

[Commentary](#)

## LNG Is A Sensible Solution For Oahu's Future Energy Needs

Let's encourage and subsidize rooftop solar but also recognize that 69% of the island's power comes from burning oil.

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Cory Lum/Civil Beat/2016

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Change in Hawai'i is difficult, and the pushback to O'ahu's energy pathway plan from Governor Green and the State Energy Office is all but predictable.

Opposing or even banning liquefied natural gas would be a big mistake, codifying and carrying forward an unfortunate decision by Governor Ige some 10 years ago — a decision that has cost O'ahu

ratepayers well in excess of \$1 billion. And which will continue to cost ratepayers at least that much per decade in the future, unless we're willing to move on from the status quo.

It would also be a mistake for the environment by effectively preventing a 30% reduction in CO2 emissions to the extent that the Kahe and Waiiau power plants continue to burn thick, black fuel oil as we move forward, at whatever pace, to achieve a higher percentage of renewables.

## ideas

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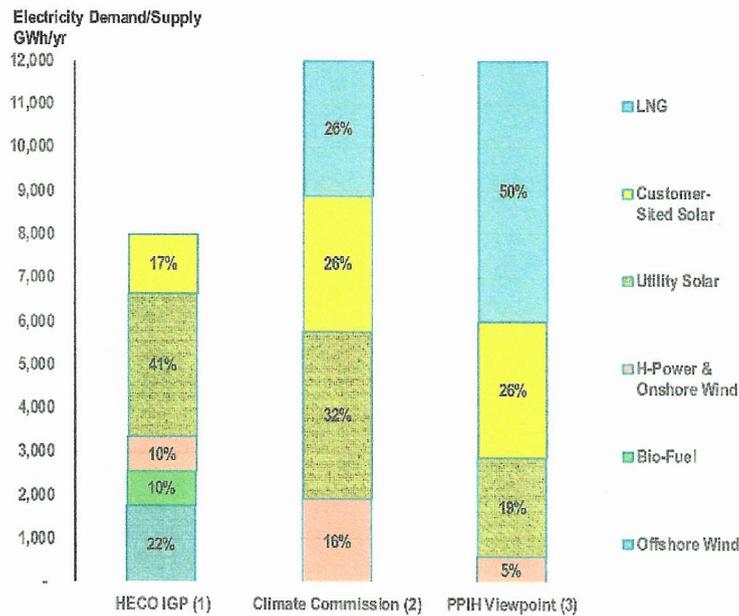
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The basic premise of those opposing LNG is that we will be at 100% renewable energy on O'ahu by 2045, so switching to natural gas would be foolhardy. But that's far from a given. Our institute points out a "what if" — that despite everybody's best efforts, we simply can't get there.

Even the state's own Climate Change Mitigation Commission seems to concur; their pathways report projection for 2045 shows a full 26% of O'ahu's power coming from natural gas.

## Oahu 2045 Electrical Energy Sources: Three Viewpoints



1. Demand level and source-of-power percentages from Hawaiian Electric's Integrated Grid Plan (IGP) Preferred Plans and Next Steps, November, 2023.
2. Demand level and source-of-power percentages from the Hawaii Climate Change Mitigation and Adaptation Commission's "Hawaii Climate Action Pathways," August, 2025 Draft.
3. Viewpoint of the Practical Policy Institute of Hawaii (PPIH). Comments on the various power sources:
  - a. Onshore Wind: The PPIH view is that existing onshore wind projects on or near the North Shore will be at or after their useful lives and that community pushback will negate any new or replacement wind projects.
  - b. Utility Solar Farms: The PPIH view is that a plan for 3,882 gigawatt hours (GWh) would necessitate imprudent land use, requiring more than 13,000 acres of land and be in conflict with other land-use priorities.
  - c. Customer-sited Solar: No change from the Commission's projection, with the caveat that 3,088 GWh of customer-generated power is highly aspirational (127% more than the IGP projection) and will necessitate as much as one-third of the projected generation from retail, industrial, and military customers.
  - d. LNG: The aggregate of the Commission's 26% projection plus incremental reductions in onshore wind and utility solar farm projections as discussed above.

We're now a full decade into the quest for 100% renewables since the de facto LNG ban, yet a full 69% of O'ahu's power comes from burning oil. Our view is that we should absolutely continue to encourage and subsidize rooftop solar.

