

# **“In-state Use of North Slope Natural Gas, Political & Economic Realities”**

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**Presentation to  
Resource Development Council for Alaska, Inc.**

**November 16, 2000**

**Eugene Bjornstad  
General Manager  
Chugach Electric Association, Inc.**



# Natural Gas is Chugach's Primary Fuel Source for Generation

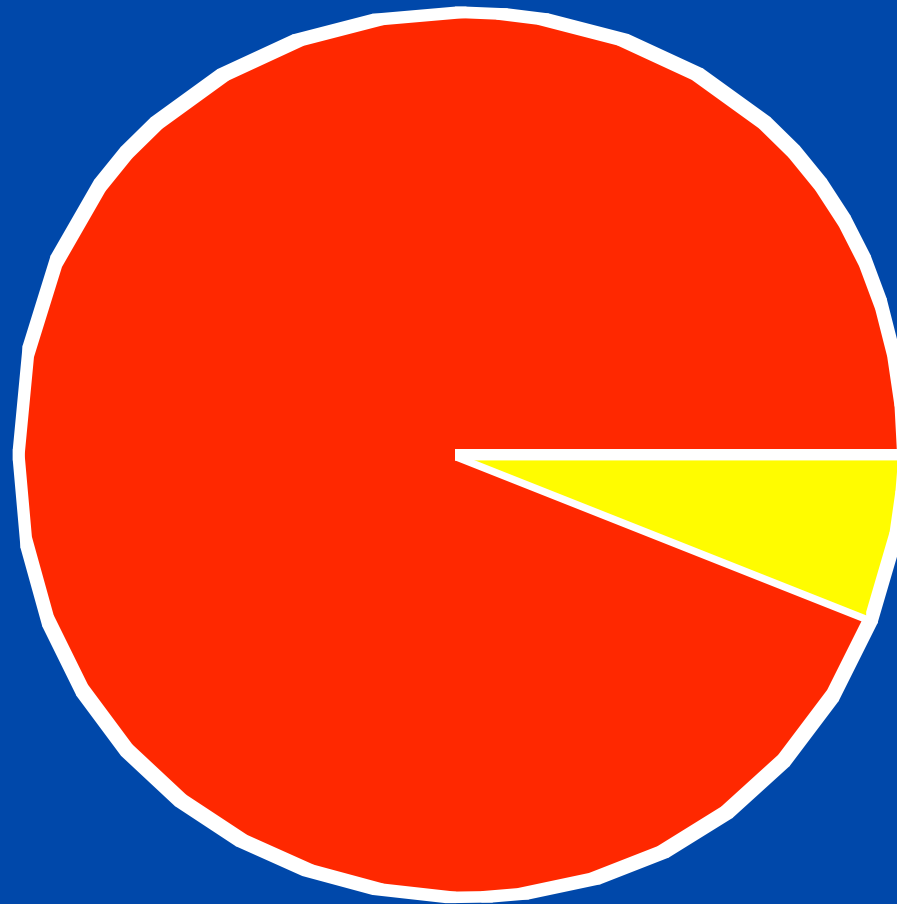
Generation Resources	Type of Generation		Installed Capacity (MW)
	Natural Gas Turbine	Hydro Turbine	
Beluga	✓	-	365.6
Bernice Lake	✓	-	70.0
International	✓	-	48.6
Eklutna	-	✓	14.1
Cooper Lake	-	✓	17.2
<b>Total</b>			<b>515.5</b>

# Natural Gas is Chugach's Primary Fuel Source for Generation

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**Gas Turbines**  
**94%**



**Hydro**  
**6%**

# Chugach's Contracted Fuel Supply

CHUGACH SUPPLIERS	ANNUAL TAKE (1999)
Beluga Producers	
Phillips	3.8
Chevron	3.8
ML&P	3.8
Marathon	10.7
<b>TOTAL</b>	<b>22.1 BCF</b>

# Chugach Has Contracted Fuel Supply Through 2015±

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Earlier of:

