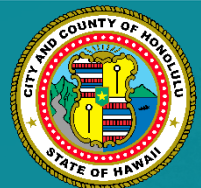




Island Resilience Action Challenge

CREF – Miami 10-16-2019

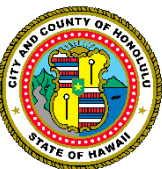
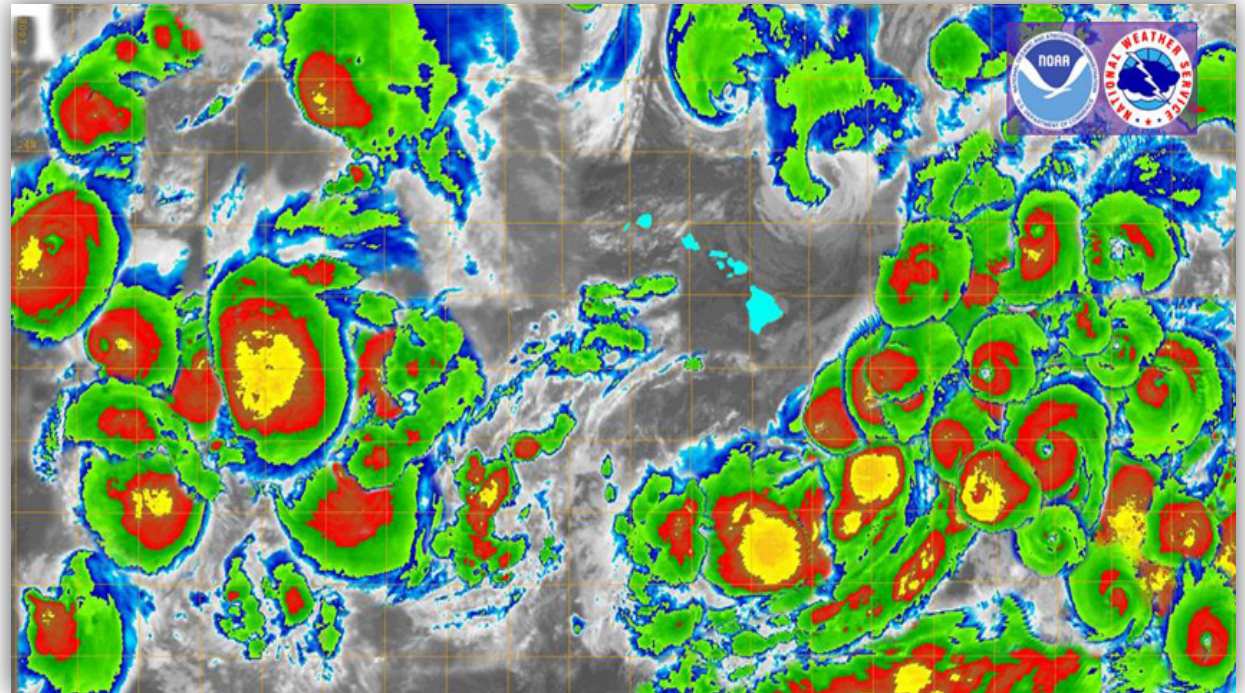


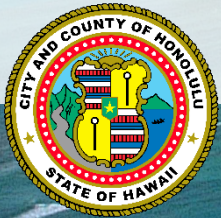
City and County of Honolulu
Office of Climate Change,
Sustainability and Resiliency





