Hawaii Five Uh-Oh! Power Outages in Paradise

How Hawaii's mandated "energy transition" set the table for rolling blackouts

ISAAC ORR AND MITCH ROLLING

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At the same time, heavy rain and cloud coverage across the island limited solar generation. This lack of solar power meant the large batteries, which were supposed to replace the power lost by the closure of a coal plant on the island, were not charged to full capacity.

HECO stated that the large, 185 MW/565 megawatt-hour (MWh) Kapolei battery that accounts for 17 percent of Oahu's peak capacity was 80 percent charged in the morning of January 8th, but it had been discharged due to the lack of solar and wind and drained even more with the loss of the thermal units later in the afternoon. By evening, the three-hour battery had run out of juice.

Adding insult to injury, wind generation declined just as it was needed most, and output from a garbage-burning facility was reduced, also likely due to weather.

The results were rolling blackouts.

What Caused the Blackouts? Long-Term Causes: Misguided Energy Policy

While a rainstorm and unfortunate timing constituted the short-term causes of the outages, the long-term causes of the blackouts stem from Hawaii's unrealistic energy policies that have made the state's electricity less reliable and more expensive.

In 2015, the state became the first in the nation to pass a law mandating an "energy transition" to 100 percent renewable energy by 2045. In 2016, Hawaii rejected a proposed liquefied natural gas (LNG) import and regasification facility, preferring to indulge in the fantasy that the state could "jump straight to renewables."

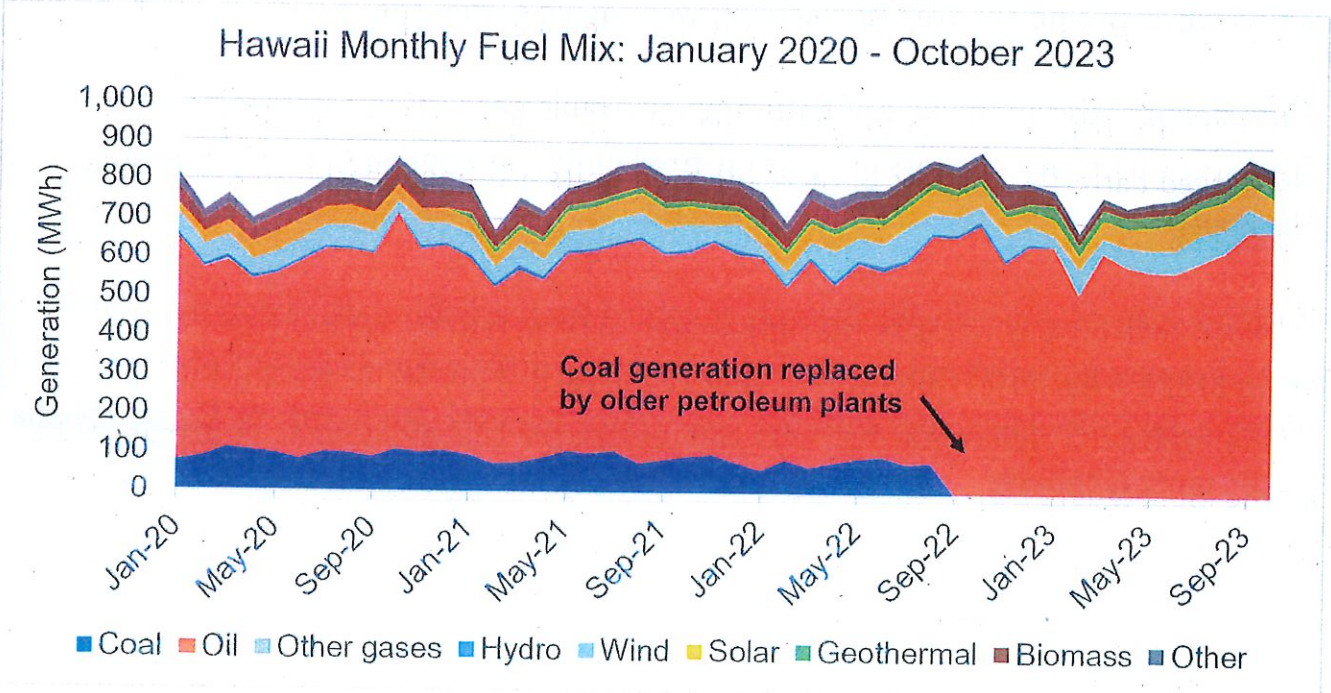
The closure of the AES coal plant was energy malpractice for several reasons. Chief among them was the fact that the coal plant was only 30 years old with decades of useful life remaining to generate reliable electricity at a lower cost than the oil plants used to generate the majority of Hawaii's electricity.

As Jim Kelly, Vice President of HECO, noted in 2022, "There is a cost associated to not burning coal." For residents of Oahu, Hawaii, these costs represented more than higher bills - it also meant more reliability risks.

Reliability risks stemming from coal closure

The Energy Office describes Hawaii as one of the only states in the nation to retire a large fossil fuel unit, the AES coal plant, without transitioning first to another "bridge" fossil fuel like natural gas.

Hawaii's inability to build enough new wind, solar, and battery facilities meant that oil facilities did the heavy lifting to replace the electricity generated from the prematurely retired coal facility, which you can see in the graph below using data from the U.S. Energy Information Administration.



A huge battery has replaced Hawaii's last coal plant

Plus Power's Kapolei battery is officially online. The pioneering project is a leading example of how to shift crucial grid functions from fossil-fueled plants to clean energy.

By Julian Spector
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(Plus Power)

While we believe having the coal plant online could have helped prevent the blackouts, we can't know this for sure because HECO did not respond to our question asking how large the capacity shortfall was. It is also possible that the coal plant could have been on planned outage during the storm.

All we know is that an operational coal plant would have been much more helpful than a fully discharged battery, non-producing wind turbines, and cloud-covered solar panels.

Cost increases

Hawaii policymakers had grand visions of a renewable future that was enshrined in law. However, efforts to make these dreams a reality by building the required wind and solar additions in the state have been derailed.

Several solar and battery projects have been canceled due to supply chain setbacks, rising costs, and tariffs on Chinese solar panels for allegations of unfair business practices and slavery. According to the Honolulu Star Advisor:

> "December [2023] also was supposed to be when a 120-megawatt solar farm with 420 megawatt-hours of storage called Mahi Solar was projected to come online in Kunia. But this project, with a capacity to power about 37,000 homes, got canceled after delays.
>
> Another Oahu solar farm project, Kupehau Solar, that was half as big as Mahi Solar [210 MW] and once expected to begin operating in 2023, also got canceled.
>
> Two other solar farms with battery systems had been previously expected to go into service on Oahu in 2023 but have been delayed to later this year. One is Hoohana Solar, with 52 megawatts of generation capacity and 208 megawatt-hours of battery storage. The other is Waiawa Phase 2 Solar, with 30 megawatts of generation capacity and 240 megawatt-hours of battery storage."

While these projects may have helped keep the lights on, we can't know that for sure because these solar facilities, like the ones already on the island, would have been affected by the same weather patterns. This is why attempting to be carbon-free using wind, solar, and battery storage instead of nuclear power will always be gambling with the reliability of the grid.

Conclusion

The blackouts on January 8th should be a humbling experience for the lawmakers who brazenly tried to mandate an all renewable grid and downplayed the reliability challenges brought on by the "energy transition."