**Beluga  
Producers**



**251  
BCF**

Or

**Dec.  
2025**

**Marathon**



**134  
BCF**

Or

**Dec.  
2015**

# However, at 22 BCF Per Year, Chugach Will Need Additional Future Supply

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Earlier of:

**Beluga  
Producers**



**251  
BCF**

Or

~~**Dec.  
2025**~~

**Marathon**



**134  
BCF**

Or

~~**Dec.  
2015**~~

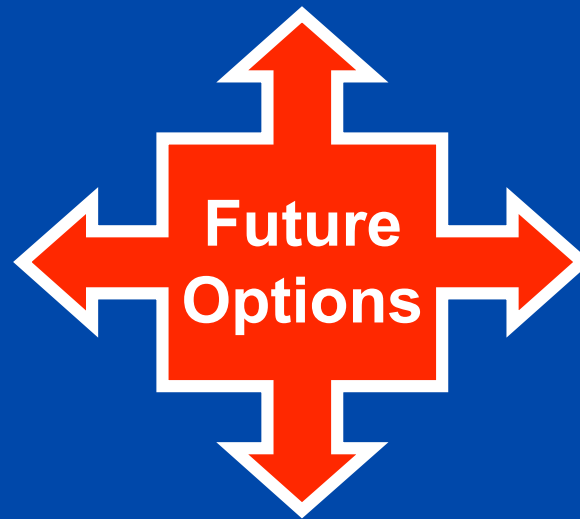
# Future Fuel Supply Options

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New Cook Inlet  
Natural Gas Reserves

