

Hawai'i Clean Energy Initiative: Policies, Objectives and Achievements

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*Testimony: HB 153, Utilities: Renewable Portfolio Standard
1:00 pm, April 3, 2025*



HAWAII STATE ENERGY OFFICE

Statutory purpose (pursuant to HRS 196-71) is to promote energy efficiency, renewable energy, and clean transportation to help achieve a resilient, clean energy economy.

Hawai‘i’s Renewable Portfolio Standards Law

Key Driver of Hawai‘i’s energy transition (HRS §269-92 2009, 2015, 2022*)

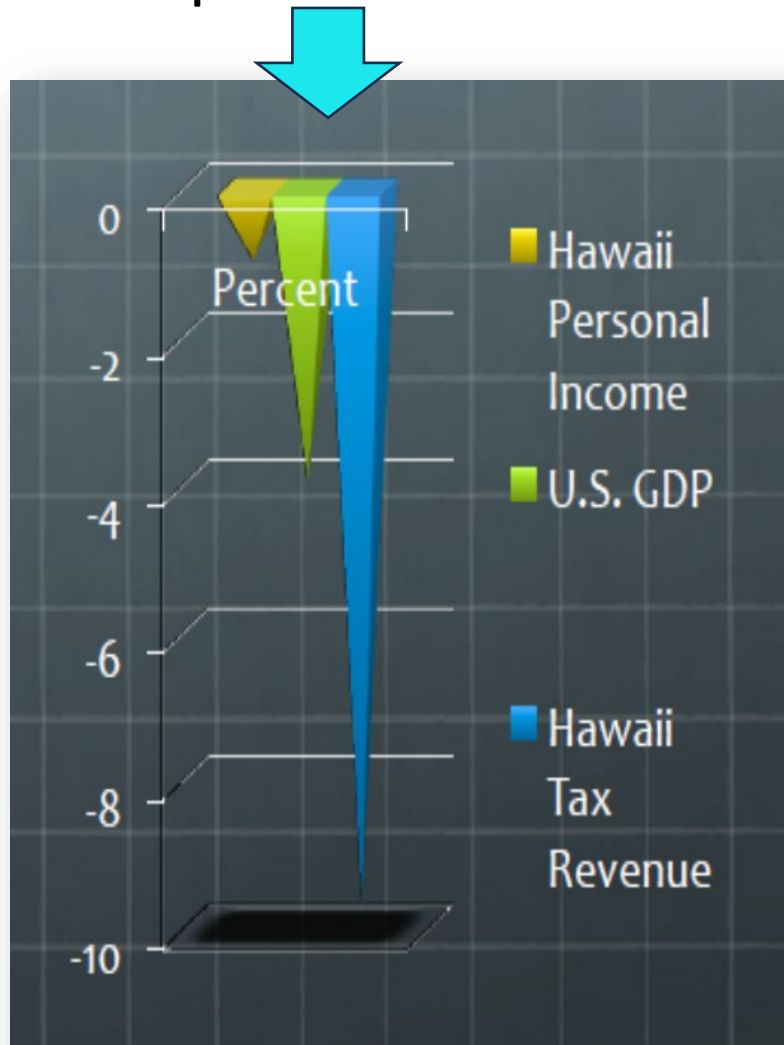
(a) Each electric utility company that sells electricity for consumption in the State shall establish a renewable portfolio standard of:

- (1) 10% of its net electricity sales by December 31, 2010;
- (2) 15% of its net electricity sales by December 31, 2015;
- (3) 30% of its net electricity sales by December 31, 2020;
- (4) 40% of its net electricity generation by December 31, 2030;
- (5) 70% of its net electricity generation by December 31, 2040; and
- (6) 100% of its net electricity generation by December 31, 2045.

