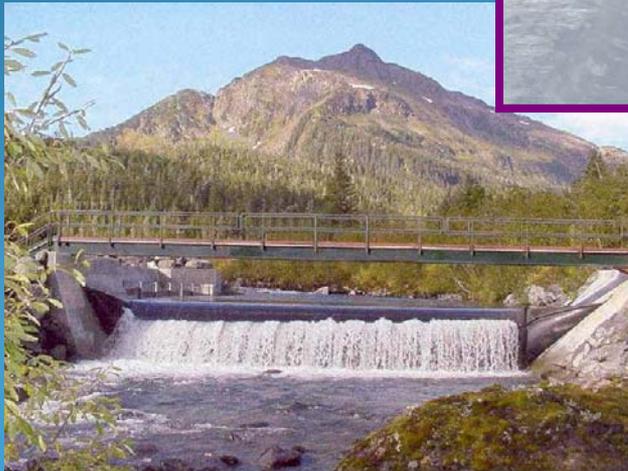
# ADAPTATION



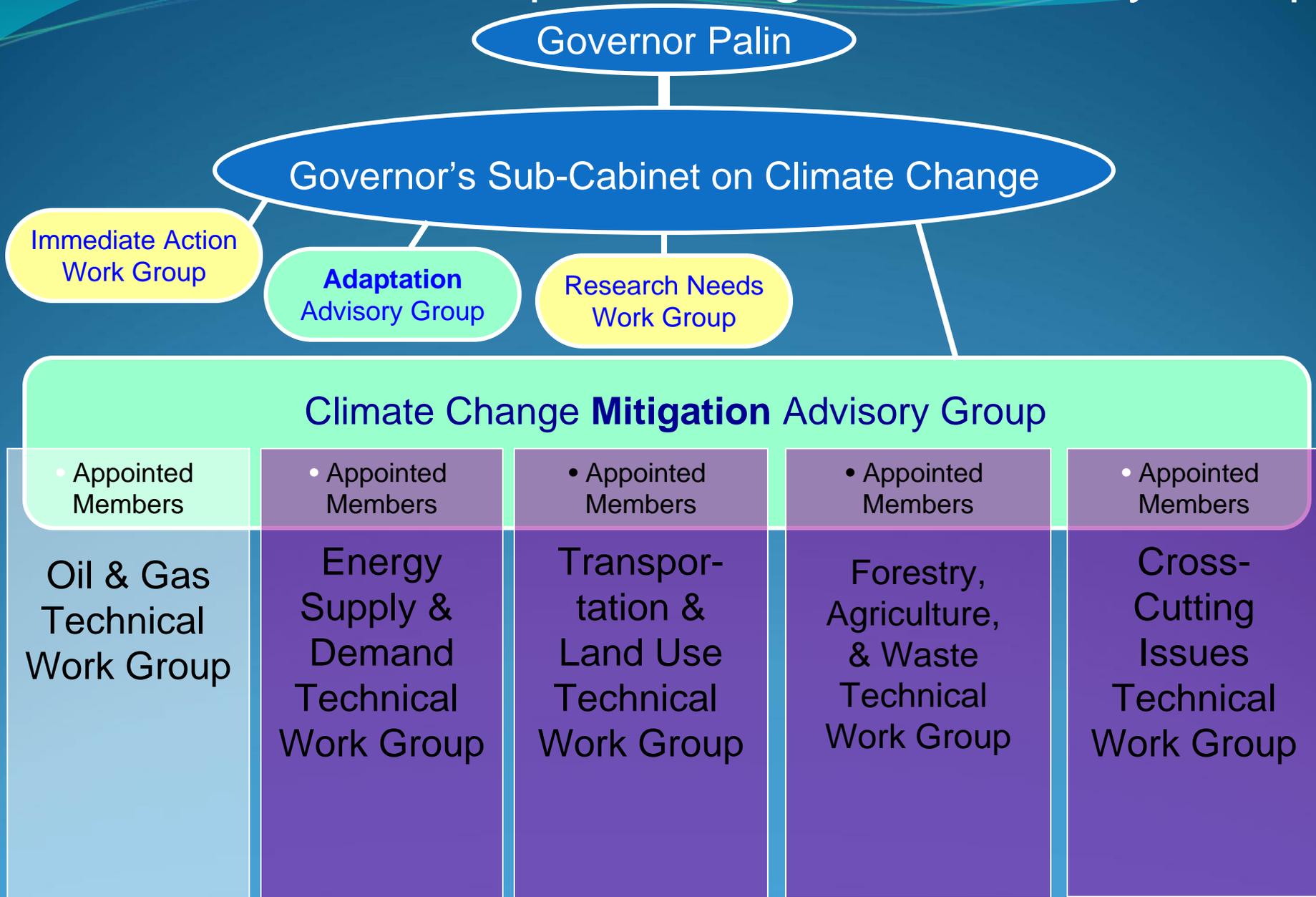
# Technical Work Groups for **Adaptation** Advisory Group



