

HAWAII: THE STATE OF CLEAN ENERGY

The State of Clean Energy

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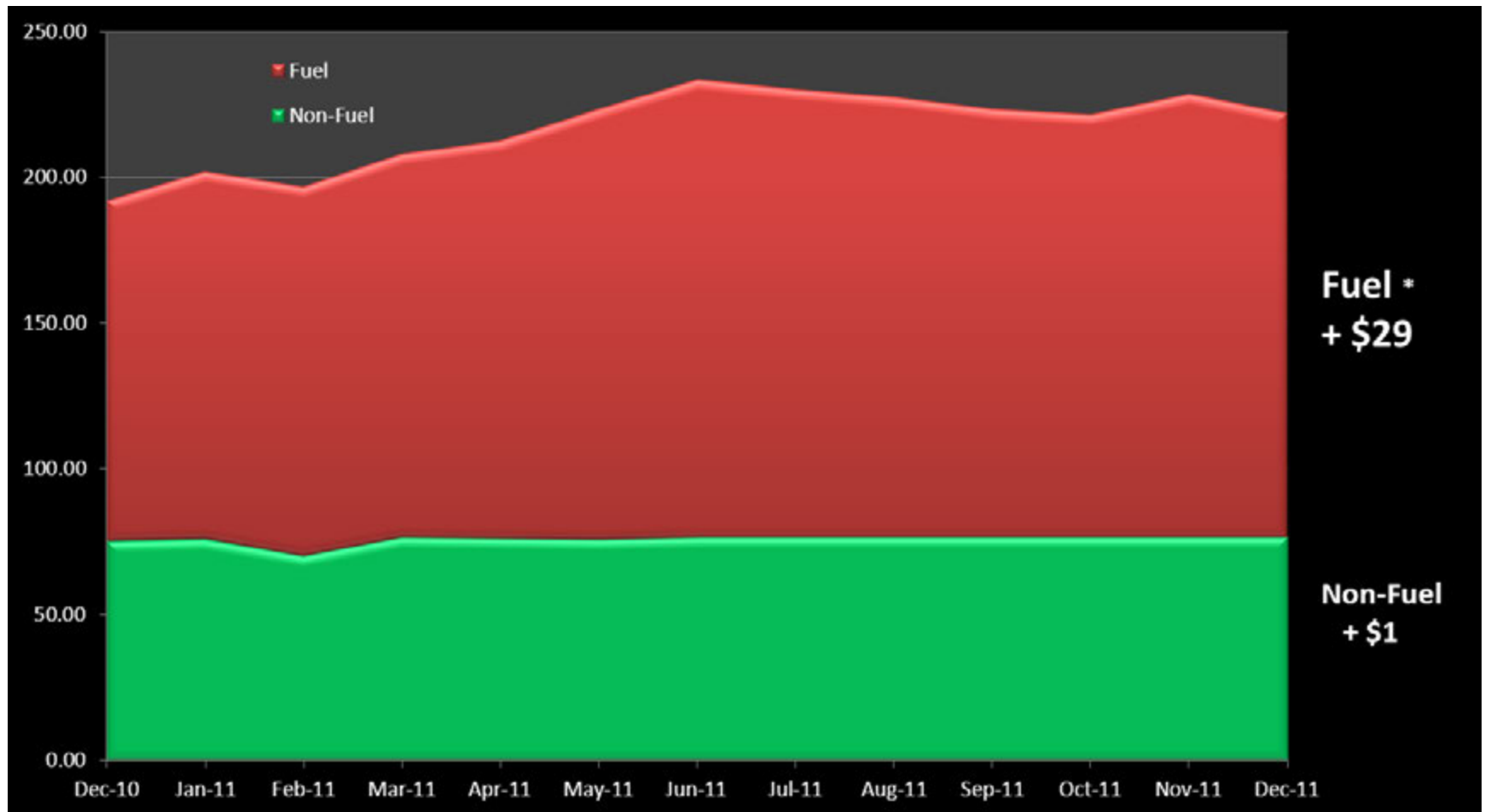
State of Clean Energy