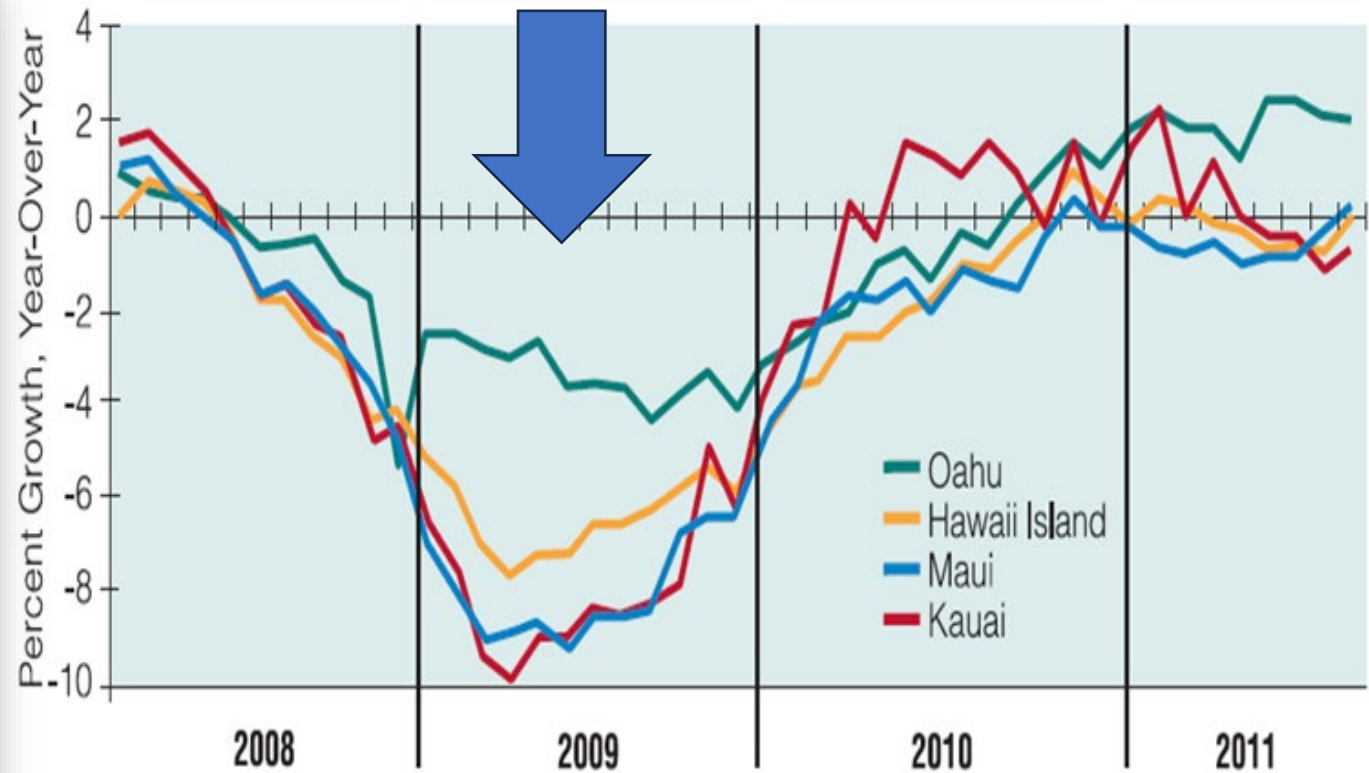
*Act 240 (2022) changed the RPS standard from net sales to generation.

Oil Shocks are Devastating to Hawai'i's Economy – Skyrocketing Oil Prices in 2008 :