# MITIGATION



# Technical Work Groups for **Mitigation** Advisory Group



# Oil and Gas Technical Work Group

Collaboration of Oil and Gas experts from  
Government, Public, and Industry

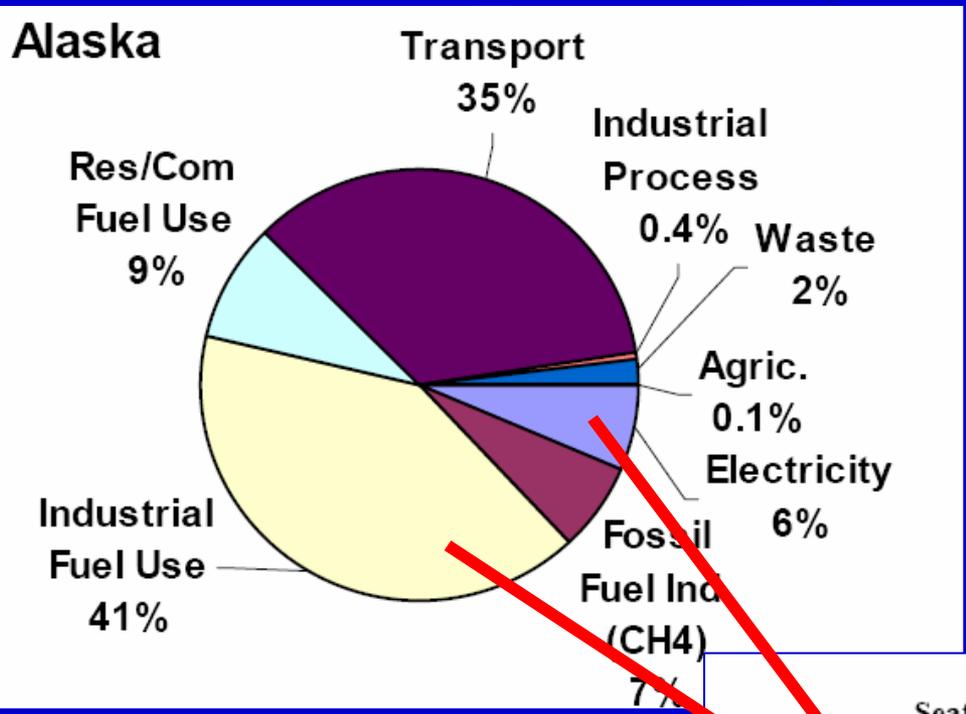
Review emissions inventory and Identify GHG  
Reduction Options

