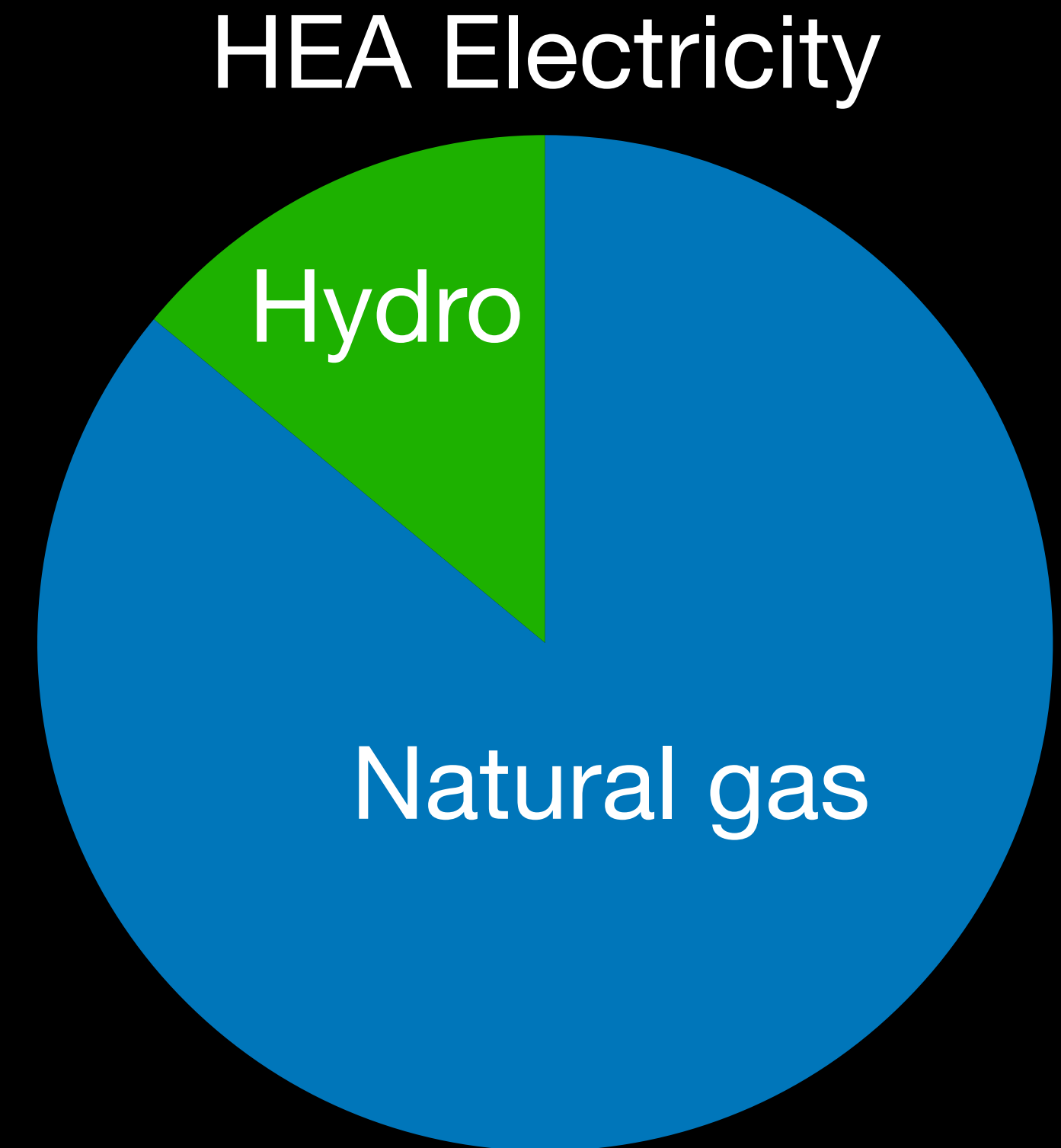