But it's going to hit the wall. We're at more than 50% rooftop penetration on O'ahu, but that provides only about 16% of total demand; at an optimistic 75% penetration, we'll be at about 24%.

Thus there will clearly be a need for a huge utility solar farm component. But they will hit a wall as well, in the form of how much land will be required. Our analysis shows that some 13,000 acres that will be required for utility solar farms to achieve the Climate Change Mitigation Commission's projection of 32% from this source, based on the commission's demand projection.

We feel that committing that much land would be imprudent. Since the idea of giant floating windmills is dead, and pushback from rural O'ahu communities against new land-based windmills will likely be fierce, the reality is that it is not likely that more than 50% of our power will come from renewables by 2045.

Another argument against LNG is that infrastructure cost, some \$2 billion, will be too costly. But we point out that the infrastructure cost of to assure solar farm reliability will be far greater than the cost of LNG infrastructure. HECO's utility solar farms are required to provide only four hours of battery backup, nowhere near enough to assure reliable power from 5 p.m. to 7 a.m. every day, much less on overcast days.

There will be a significant need for utility battery farms. The first such farm at Kapolei cost some \$220 million but provides only 565 megawatt hours of power availability-less than 3% of a day's demand. HECO's own estimate is that ratepayers will pay some \$500 million over 20 years, as the power provider recovers capital cost, a rate of return, and a throughput charge for power drawn down.

To achieve reliable electricity from the grid, will we need some 10 to 20 such farms? The cost will surely be well, well in excess of the cost of LNG infrastructure. To quote the Climate Change Mitigation Commission's own report: "Crucially, the plan emphasizes massive investments in utility-scale battery energy storage systems (BESS) such as Kapolei Energy Storage."

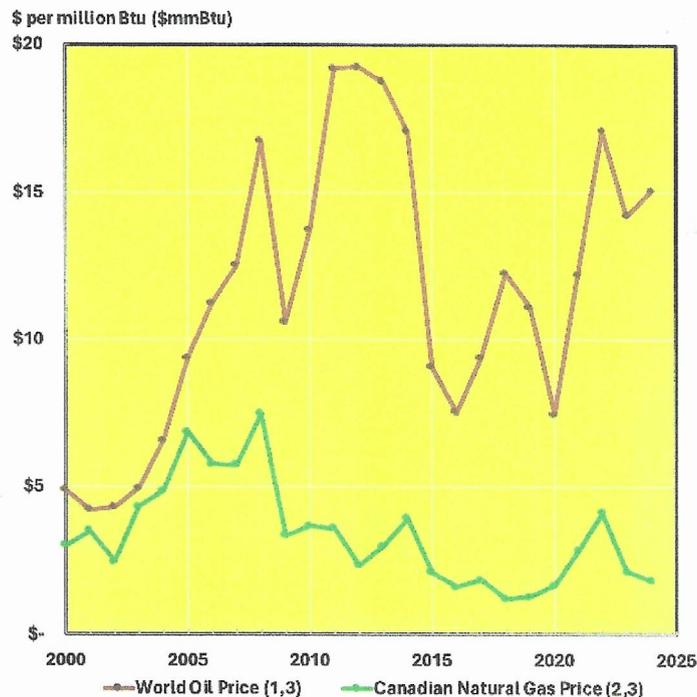
And importantly, solar farm batteries will have to be completely replaced some 10 to 20 years after placement in service versus a 30 to 40-year life of LNG infrastructure.

A myth pertaining to the cost of solar power from utility solar farms needs to be dispelled. Yes, some early low-cost solar farms were implemented, but those days are over. Far more farms were cancelled when developers presumably couldn't achieve economic feasibility at their initially quoted rates.

Indeed, the contracted rate for the most recent solar farm contract being finalized, the Mahi Solar project on O'ahu, is 23 cents per kilowatt hour at or even higher than the cost of oil-fired generation. Importantly, this will be for intermittent, unreliable power. Coupled with the cost to achieve reliability, the "all in" cost per kWh of solar farm power will likely be higher, not lower, than the current fossil fuel cost.

Those opposed to LNG point to the volatility of the cost of fossil fuels. By banning LNG, we would miss an opportunity to significantly reduce current volatility as we move forward to 2045. The chart below provides a useful comparison of oil versus natural gas price volatility, the latter based on Canadian natural gas, which has emerged as a likely source of shipping LNG to Hawai'i.