Provide input to Mitigation Advisory Group

# Alaska Gross GHG Emissions by Sector (2005)

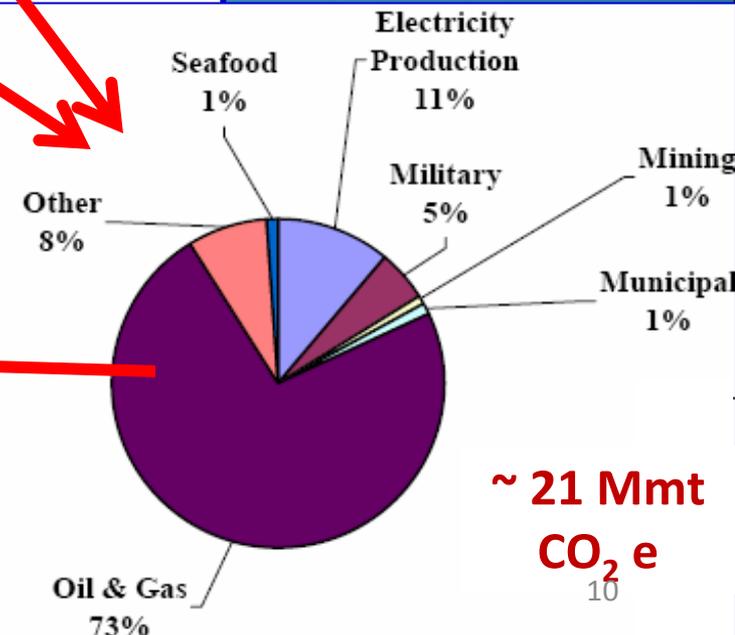
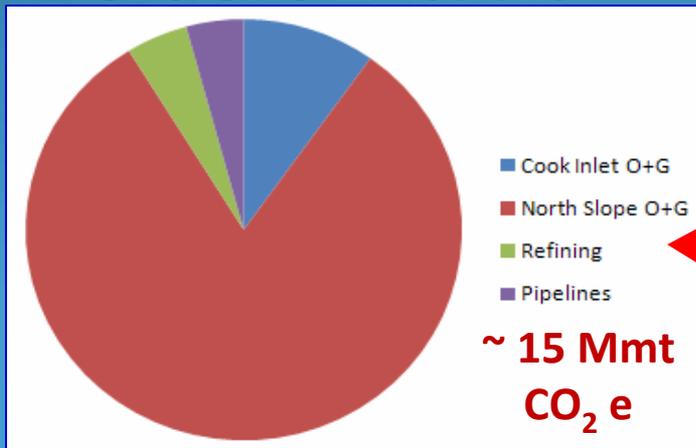
~ 52 Mmt CO<sub>2</sub> Equivalent

(~0.7% US Emissions)