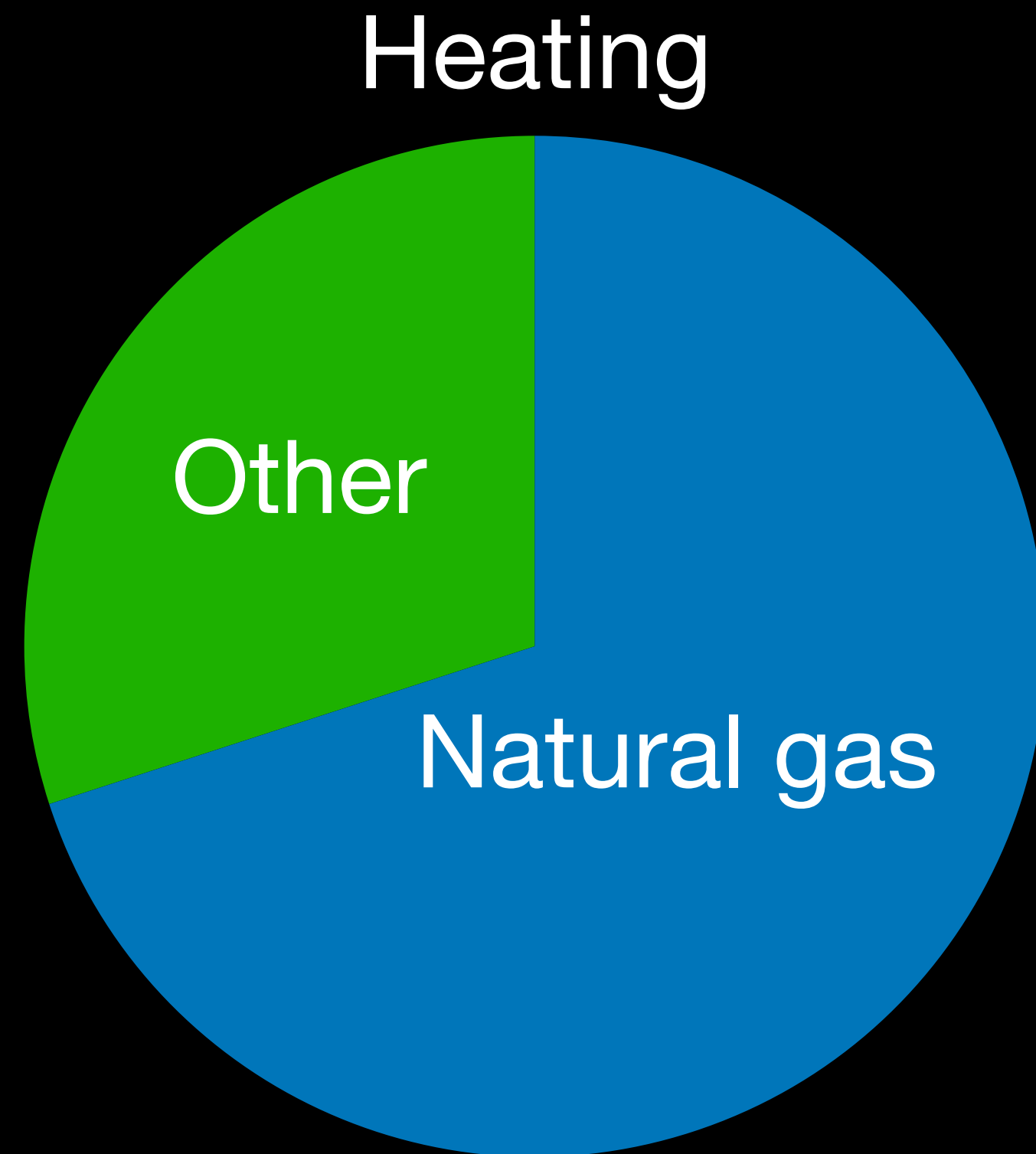