Convert  
Fuel Supply  
to Fuel Oil



Coal

North Slope  
Natural Gas

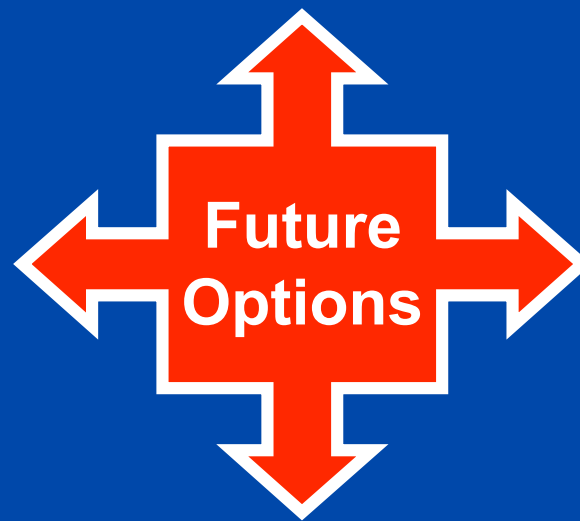
# Future Fuel Supply Options

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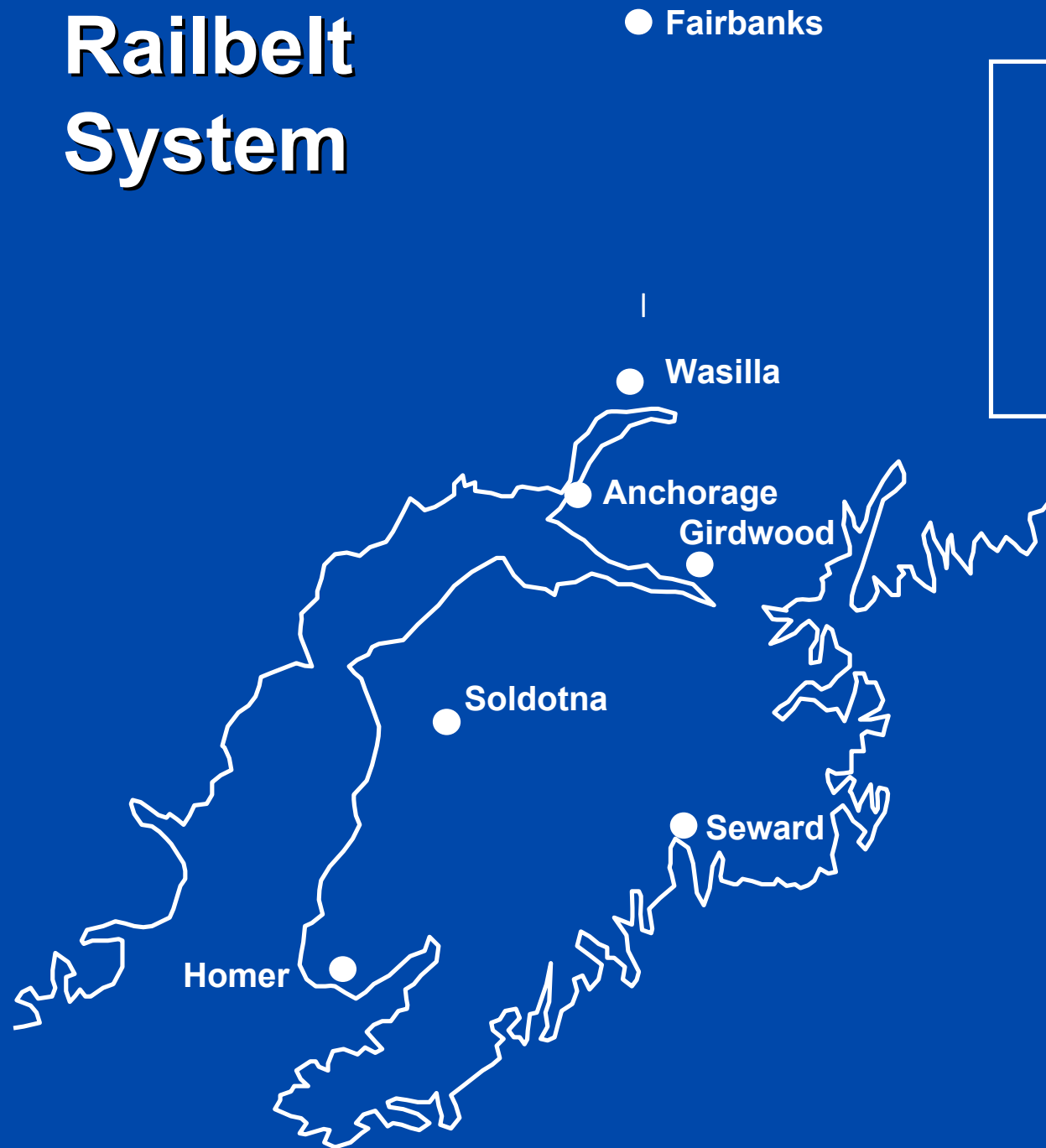