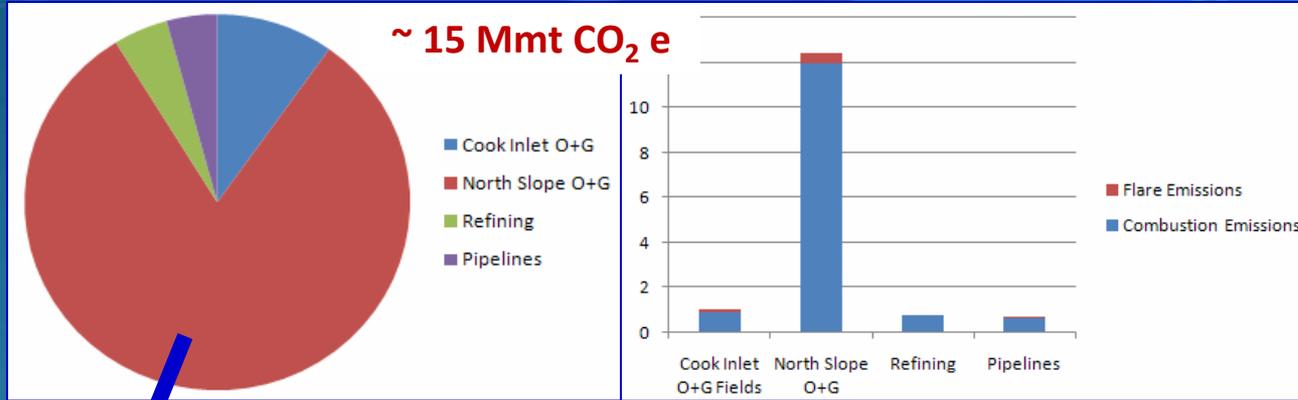
## Alaska Title V GHG Emissions

### O+G GHG Emissions

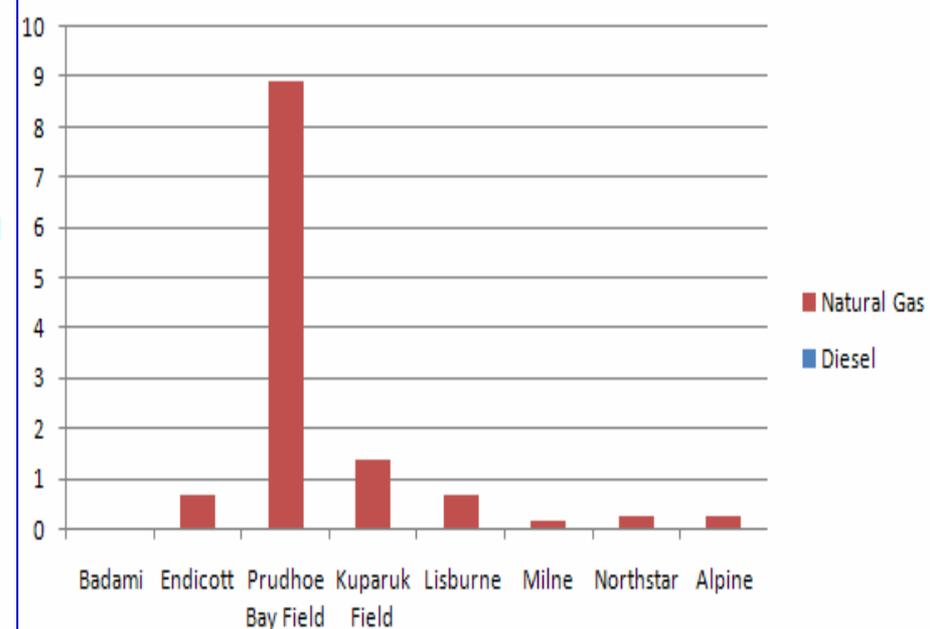
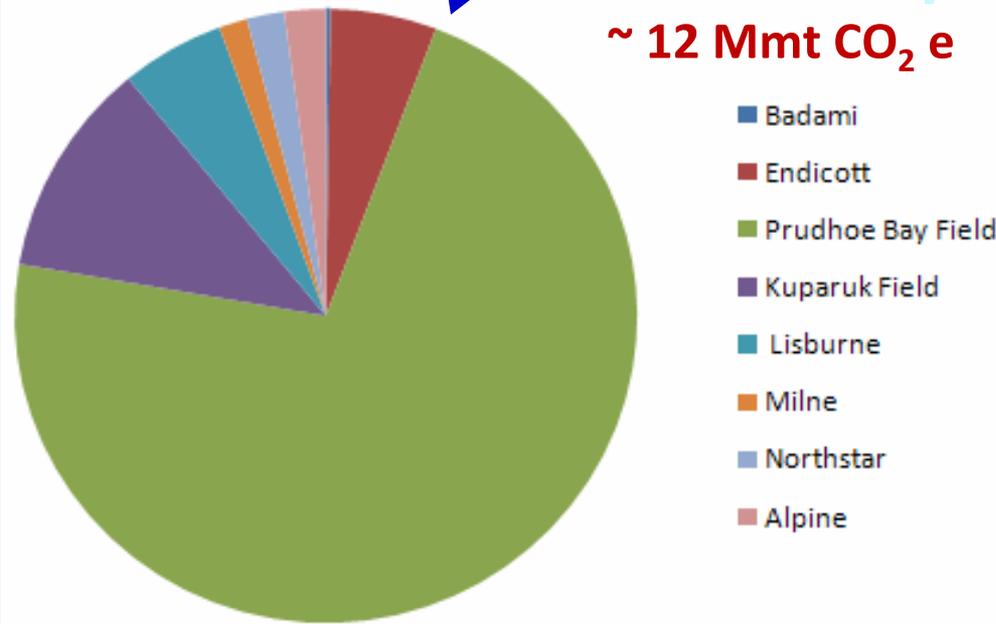