Sharp decline in economy and tax revenues

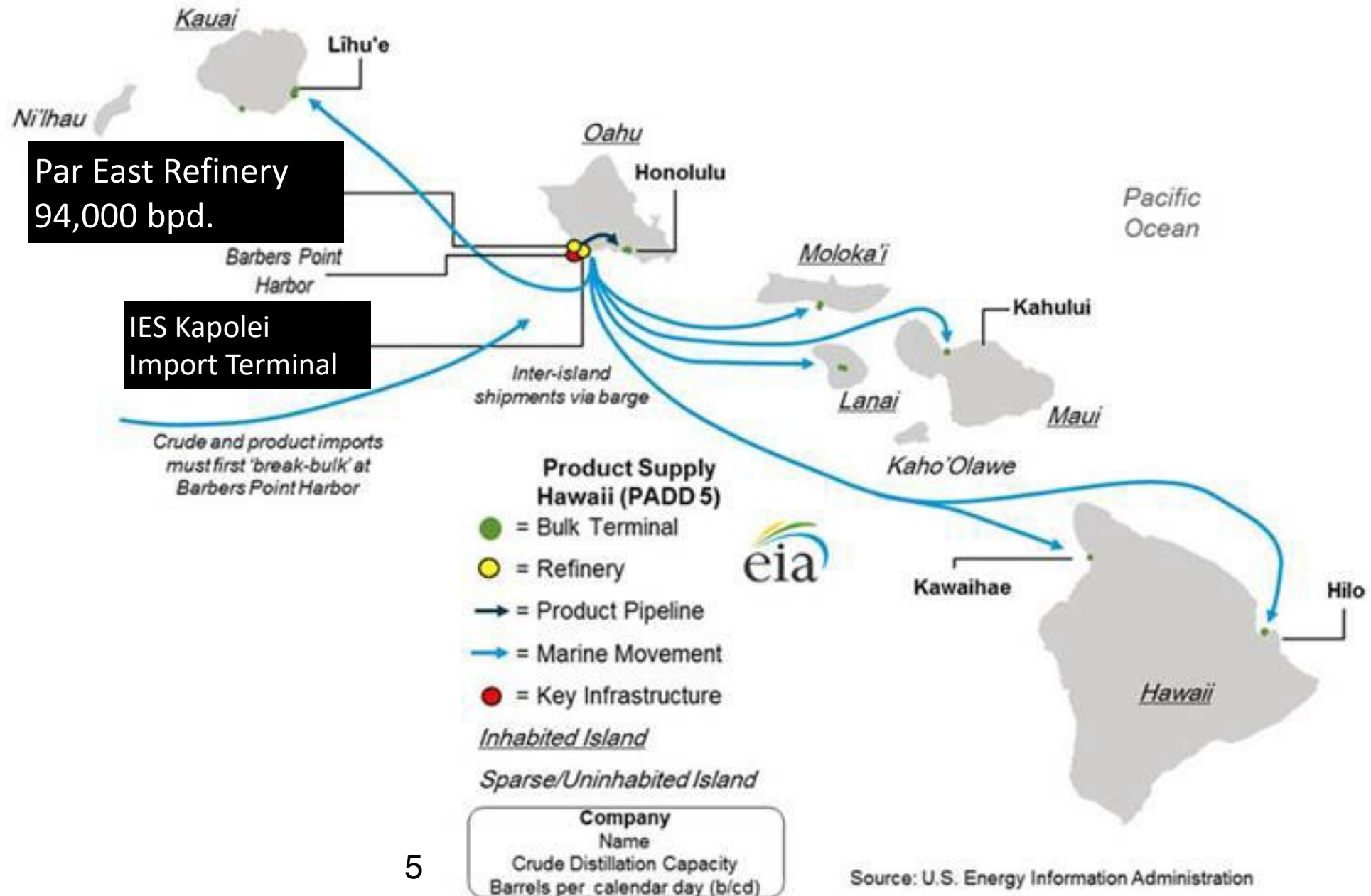


Freefall in tax revenue and job growth



Job Growth by County: 2008 to 2011

Oil Imports Exacerbate Hawai'i's Supply Chain Vulnerabilities

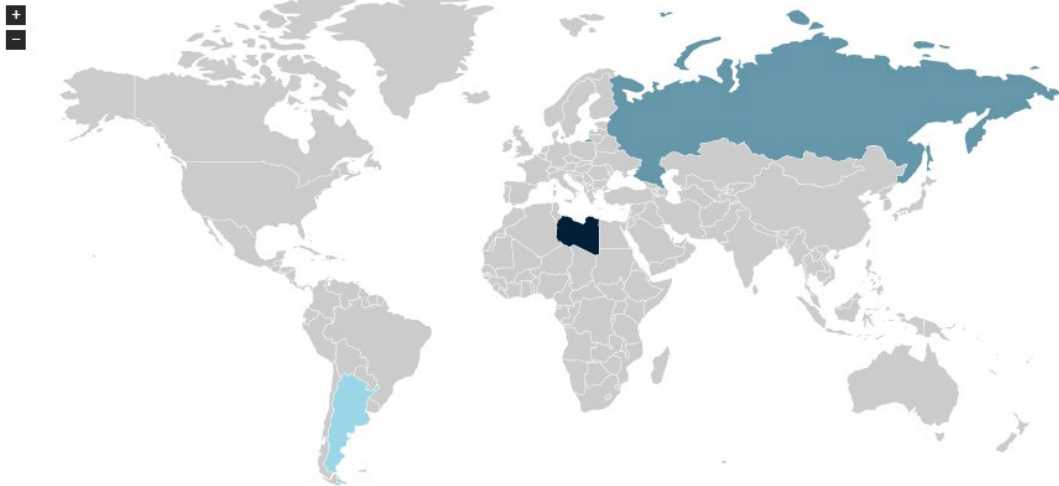


Oil Imports = Energy Insecurity for Hawai'i

Petroleum imports to Hawai'i in 2021

- Libya – 64%
- Russia – 28%
- Argentina – 8%

Imports of all grades to Hawaii 2021



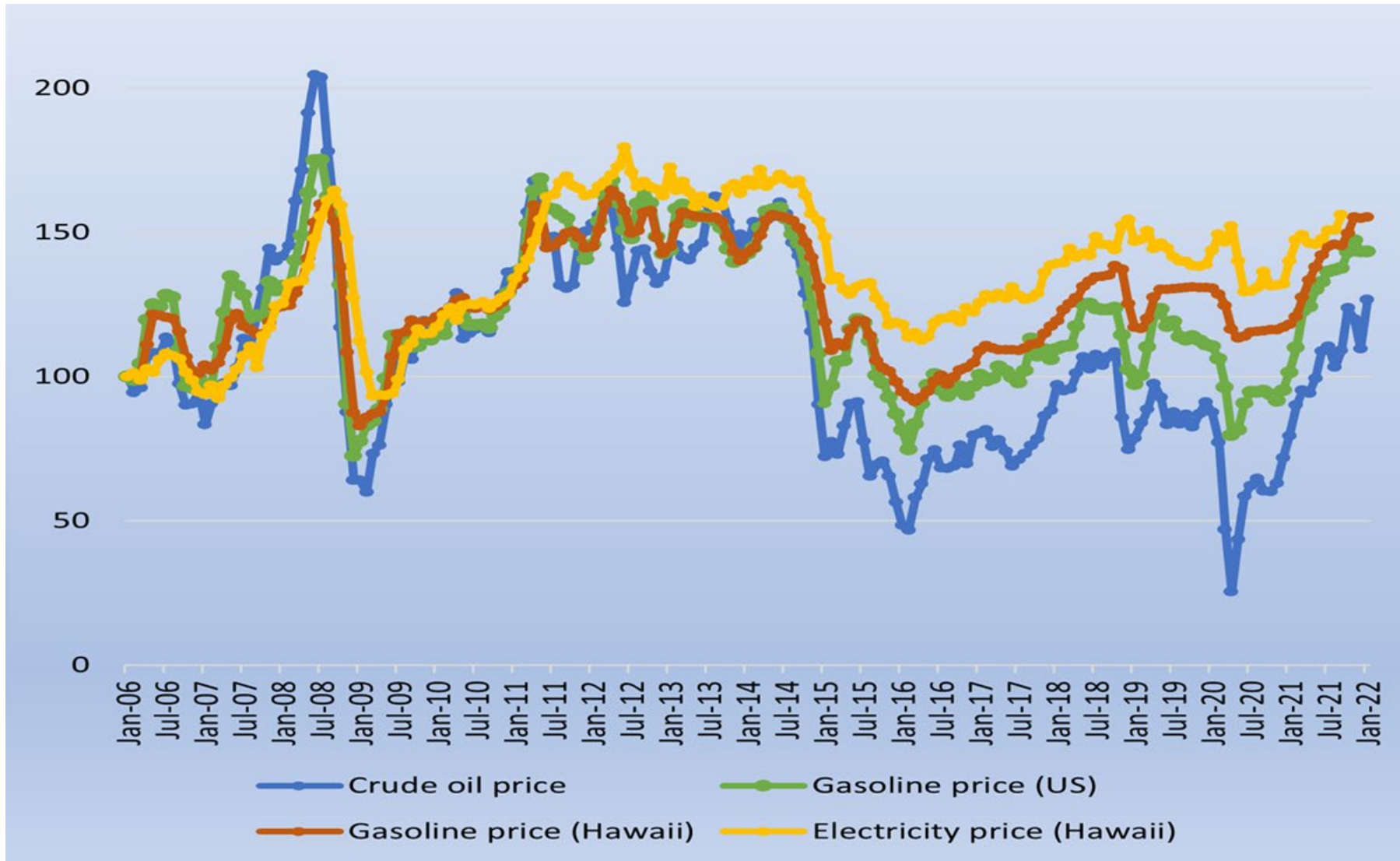
Imports of all grades to Hawaii Jun 2022