- **Where We Stand
and**
- **Where We Are Headed**

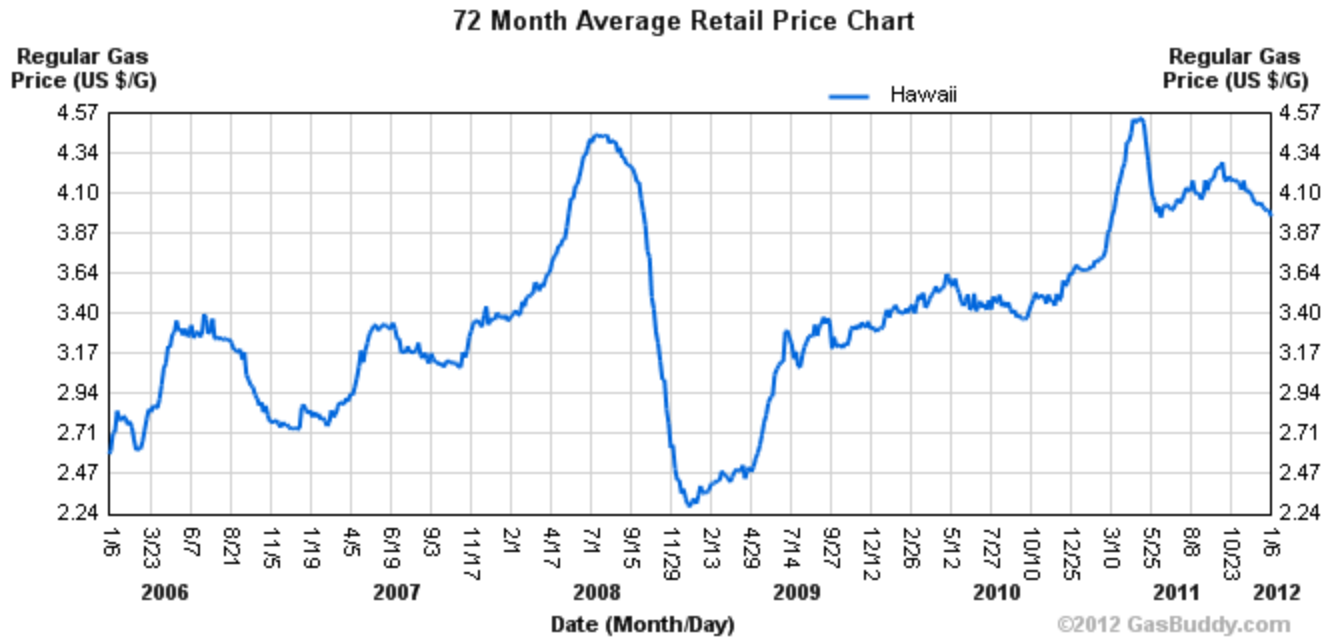
State of Clean Energy

- **Highest Electricity & Highest Gas Prices in US**
- **Cost of Oil and Petroleum Products High and Likely to Remain High in Short Term**
- **Long-term, Cost Will Go Up & Continue to Go Up**
- **To Minimize Impact of High Oil Prices & Meet RPS Requirements Need All Renewables**
- **Starting to Make Progress: Need to Maintain Momentum and Collaboration**