## World Oil Price vs. Canadian Natural Gas Price, 2000 to 2024



1. World oil price: average Brent crude oil price, equated to \$mmBtu.
  2. Canadian natural gas price: average AECO (Alberta Energy Company) price. This benchmark price is frequently used in long-term LNG contracts for price adjustments.
  3. When used for heat energy, oil emits 183 pounds of CO<sub>2</sub> per mmmBtu vs. 117 for natural gas (39% more).
- Sources: Facts Global Energy (2024) for prices; U.S. Energy Information Administration for CO<sub>2</sub> emissions.

More than 15 million metric tons of annual export capacity from British Columbia will be available within two years. Hawai'i will need about 1 million metric ton per year. Contracts ranging from five to 20 years will likely be available. And should there ever be a waiver to or repeal of the Jones Act, Hawai'i will have access to the world's largest exporter of LNG, the United States Gulf Coast.

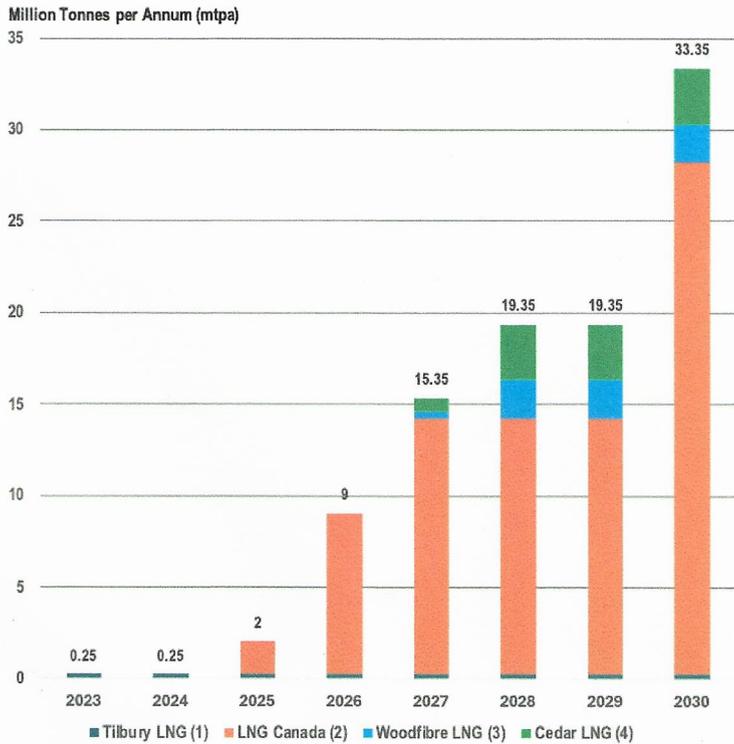
Another argument raised is curious; since it will take several years for approvals and infrastructure construction, we won't be able to accurately predict the cost of LNG. But considering the relatively less-volatile cost of LNG, as shown in above, plus the ability to enter into long-term contracts, isn't there a far stronger argument that continuing with the status quo, burning oil, will be far riskier?

Our institute has consistently encouraged the conversion of HECO's aging generation units to natural gas. And we have consistently encouraged rooftop and parking lot solar, while encouraging utility solar farms consistent with prudent land use.

But given the likely barriers to achieving anywhere near the 100% renewable goal, wouldn't we be far better off having natural gas-based electricity in place versus the status quo continuation of burning higher cost, more price volatile, and higher-emitting oil?

Opposing or banning LNG would assure the latter. We need to give Governor Green and his State Energy Office our full support, not misplaced pushback.

**Canada LNG Liquefaction Capacity by Project**  
 Projects under Construction or Likely to Proceed as of February 2024



1. 0.25 mtpa facility commissioned in 2018 at Delta, B.C.
2. 14 mtpa facility under construction at Kitimat, B.C. Completion of planned Phase 2 expansion of an additional 14 mtpa projected for 2030.
3. 2.1 mtpa facility under construction at Squamish, B.C.
4. 3 mtpa facility planned for Kitimat, B.C.

Source: Facts Global Energy (FGE), February 2024.

**About the Authors**



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