Since June of 2022 - Imports by Country

In response to Russia's invasion of Ukraine in April 2022, Hawai'i suspended Russian crude oil purchases, shifting to Argentina and Libya.

RPS - Hawai'i's Strategy to Eliminate Oil Price Volatility



Rising crude oil prices (in blue) drives increased prices in Hawaii for electricity (in yellow) and gasoline (in red).

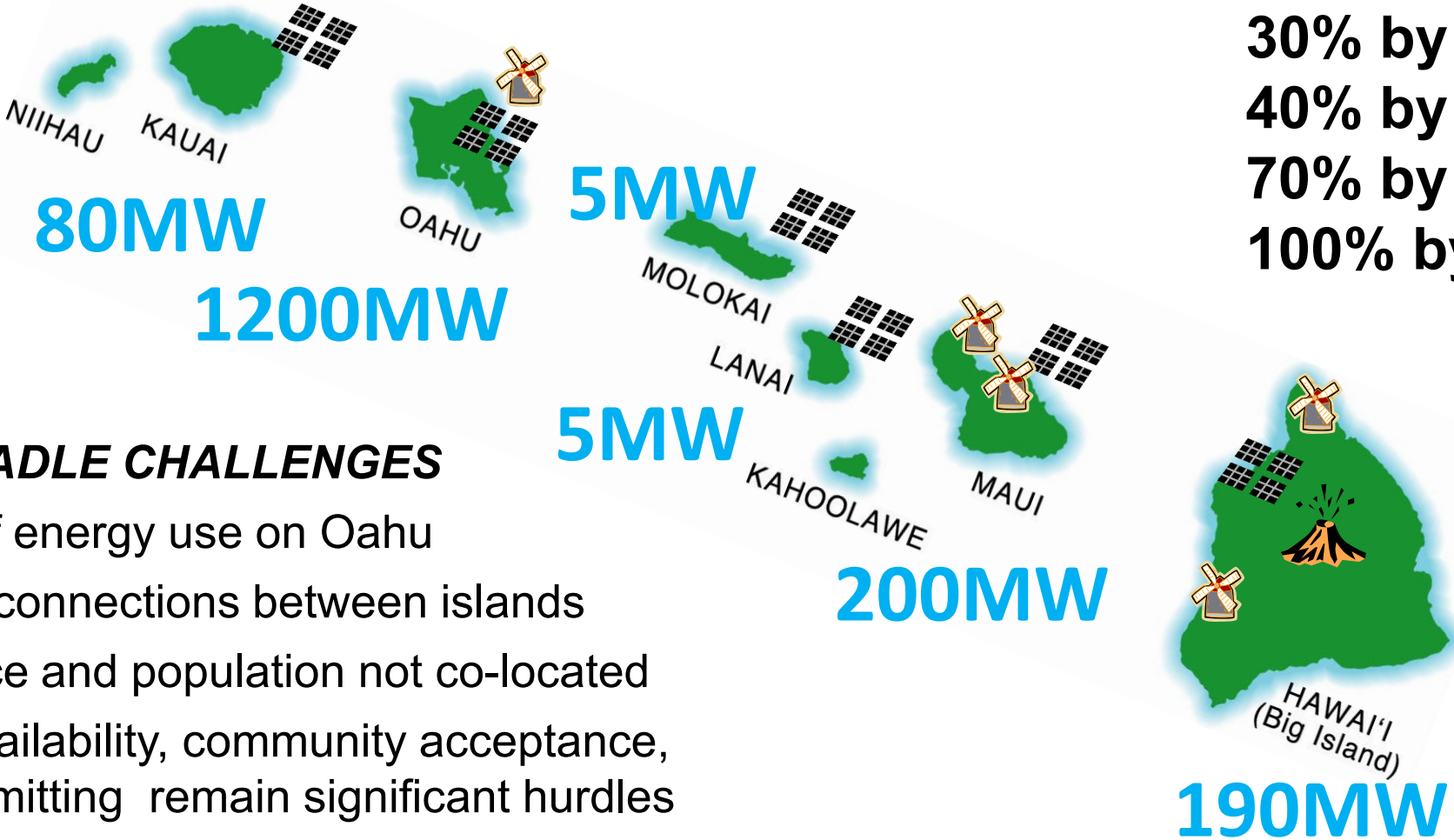
Impacts to Hawaii much greater than rest of U.S. (in green)

HAWAI'I CLEAN ENERGY INITIATIVE



An energy transformation partnership

Affecting Change on Six Isolated Grids



RPS Targets

30% by 2020

40% by 2030

70% by 2040

100% by 2045

FORMIBADLE CHALLENGES

- >70% of energy use on Oahu
- No interconnections between islands
- Resource and population not co-located
- Land availability, community acceptance, and permitting remain significant hurdles

Meeting RPS goals requires innovation and community commitment

100% by 2045

- Under Act 97 Hawaii is the first state to set a 100% RPS.
- A binding commitment for renewable energy establishes confidence in the market that drives investment decisions.