Maui residential bill (600 kwh) 12/2010 – 12/2011

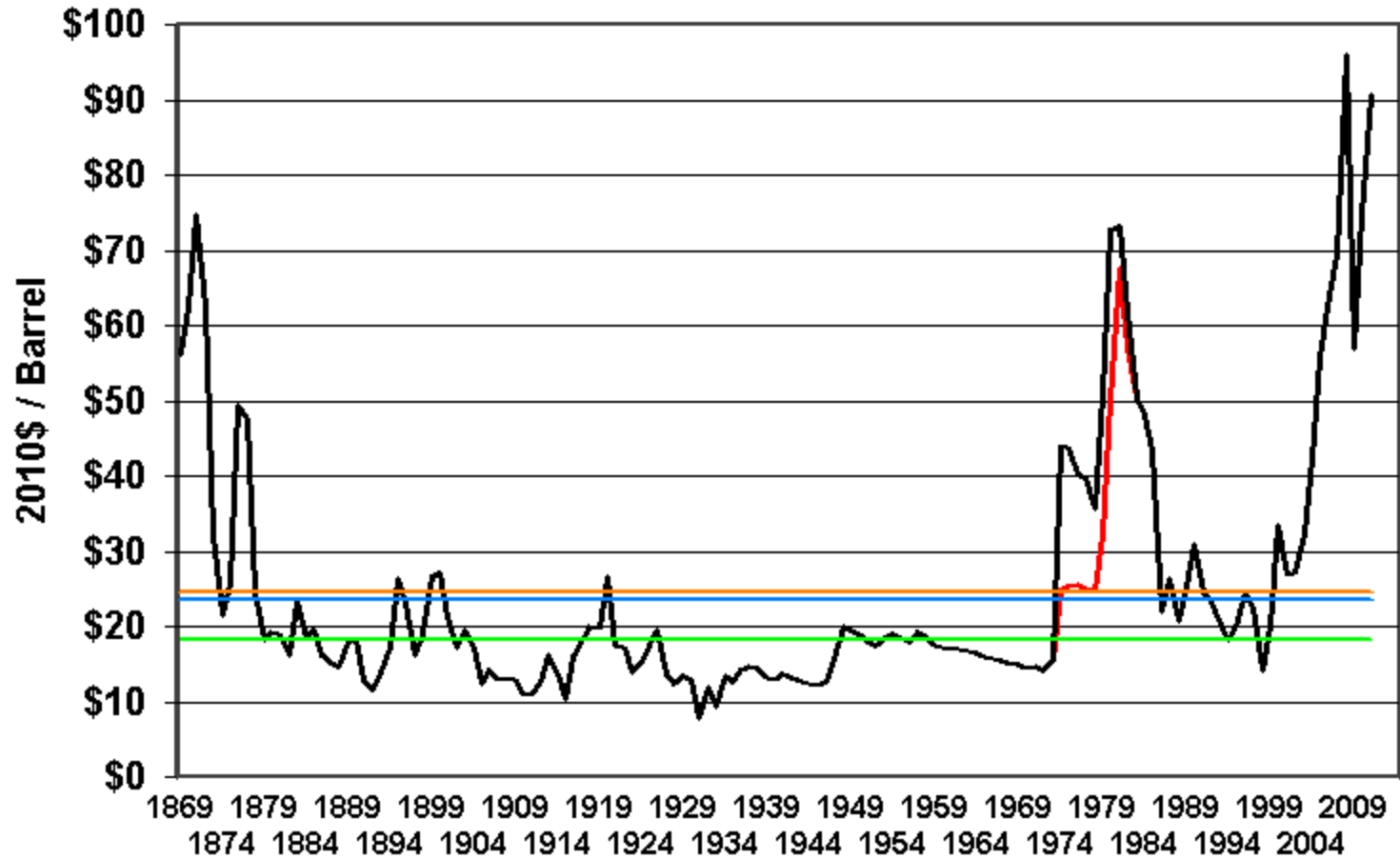


Gas Prices in Hawaii



[http://www.hawaiigasprices.com/
retail_price_chart.aspx](http://www.hawaiigasprices.com/retail_price_chart.aspx)

CRUDE OIL PRICES
2010 DOLLARS



1869 - October 2011

WTRG Economics ©1998-2011
www.wtrg.com
(479) 293-4081

— U.S. FIRST PURCHASE (Wellhead) — World Price*
— Avg U.S. \$23.67 — Avg World \$24.58 — Median U.S. & World \$18.20

[http://www.wtrg.com/
oil_graphs/oilprice1869.gif](http://www.wtrg.com/oil_graphs/oilprice1869.gif)



