

# BACKGROUND & OPPORTUNITIES

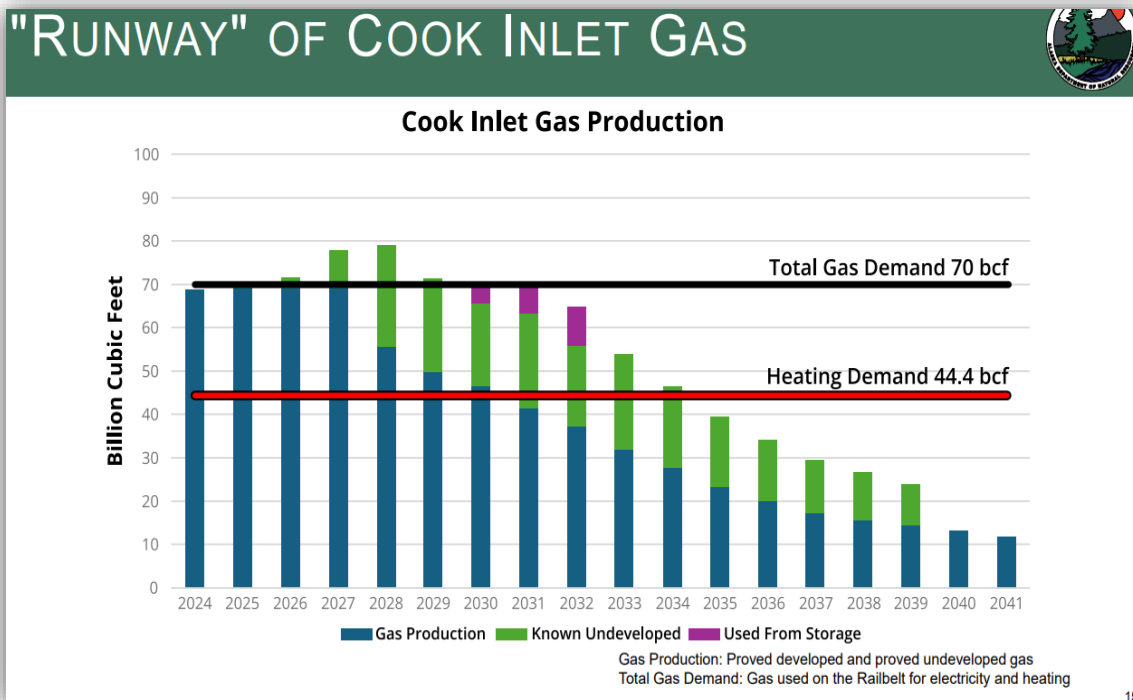
Anchorage Hydropower Utility | Assembly Retreat on Energy & Infrastructure

Zone	Local Utilities	Winter Peak Demand (MW)
Fairbanks	Golden Valley Electric Association	194
Matanuska	Matanuska Electric Association	131
Anchorage	Chugach Electric Association	352
Kenai-Seward	Homer Electric Association, City of Seward	78

Anchorage is the largest city in Alaska and the largest energy consumer on the Railbelt and in the State. The MOA is a home rule city and has a vested interest in energy as it impacts the MOA and its resident's financial burden, and the MOA has an obligation to look out for the public interest and welfare of its residents.

**Proposed Problem Statement:** Railbelt Electric Utilities do not have affordable\* or reliable energy today nor into the future with natural gas.

- \*US EIA Nov 2024 res avg is 16.8c/kWh; CEA and MEA over 22c/kWh; 31% above the national average: AK 7<sup>th</sup> highest in nation behind CA/HI/NE
- [Electric Power Monthly - U.S. Energy Information Administration \(EIA\)](#)



## WASTE (12%)



## WASTE

Waste emissions come from solid waste and wastewater operations. Heavy equipment and vehicles are used to transport and process waste and wastewater in Anchorage. The breakdown of organic matter in the landfill produces landfill gas, which is mostly methane.

The Municipality already uses landfill gas to produce energy. A waste-to-energy plant could take further advantage of potential energy in waste. Electric garbage trucks would cut down on vehicle emissions.

Breaking down this electricity use by energy source demonstrates that **Anchorage's current energy portfolio is dominated by natural gas**. Not only is Anchorage's heat generation almost exclusively from natural gas in buildings, but over 86% of the city's electricity generation is also from burning natural gas.

**Over-reliance on one energy source leaves Anchorage vulnerable to price volatility and supply interruptions**; Adding renewable energy will diversify our energy supply, improve air quality, and save money on fuel costs.

## WHERE DOES ANCHORAGE'S ELECTRICITY COME FROM?



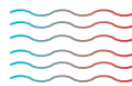
## WIND

1.3%



## LANDFILL GAS

1.4%



## HYDRO

10.9%



## NATURAL GAS

86.3%

Anchorage electricity generation by fuel type, 2013.<sup>22</sup>**Opportunities:** Pumped Storage Hydro (PSH)

- Proven natural large scale energy storage solution\*\* used worldwide that provides carbon free power production, storage and grid stabilization by converting non-firm and excess power from VRE's to firm power **\*\*PSH is the bulk energy storage capacity in the US at 96% of all utility scale energy storage (USDOE [Pumped Storage Hydropower | Department of Energy](#))**
- **AND can provide other environmental benefits such as fish passage with full river restoration at Eklutna showcasing a new era of responsible stewardship of a model hydropower facility**
- **Variable Renewable Energy sources (VRE's) such as wind and solar are the only economic generation sources coming online soon by utilities or IPP's**

**Consolidating energy sources in Anchorage.** In Anchorage, a city with the same area as Delaware, one utility provides natural gas and three utilities provide electricity. With a small load (<500 MW of peak demand), this is an inefficient use of resources. Anchorage voters supported the sale of Municipal Light & Power (ML&P) to Chugach Electric Association (CEA) in an April 2018 ballot proposition. When final, the \$1 billion sale will eliminate duplication and allow more efficient operation in Anchorage, opening potential for increased use of renewable resources.