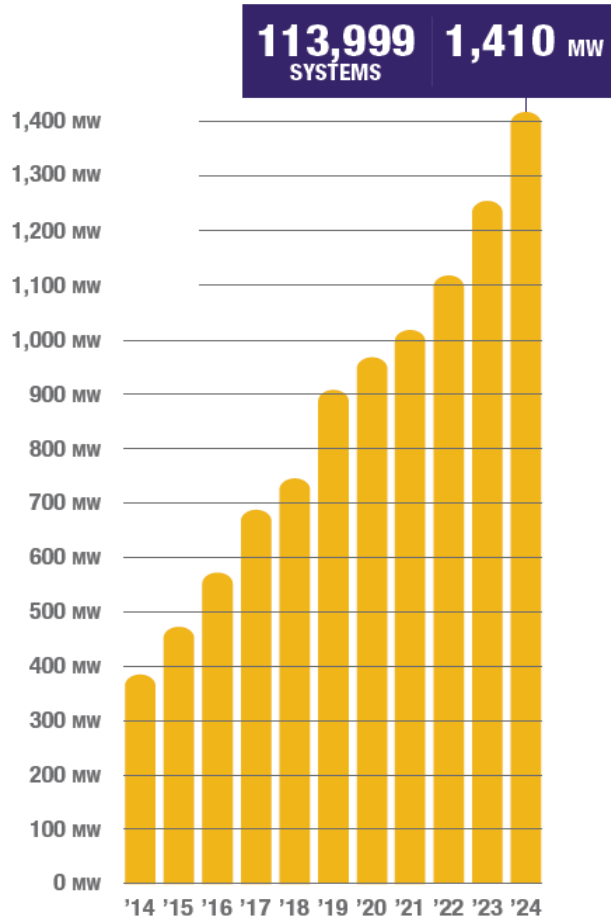
Recent Solar Power Purchase Agreements - 8 to 12 cents/kWh

| Project name | Island | Developer | Size | Storage | Cost per KWh |
|------------------|--------|------------------|-------|---------|--------------|
| Waikoloa Solar | Hawaii | AES | 30 MW | 120 MWh | \$0.08 |
| Hale Kuawehi | Hawaii | Innergex | 30 MW | 120 MWh | \$0.09 |
| Kuihelani Solar | Maui | AES | 60 MW | 240 MWh | \$0.08 |
| Paeahu Solar | Maui | Innergex | 15 MW | 60 MWh | \$0.12 |
| Hoohana | Oahu | 174 Power Global | 52 MW | 208 MWh | \$0.10 |
| Mililani I Solar | Oahu | Clearway | 39 MW | 156 MWh | \$0.09 |
| Waiawa Solar | Oahu | Clearway | 36 MW | 144 MWh | \$0.10 |