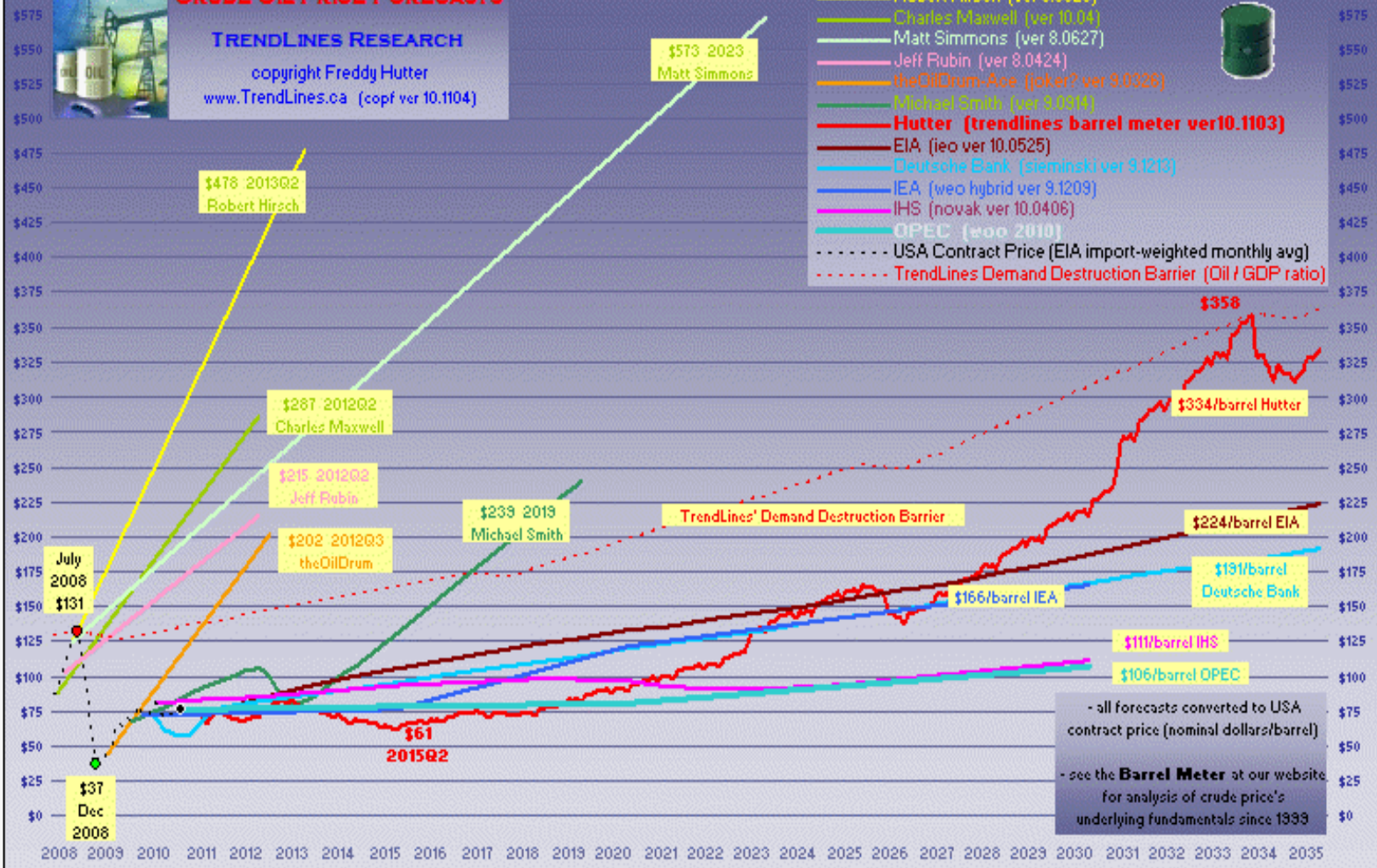
CRUDE OIL PRICE FORECASTS

TRENDLINES RESEARCH

copyright Freddy Hutter
www.TrendLines.ca (copf ver 10.1104)



- Robert Hirsch (ver 8.0620)
- Charles Maxwell (ver 10.04)
- Matt Simmons (ver 8.0627)
- Jeff Rubin (ver 8.0424)
- theOilDrum-Ace (joker? ver 8.0328)
- Michael Smith (ver 9.0914)
- Hutter (trendlines barrel meter ver 10.1103)**
- EIA (jeo ver 10.0525)
- Deutsche Bank (sieminski ver 9.1212)
- IEA (weo hybrid ver 9.1209)
- IHS (novak ver 10.0406)
- OPEC (weo 2010)
- USA Contract Price (EIA import-weighted monthly avg)
- TrendLines Demand Destruction Barrier (Oil / GDP ratio)