Natural Gas Supply Disruption: Avoiding a Crisis

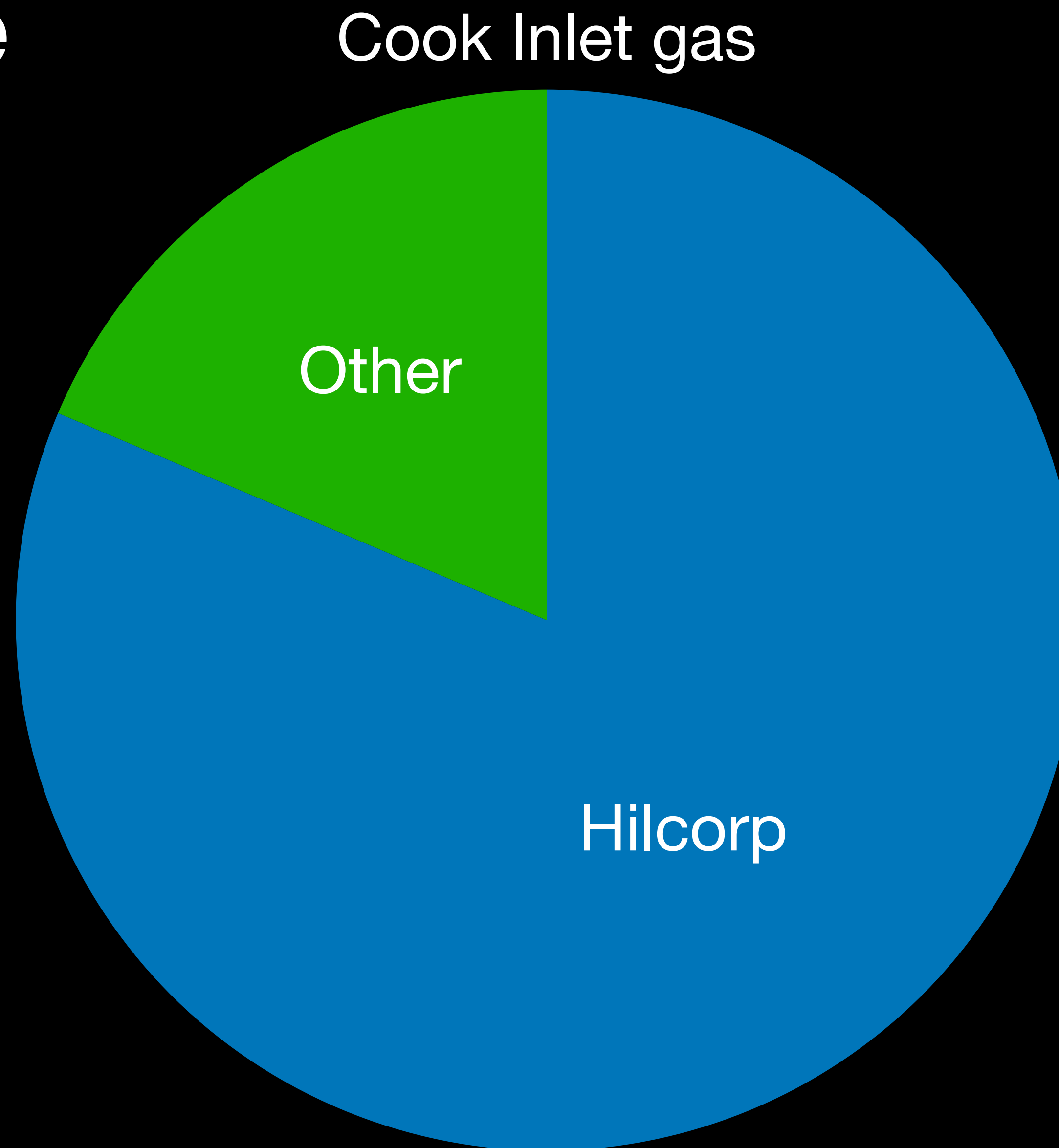
Bretwood Higman, Resilience and Security Advisory Commission