Coal

North Slope  
Natural Gas

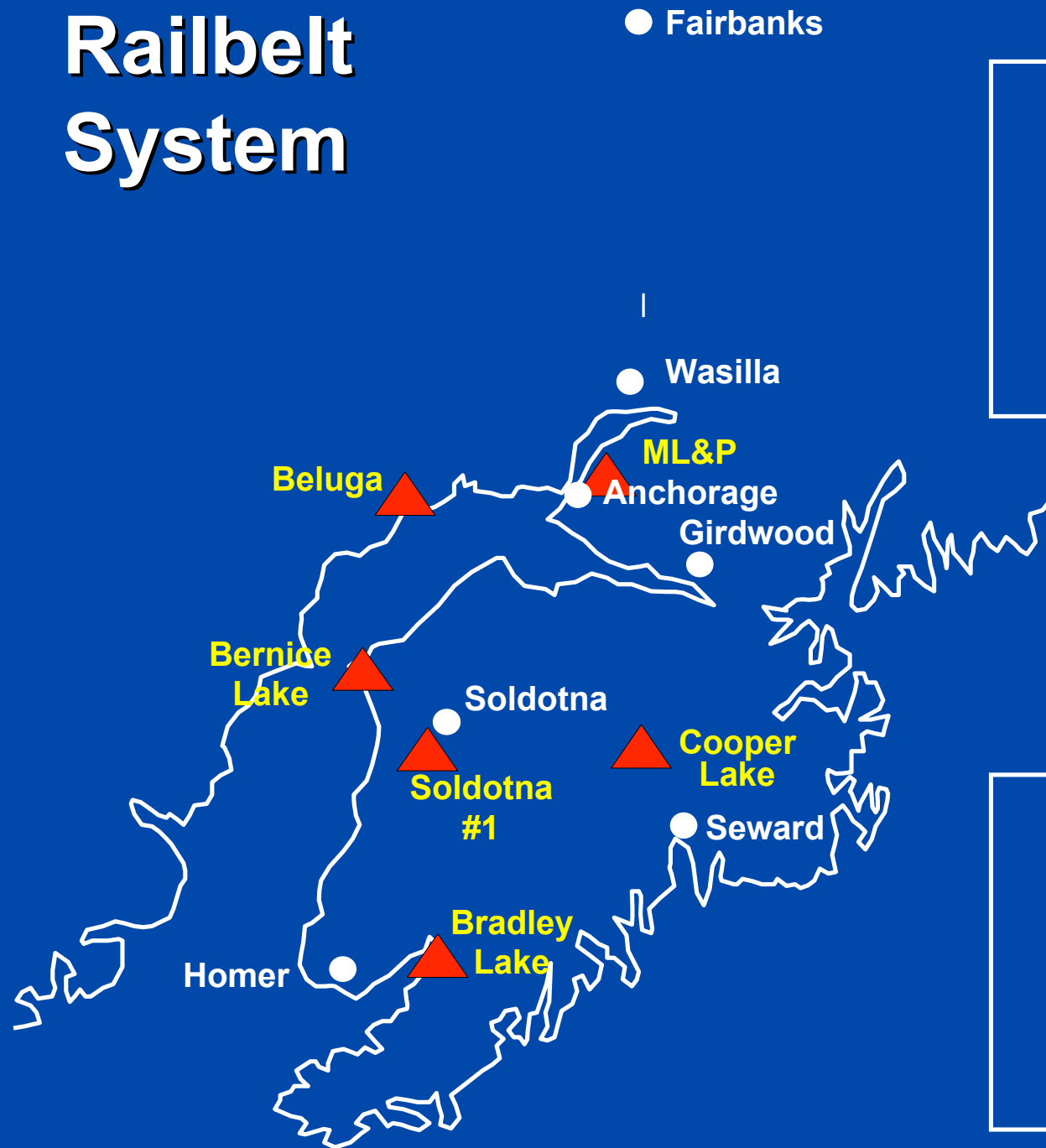


# Railbelt System



Map not to scale

# Railbelt System



● Fairbanks

● Wasilla

ML&P

● Anchorage

● Girdwood

Beluga