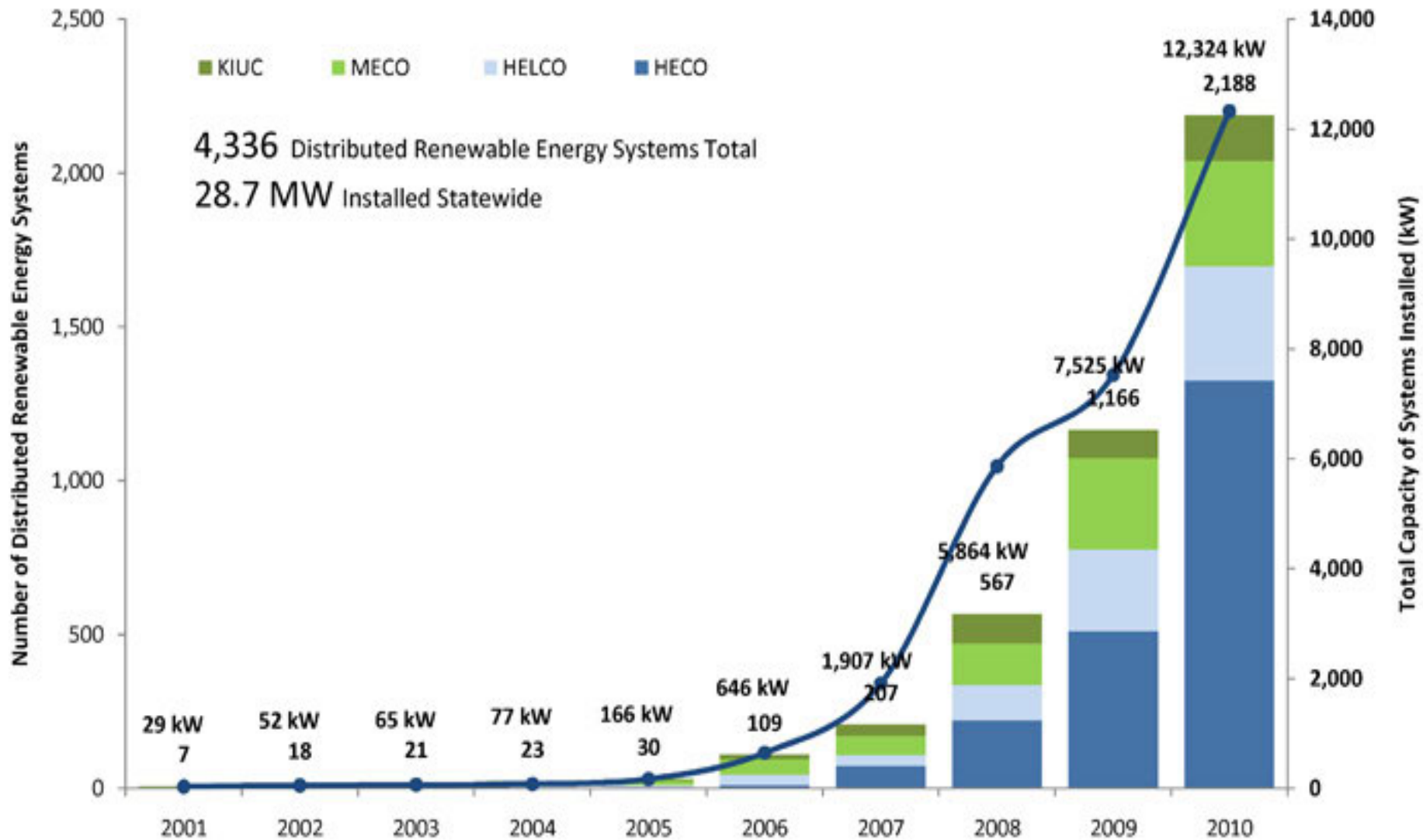


- all forecasts converted to USA contract price (nominal dollars/barrel)
- see the **Barrel Meter** at our website for analysis of crude price's underlying fundamentals since 1933

