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ALASKA'S ECONOMY

It's everyone's business.

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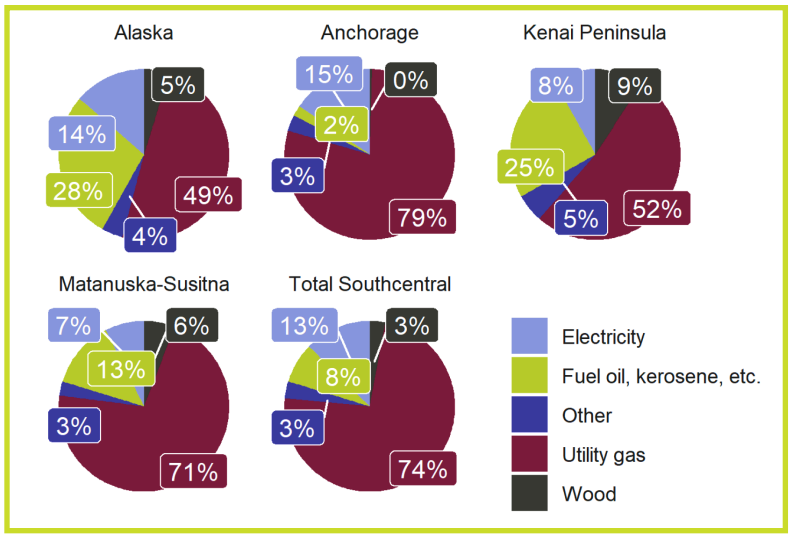
Dear reader,

Declining natural gas production in Cook Inlet has created an urgent need for Alaska's energy supply. Cook Inlet's natural gas is used to heat three out of every four homes in Southcentral Alaska and contributes to about three-quarters of the region's electricity generation. Declining resources may require the import of natural gas by 2027. The short- and long-term solutions involve importing liquefied natural gas (LNG) or constructing a North Slope pipeline. Each option has significant investment risks, market uncertainties, development timelines and economic impacts.

How Alaskans heat their homes

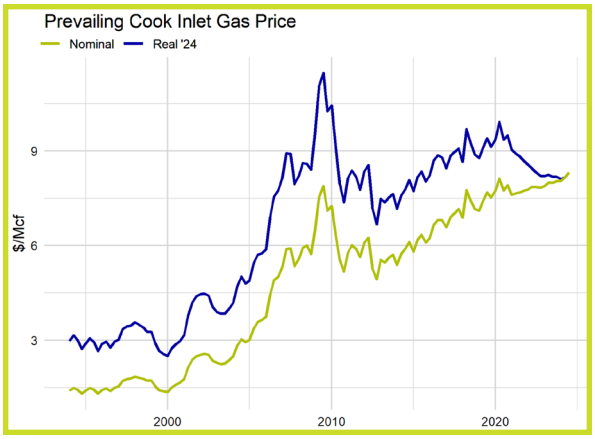
Approximately 49% of Alaska homes use natural gas for heating, while 28% rely on fuel oil/kerosene, 14% use electricity, 5% use wood and the remaining 4% use other sources. In Juneau and Ketchikan, where hydroelectric power is more affordable, electricity is used to heat about a third of homes. Approximately 125,000 homes in Southcentral Alaska are heated using natural gas from utility providers, while fuel oil represents 65% of home heating in other regions. ▼



Data from the U.S. Census American Community Survey 2022. Other: coal/coke, solar, tanked liquid propane, other fuels and none.

Pandemic weakened decades-long growth in Cook Inlet gas prices

Cook Inlet gas prices are based on a weighted average of significant sales to regulated utilities. Actual prices, denominated in the second quarter of 2024, are dollars per thousand cubic feet ($ per Mcf). Over the past 24 years, apart from the energy price surge from 2006 to 2009, Cook Inlet natural gas has exhibited a consistent upward price trend. Inflation-adjusted prices have grown by an average of 4.6% per year since 1995 and 5.8% per year since 2000. Between 2020 and 2024, nominal prices increased, but at a slower pace than inflation, resulting in a decrease in price from $9.36 per Mcf in the first quarter of 2020 to $8.32 per Mcf in the third quarter of 2024. ▼



Data from the Alaska Department of Revenue

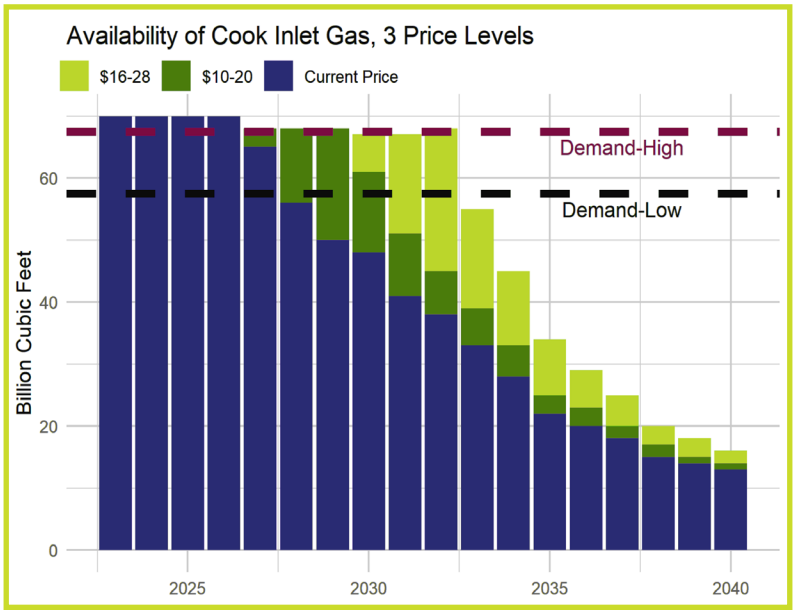
Cook Inlet gas shortfalls loom

In the high-demand scenario, colder winters and limited renewable energy production offset the gas used in electricity production. In contrast, the low-demand scenario represents warmer winters and increased renewable electricity generation, potentially resulting in a 10 billion cubic feet (Bcf) per year decrease in demand.