Where we are now



Gas is our main source of energy

Where we are now



Much of “Other” is Hilcorp operated Beluga gas for Chugach

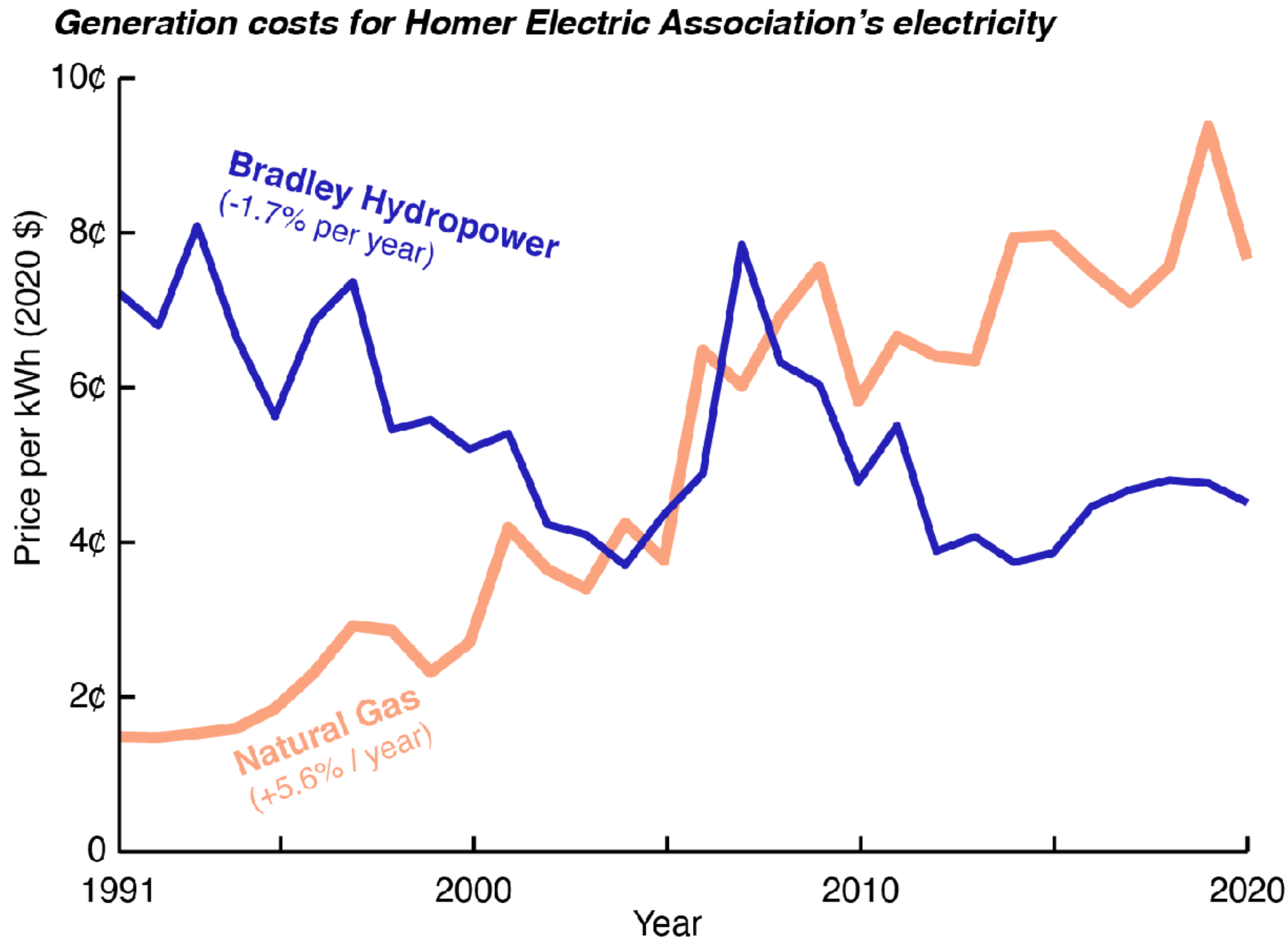
Most gas comes from a single supplier

Where we are now

"There is no crisis of natural gas today. What we want to make sure of is that 5, 6 years from now there's no crisis of natural gas, and that means as a community we need to move with urgency to diversify our [energy]."
Luke Saugier - Hilcorp

The supply is questionable

Where we are now



Methods: Quarterly RCA reporting for 1991 to 2000, annual reports thereafter. Some quarters missing. 2nd quarter of 1997 excluded for Bradley as an outlier. Inflation adjusted based on CPI. Gas prices reflect the dominant source of electricity for HEA for each year. O&M of gas plants not included - full cost of gas generation is slightly higher.

Gas prices are rising

Where we are now

- Natural gas provides most of our electricity and heat
- Hilcorp provides the vast majority of our gas
- Hilcorp warns of dwindling gas and the potential for crisis
- Gas prices have historically risen faster than inflation

Summary

What could be done?

Find more gas?

- Hilcorp doesn't anticipate that they will turn around dwindling supply.
- Federal lease sale: To supply more than about 5 years of gas BOEM believes gas prices would have to go up 36% on top of oil being at a sustained \$100/barrel.
- Subsidized exploration cost over \$2 billion in the 2010s, and only extended the gas supply 10-15 years, with no price reduction.





What could be done?

Gas pipeline?

- Still lacks necessary financial backing
- Construction estimated to take 9 years
- Price estimates vary - dependent on financing

What could be done?

LNG import?



- Marathon has permits to import LNG, but only 2% of rail belt demand.
- LNG prices will be tied to the Pacific market, which is volatile and currently much more expensive.

What could be done?

Conservation?

- Cheap gas from Cook Inlet can be thought of as a limited resource.
- Reduced consumption is likely to extend the supply.
- Opportunity in improved building efficiency to reduce consumption



What could be done?

Alternatives?

- Renewable energy can provide cost-competitive electricity
- Heat pumps: Although currently more expensive than natural gas heating, low cost renewable electricity and increasing gas prices could reverse this.



What could the Borough do?

Better understand the problem

- As it stands, all the information we have is Hilcorp's statements about gas supply. The borough could work to improve our understanding of the situation, potential consequences, and options for action.
 - Direct conversation with Hilcorp and with major consumers like HEA and Enstar
- Economic impact analysis
 - Scenario analysis
 - Gas import

What could the Borough do?

Encourage conservation

- Cheap natural gas is a limited resource - what could the borough do to conserve some of it for future use?
 - Reduce direct consumption by borough facilities such as the hospitals and schools
- Encourage efficiency improvements more widely
 - Public education - opportunities for reduced gas use, and uncertainty of future prices
 - C-PACE, Tax, or building code policy to incentivize conservation

What could the Borough do?

Develop alternatives

- Landfill gas
- Seek partners for renewable development on Borough land
- Further tax incentives for IPP development in the borough
- Solar (PV or heating) at borough facilities

What could the Borough do?

Provide leadership

- Borough conference on KP energy future
- Interface with utilities
- Coordinate with borough entities (cities, tribes) to reduce consumption and prepare for future impacts
- Establish line of communication with state and federal entities that may be able to help avert a crisis



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