Fuel oil has ranged in past 5 years from 14 to 25 cents per kWh

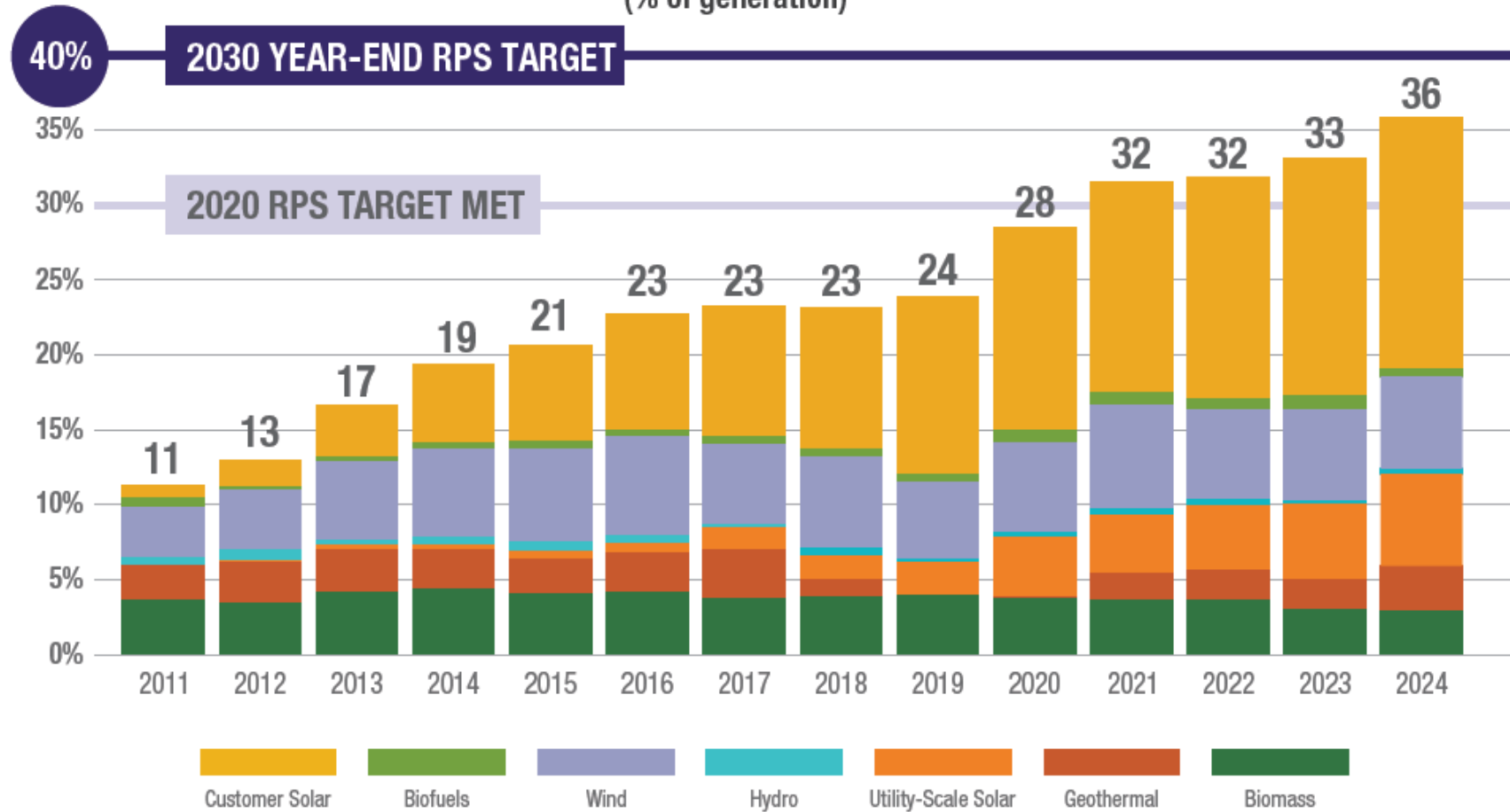
Current Status - Hawaiian Electric's Renewable Portfolio

CUMULATIVE SOLAR INSTALLATIONS



RENEWABLE PORTFOLIO STANDARD PROGRESS

(% of generation)