Bernice Lake

● Soldotna

Soldotna #1

Cooper Lake

● Seward

● Homer

Bradley Lake



Alaska

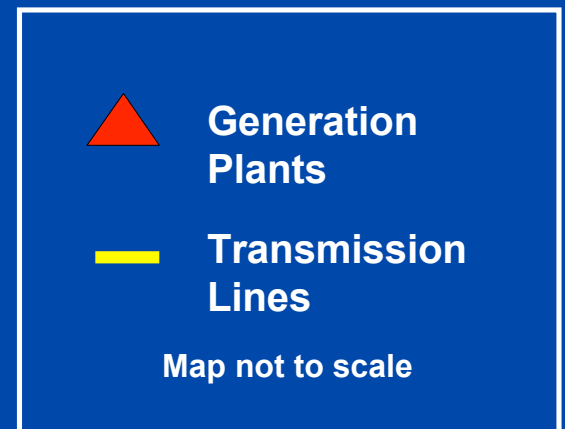
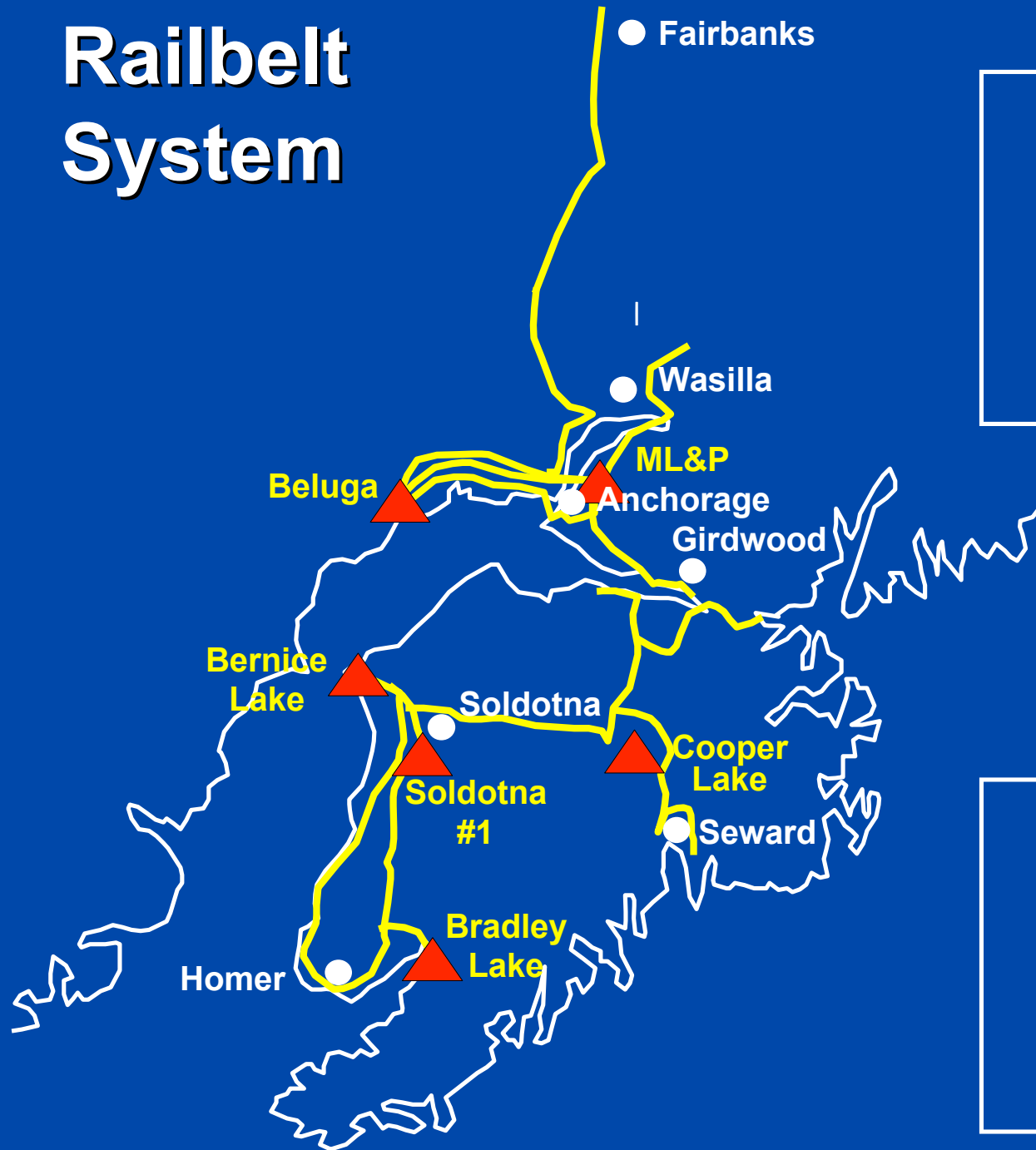
Area of Map