For more than five decades, Southcentral Alaska has relied on natural gas from the Cook Inlet to meet its energy needs. Excess gas was liquefied for export and used in fertilizer production. However, production costs escalated over time, which made exports and fertilizer production economically unviable as global markets set these prices.

Gas from Cook Inlet will only be available at its current price and production level to meet projected high-scenario demand for the next few years. Beyond 2027, producers would need to increase gas prices to profitably meet demand. Prices between $10 and $20 per Mcf could support demand-balanced production through 2029, and further increases to $16-$28 per Mcf would be needed to sustain demand-balanced supply through 2032. Additional supply after 2032 may be too expensive to justify bringing online.

Higher gas prices will affect consumers through increased gas utility bills and higher electricity costs. If wholesale gas prices double, it will likely lead to an approximate doubling of the price households pay for natural gas and a 35% to 60% increase in electricity rates. Higher energy prices will also impact businesses and the public sector, potentially affecting expenditures, profit margins, service levels and taxes.



Data from the Alaska Utilities Working Group Phase I Assessment: Cook Inlet Gas Supply Project 2022

Tackling the natural gas shortfall

Alaska has various supply options to address the natural gas shortfall. The options listed here do not include the potential for the State of Alaska to participate in project financing, which could reduce costs by allowing for cheaper debt financing. Since the report's publication, Option B (below) estimates have risen to $30 per Mcf.

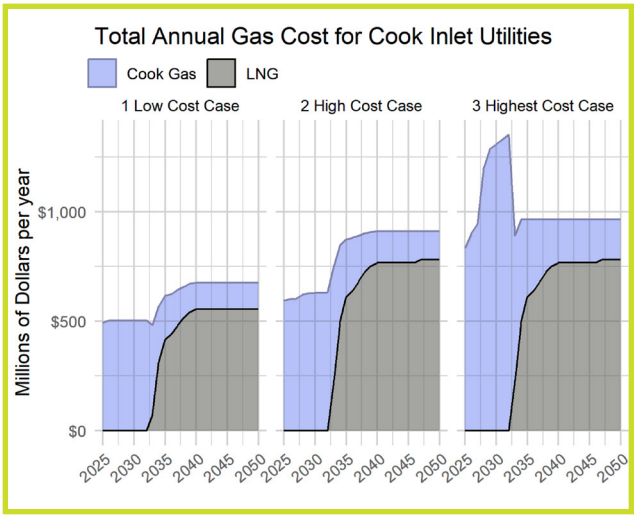
Demand-side options such as non-gas electricity generation and energy efficiency investments are available but were not within the report's scope. Three supply options (Options A-C) are stop-gap measures with high costs. These measures would increase the marginal cost of gas by 1.1 to 3.8-fold. Utilities are taking steps toward Options A and B to meet immediate needs. The Alaska LNG project (Option H) would result in savings but has a longer timeline. Utilities are also considering Greenfield Port and Regasification (Option D), a new LNG import facility. ▼

LNG import scenarios

Renewable energy accounts for a quarter of Alaska's total electricity generation, with hydroelectric power contributing 90% of that amount. In 2022, five hydroelectric plants each produced over 100 GWh of electricity, led by Bradley Lake near Homer, which generated 377 GWh. Major hydroelectric plants include Snettisham Dam in Juneau, Eklutna in Anchorage, Terror Lake in Kodiak, and Tyee Lake in Wrangle/Petersburg.

Many rural communities in Alaska are investing in solar installations to reduce reliance on diesel. Solar energy projects have been implemented in Fairbanks (563 KWh) and Willow (1 MWh). In 2023, the Railbelt region supplied 4 GWh of power to the grid through net metering, a billing mechanism that credits solar energy system owners for the electricity they add to the grid.

Wind production was notable at Anchorage's Fire Island facility, producing 54 GWh of electricity in 2022. ►



Data from the Alaska Utilities Working Group Phase I Assessment: Cook Inlet Gas Supply Project 2022

	Option		Years Away	Capital Investment ($mm)	Supply Volume (BCF/year)	Cost of Supply - Total ($/Mcf)	Change from Current Price
A	Stop-Gap	Cook Inlet Gas	3-4	1,500 - 2,000	up to ~23	9.30 - 25.50	1.1 - 3x
B	-	Barge/Small LNG Carrier	4-5	563	up to 25	21.60 - 23.00	2.5 - 2.7x
C	-	LNG Truck and/or Rail	3-4	321	~9	25.00 - 32.00	2.9 - 3.8x
D	Utility Focus	Greenfield Port and Regasification (Private)	6-7	876	up to 55	12.60 - 14.20	1.5 - 1.7x
E	Alternatives	In-State Pipeline (Private)	6-7	~8,790	up to 105	28.10 - 37.00	3.3 - 4.4x
F	-	Kenai Brownfield LNG	4-5	768	up to 55	12.00 - 13.60	1.4 - 1.6x
G	-	Floating Storage Regas - Own/Lease	4-6	698	up to 55	12.20 - 13.90	1.4 - 1.6x
H	-	Alaska LNG	7-8	~43,000	up to 183	4.40 - 5.80	0.5 - 0.7x
I	-	Renewable Natural Gas	Unknown	n/a	~1	~25	2.9x
J	-	Green Hydrogen	12+	unknown	n/a	>32	3.8x

Data from the Alaska Utilities Working Group Phase I Assessment: Cook Inlet Gas Supply Project 2022

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