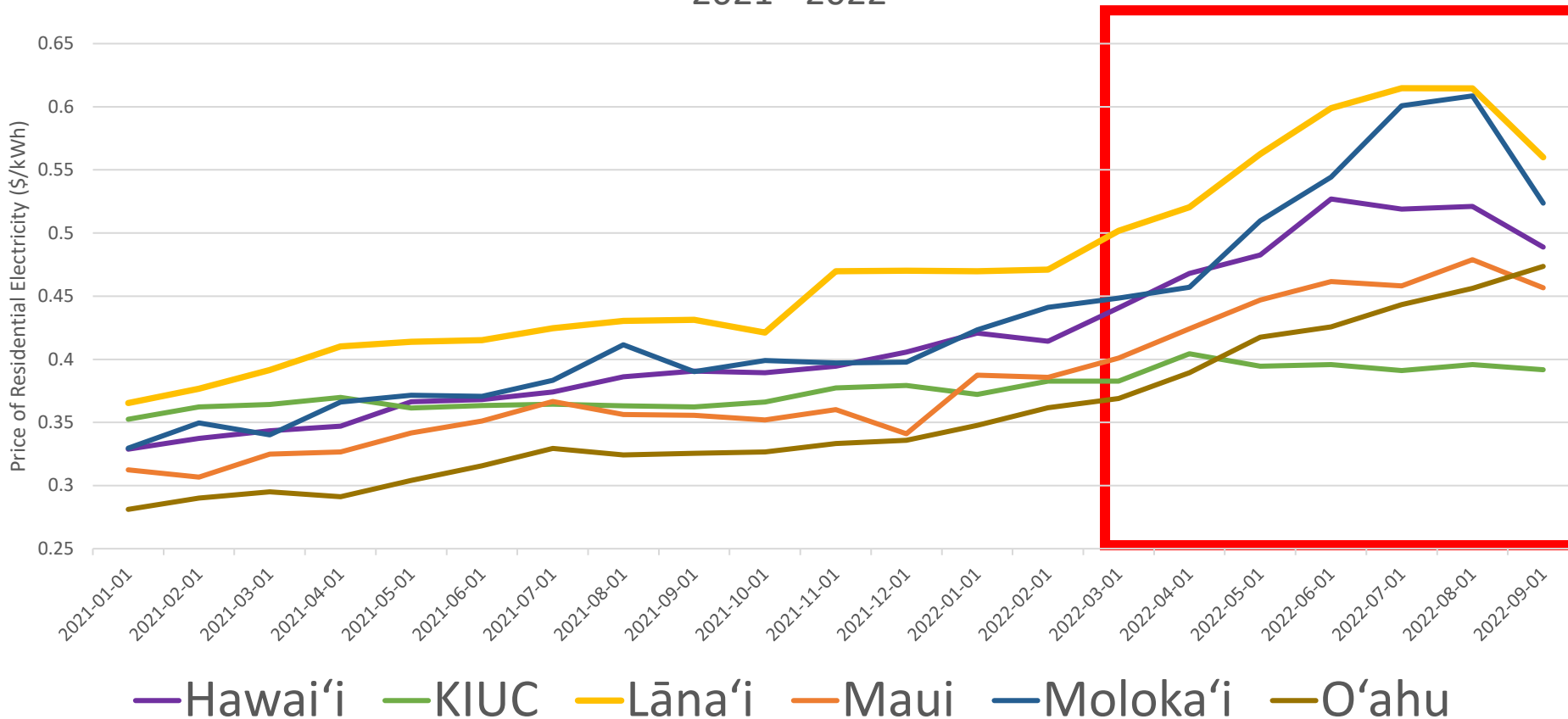


Source: Hawaiian Electric Sustainability Report 2024-2025

RPS Impacts on Oil Price Volatility

Average Electricity Prices by Island 2021 to 2022

Residential Rates by Island based on average 500 kWh User
2021 - 2022



War in Ukraine
increases oil prices
April 2022

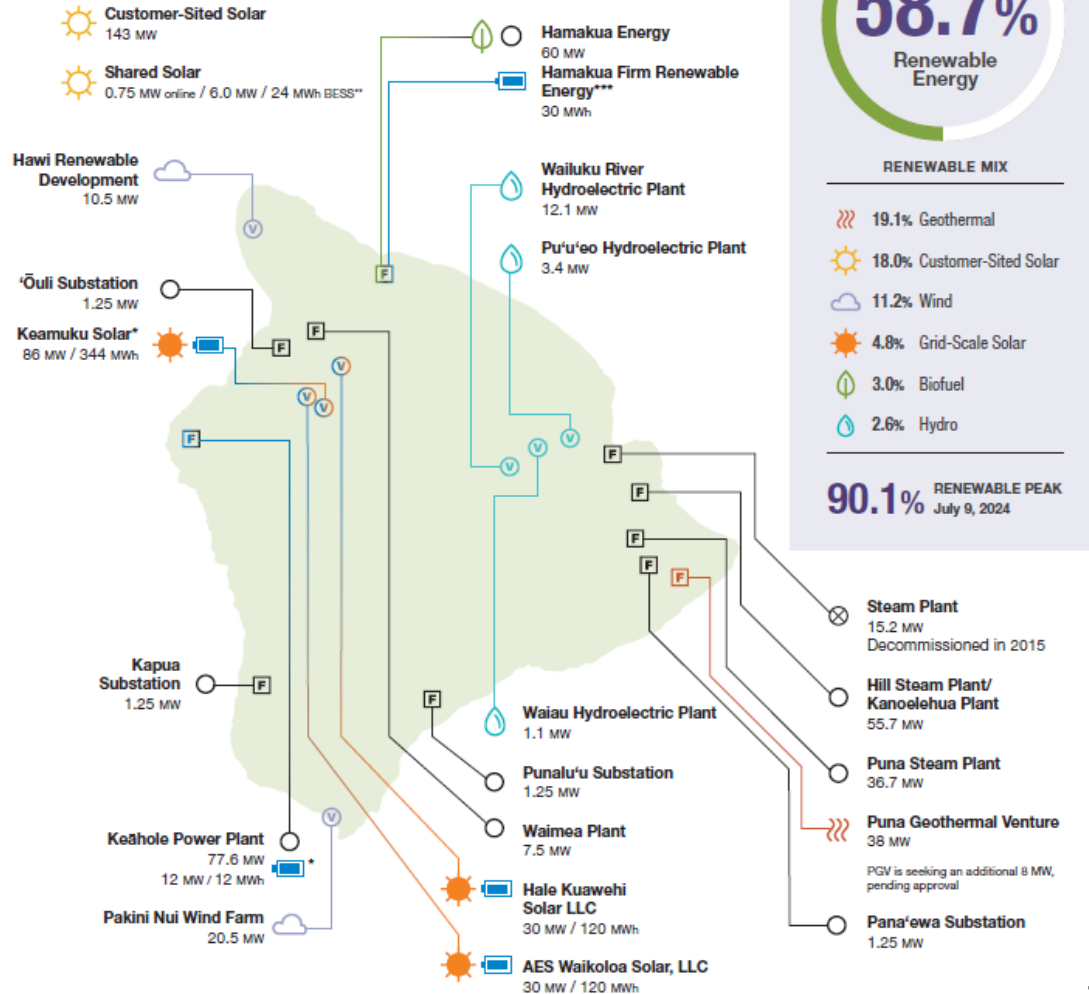
O'ahu costs exceed
Kaua'i energy costs

Kaua'i energy
costs plateau

—Hawai'i —KIUC —Lāna'i —Maui —Moloka'i —O'ahu