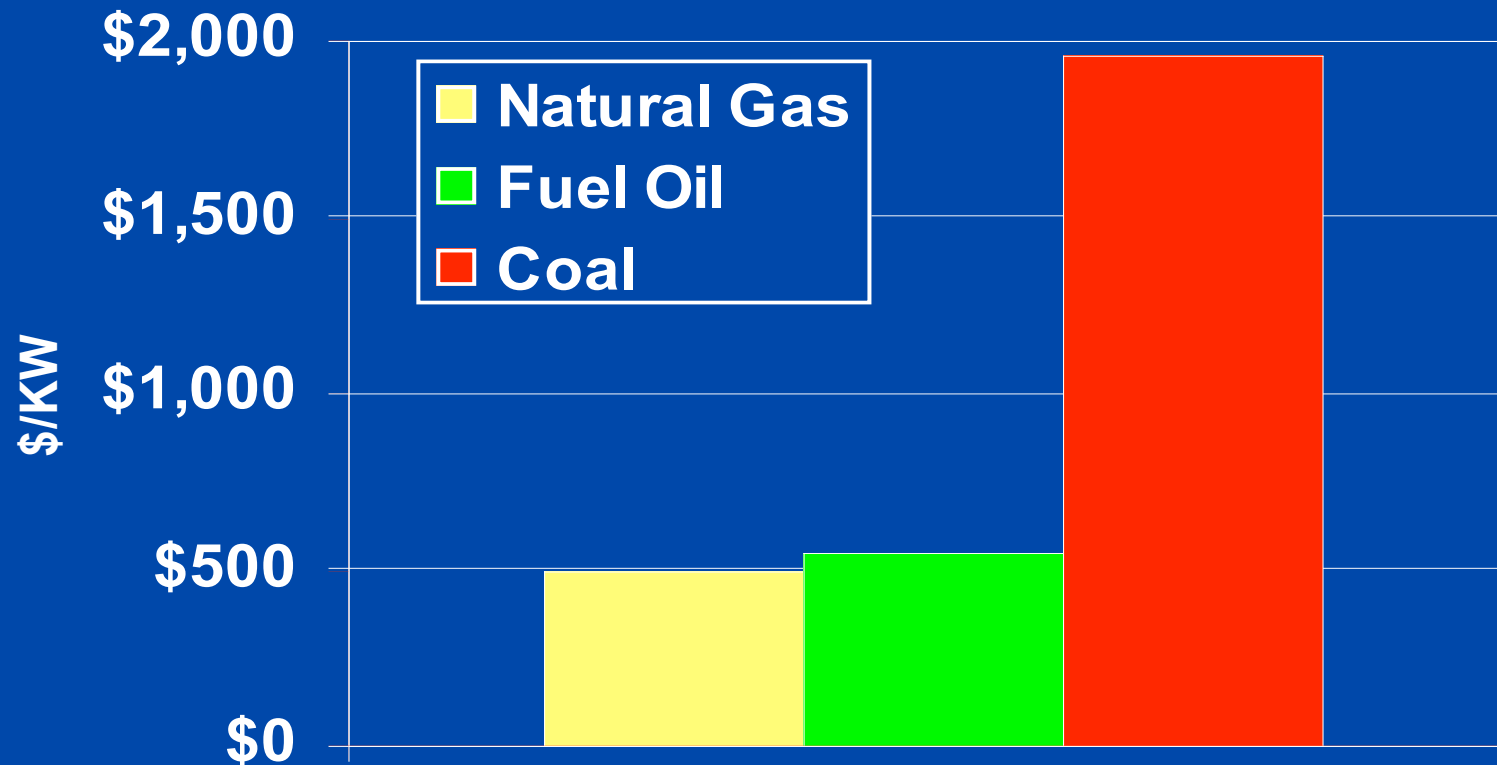
Generation Plants

Map not to scale

# Railbelt System

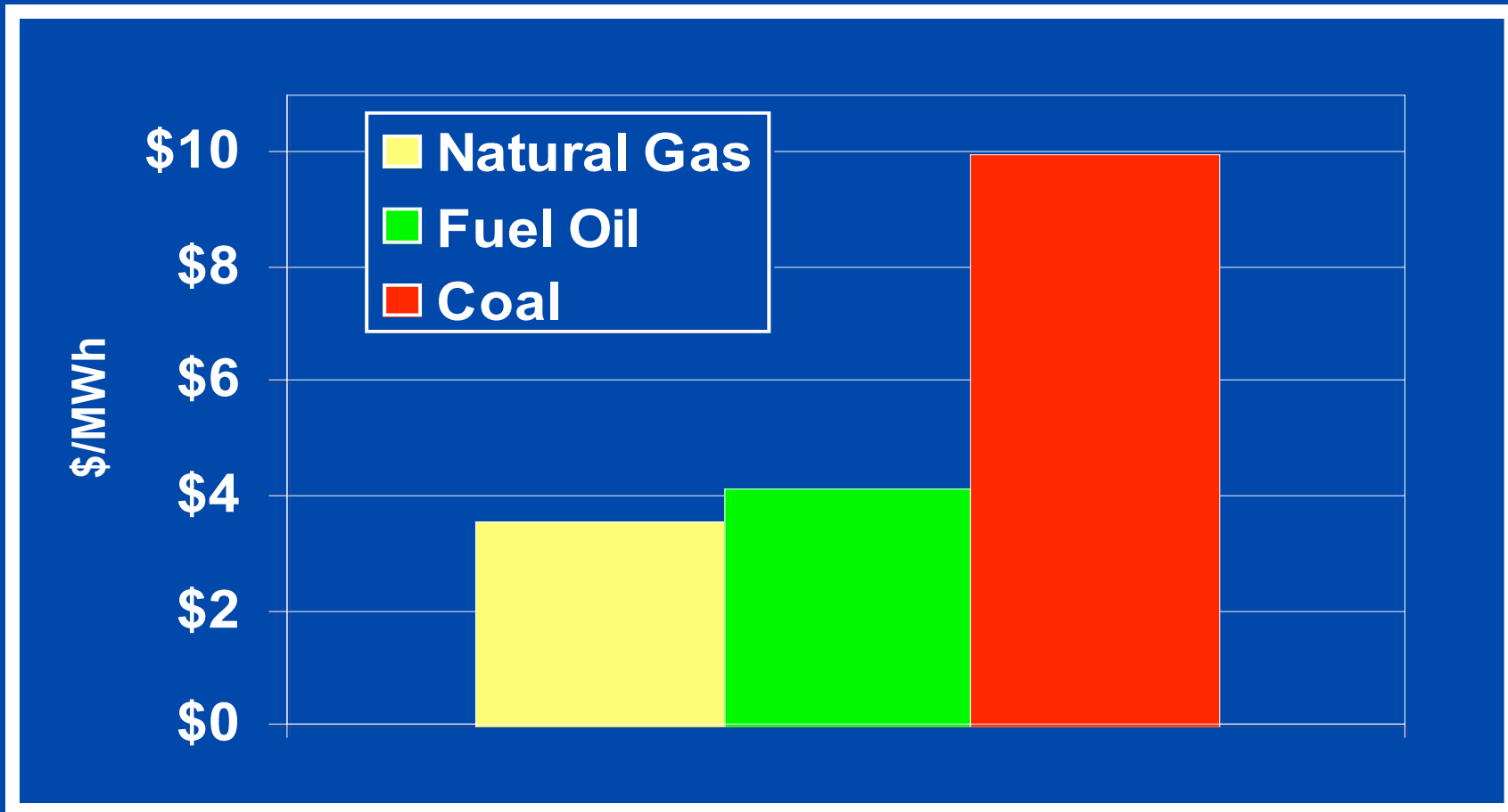


# Capital Costs of Alternative Generation



Source: Black & Veatch Power Pooling/Central Dispatch Planning Study, Oct. 1998

# O&M Costs of Alternative Generation



Source: Black & Veatch Power Pooling/Central Dispatch Planning Study, Oct. 1998

# Natural Gas Remains Competitive Choice

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## Coal - Not Feasible

- √ Requires substantial Capital Investment

- Need several plants due to Railbelt grid layout

- Need transmission system and new plant sites

- √ Costs more to operate than natural gas

# **Natural Gas Remains Competitive Choice**

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## **Fuel Oil**

- √ Requires some capital investment in a transport system and conversion of controls in turbines plus storage facilities**
- √ Costs more to operate than natural gas**

# Conclusions

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√Chugach will be using natural gas for the foreseeable future

√Cook Inlet has a finite supply

√Chugach will need new, additional supplies of gas in the not-too-distant future