HCEI 70 % Clean Energy Goal

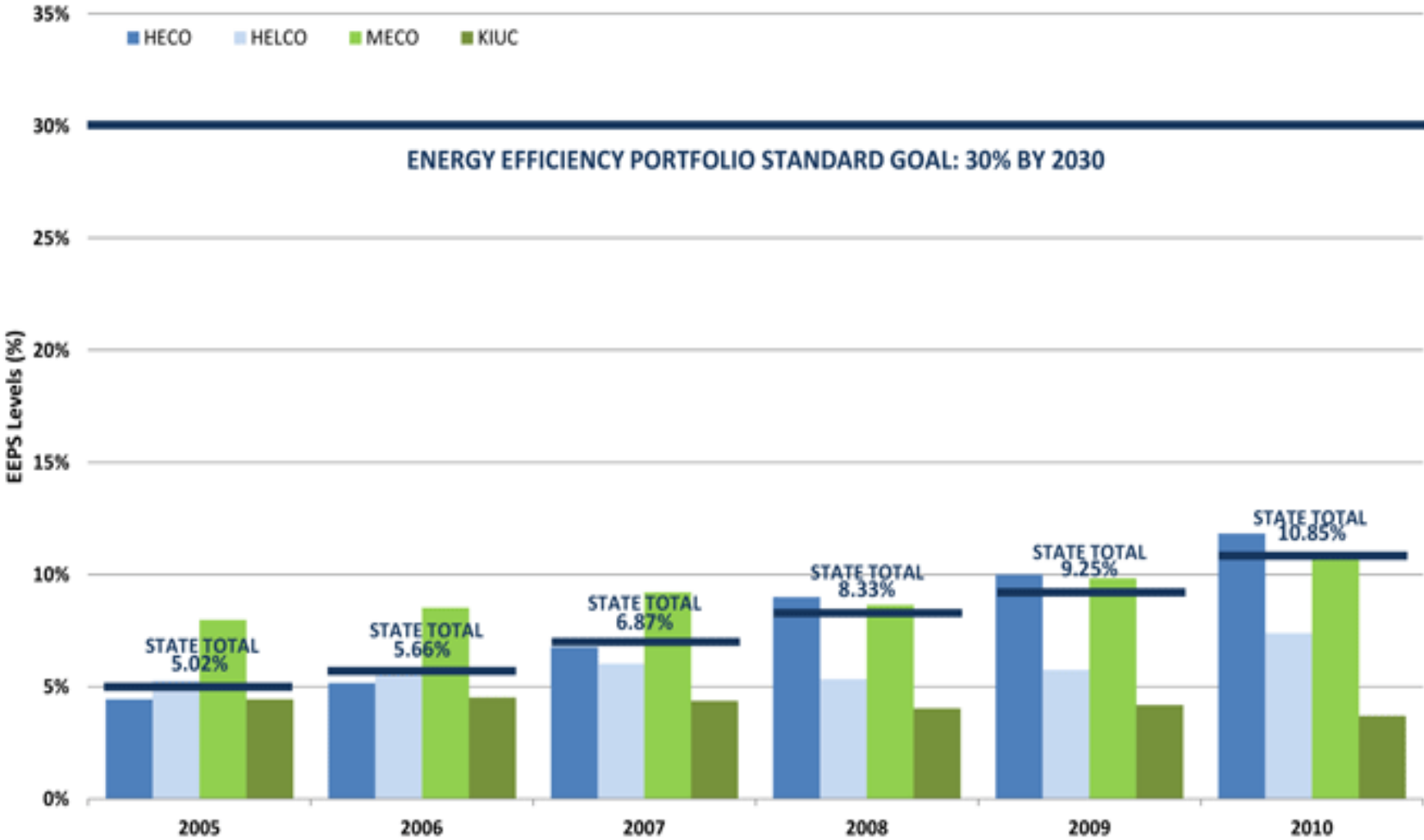
Electricity Sector <i>40% RPS by 2030</i>	Efficiency Sector <i>30% EEPS by 2030</i>	Transportation Sector <i>Displace 70% Petroleum by 2030</i>	Fuels Sector <i>Meet In-State Demand for Renewable Fuels</i>
Strategies: <ul style="list-style-type: none">• Align regulatory and policy framework with clean energy goals• Increase process certainty in developing new RE• Deploy RE and grid infrastructure• Explore next gen technologies and new applications	Strategies: <ul style="list-style-type: none">• Align regulatory and policy framework• Retrofit residential and commercial buildings• Strengthen new constructions policies / building codes• Identify non-building related energy efficiency measures	Strategies: <ul style="list-style-type: none">• Accelerate EV and H2 vehicle and infrastructure deployment• Increase renewable fuel use in the transportation sector• Improve vehicle fleet efficiency• Reduce vehicle miles traveled	Strategies: <ul style="list-style-type: none">• Support development of local agricultural industry• Invest in key infrastructure at scale• Evaluate and develop renewable fuel processing infrastructure• Match potential fuel supply with in-state demand
Interim Targets ...	Interim Targets ...	Interim Targets ...	Interim Targets ...
Accomplishments...	Accomplishments ...	Accomplishments ...	Accomplishments ...
Important Actions ...	Important Actions ...	Important Actions ...	Important Actions ...

New Distributed Renewable Energy Systems Installed in Hawaii Annually 2001-2010



Source: Net Energy Metering Status Reports, 2010 (Public Utilities Commission)

Hawaii Energy Efficiency Improvements 2005-2010



Source: Renewable Portfolio Standards Status Reports, 2005-2010 (Hawaii Public Utilities Commission)

What Do We Need to Do

- **Keep Up the Momentum**
 - Support PUC, DCA, DBEDT, County Government
 - Maintain Incentives
 - Build Broad Public Support
 - HNN, Hawaii Energy, Utilities, HEPF
- **Continue Collaboration and Cooperation**
 - Legislature, Executive Branch, Stakeholders