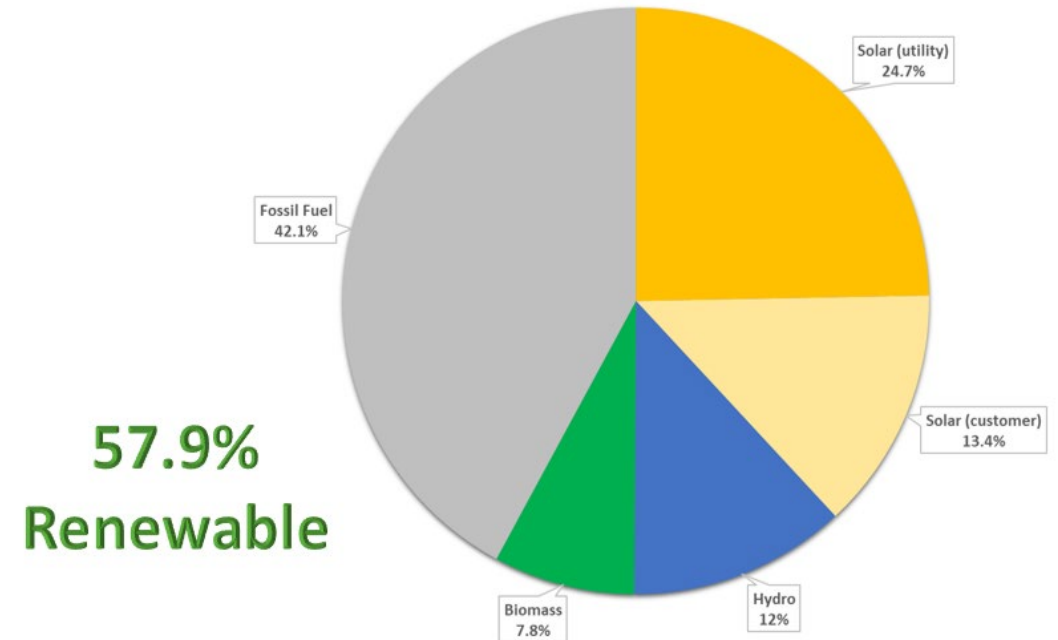
RPS – Highest Penetration of Renewables

Hawai'i Island



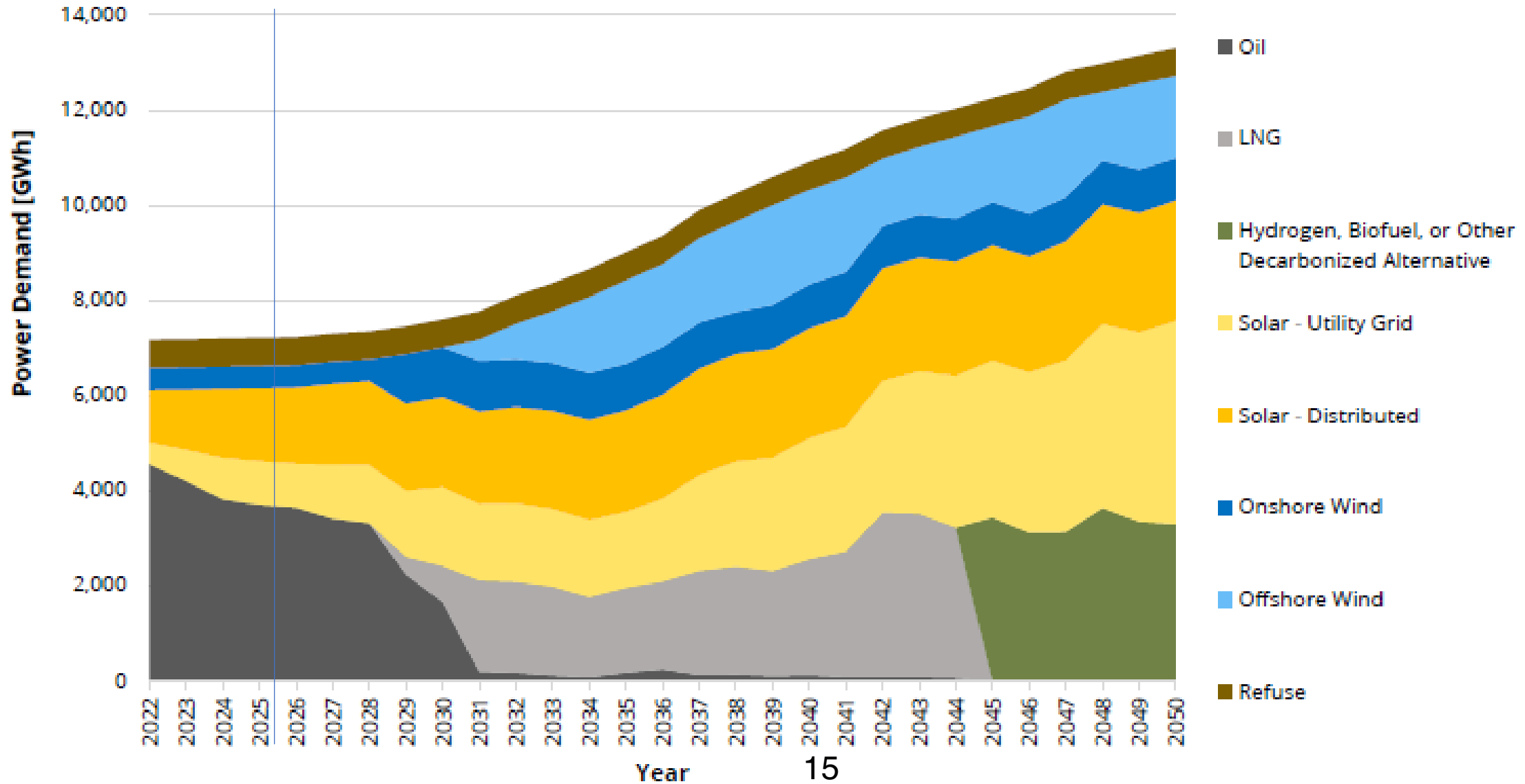
Kauai Island

KIUC Fuel Mix 2023



O'ahu (Honolulu) Renewable Trajectory

Source: Hawai'i State Energy Office, Alternative Fuels, Repowering, and Energy Transition Study - 2024



**Thank you for the opportunity to testify in
support of HB 153.**

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