~ 21 Mmt CO<sub>2</sub> e

# Alaska Title V O+G GHG Emissions



## North Slope O+G Emissions



**North Slope emissions predominantly due to combustion of natural gas**

# Inventory Analysis Conclusions

- 15 Mmt CO<sub>2</sub>e for O&G of 52 Mmt CO<sub>2</sub>e Alaska Gross GHG emissions
- 12 Mmt CO<sub>2</sub>e from NS Operations, Fuel gas consumption largest component

# What You Should Know....

- Recommendations are from experts in Technical Working Group & do not represent industry or company positions
- All recommendations are based on thorough, albeit preliminary, deliberations, i.e. further analysis is essential
- Barriers to adoption or implementation include, but are not limited to:
  - Cost
  - Technology
  - Regulatory
  - External Drivers

# TWG working Options February 2, 2009

## Conservation

1 Overall conservations activities, ie reduce liquid fuel consumption, other best practices

2 Reduce Fugitive Methane Emissions

## Thermal Energy Efficiency

3 Electrification of Oil and Gas Operations, with Centralized Power Production and Distribution

4 Improved Efficiency Upgrades for Oil and Gas Fuel burning Equipment

5 Use of Renewable Energy Sources in Oil and Gas Operations

## Carbon Capture and Sequestration (CCS)

6 CCS from High CO2 Fuel Gas at Prudhoe Bay

7 CCS from Combustion Sources in and near Existing Oil and Gas Fields - Focus North slope

8 CCS away from Known Geologic Traps - (Interior Alaska)

# Conclusions

- Best Practices & Conservation can be implemented almost immediately
- An analysis of fugitive emissions & pursuant actions can result in potential reduction of emissions
- North Slope has highest emissions for O&G sector, increased energy efficiency there could result in significant emissions reductions . Will require massive investments and changes to regulatory environment.
- North Slope Carbon Capture and Geologic Sequestration could be used to further significantly reduce emissions. Technology is in early stages, will require major facilities upgrades, and additional fuel will be burned.
- Some options are also applicable to Cook Inlet

# Research Recommendations

*(Technical)*

- CO<sub>2</sub> capture technologies for North Slope and Cook Inlet
- Study where renewable energy sources co-exist with Oil and Gas operations
- Feasibility of using hydrogen produced from methane as a fuel source
- Feasibility of producing power on North Slope, capturing and sequestering the emissions there, and using long term transmission lines to deliver power to markets

# Research Recommendations (cont.)

*(Economic)*

- Short and long term value of carbon
- Short and long term value of natural gas
- Impact of various incentives to encourage major capital improvement investments

# Prospective Timetable – AK Climate Change Strategy

DATE	ACTION
May 15 & 16, 2008	1st Mtg: Orientation to Process & meet with IAWG
July 15 & 16, 2008	2 <sup>nd</sup> Mtg: Review Process, Vulnerability
September 22 & 23, 2008	3rd Mtg: Status Report; Example Options
<i>October 27, 2008</i>	<i>Full Day Mtgs of Adaptation TWGs; AK Tribal Conference on Environmental Mgmt (ATCEM); U.S. Climate Change Science Program (CCSP)</i>
November 6 & 7, 2008	4th Mtg: Priority Options
<i>February 2-6, 2009</i>	<i>Alaska Forum on the Environment</i>
February 5 & 6, 2009	5th Mtg: Approve Straw Proposals
April 2 & 3, 2009	6th Mtg: Initial Assessment of Options
May/June 2009	7 <sup>th</sup> Mtg: Approve Recommended Options
Summer 2009	Report from Stakeholders to Sub-Cabinet
Late Summer 2009	Public Workshops
Fall 2009	Sub-Cabinet develop Draft Strategy
December 2009	Finalize Draft for Governor's consideration
<b>Governor issues Alaska Climate Change Strategy</b>	

*Thank you!*

<http://climatechange.alaska.gov/>

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