Island isolation and vulnerability





O'ahu Solar Plus Storage success

Rooftop Solar PV

- 54,722 rooftop PV systems
- 620 MW rooftop PV capacity

O'ahu Phase 1 RFP

- 127 MW Grid-scale Solar PV
- 508 MWh Energy Storage

O'ahu Phase 2 RFP

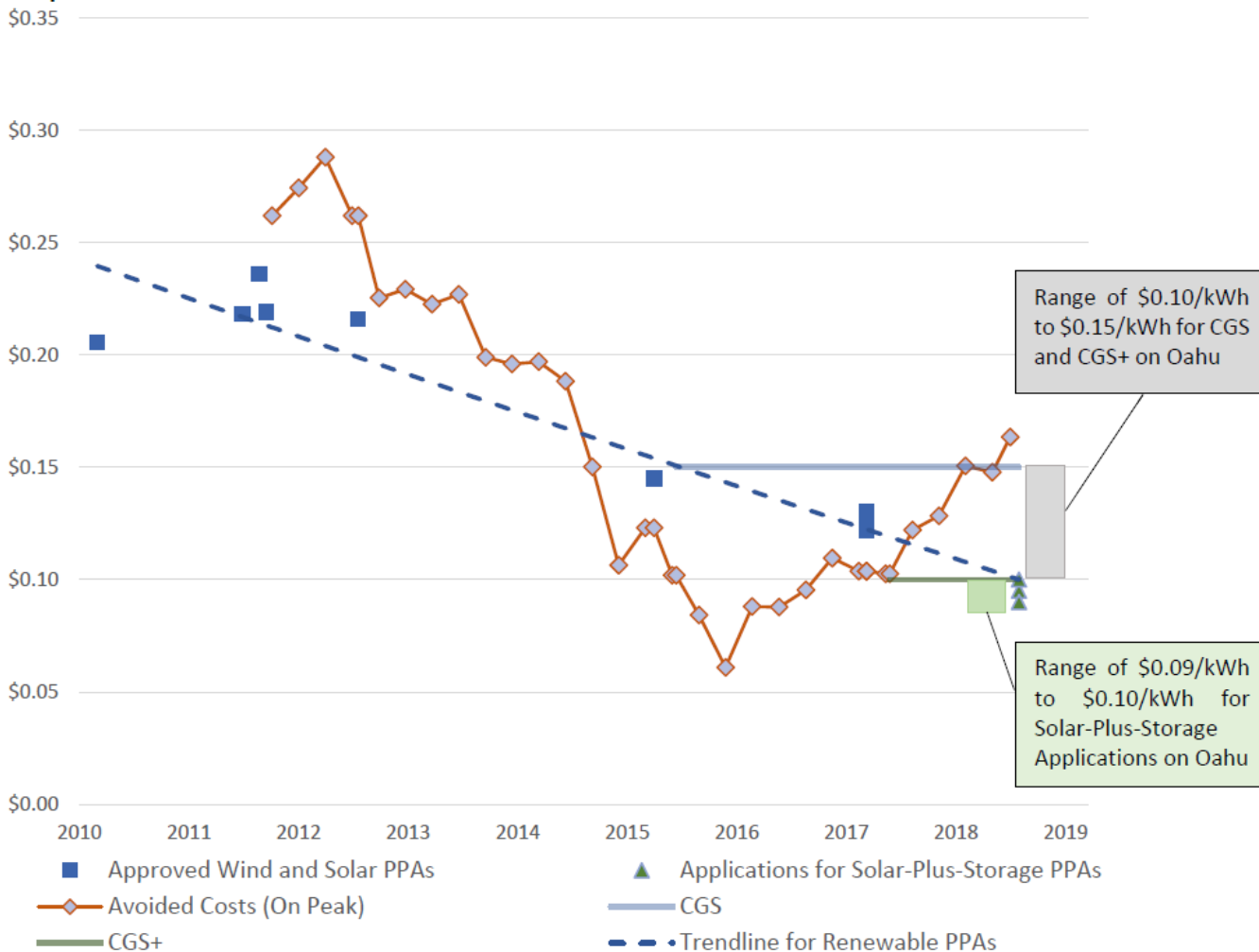
- 595 MW Grid-scale Solar PV

O'ahu Retail Electricity Rates

- 29 cents/ kWh

Sources: Hawaiian Electric, Hawai'i State Energy Office, and Hawai'i Public Utilities Commission.

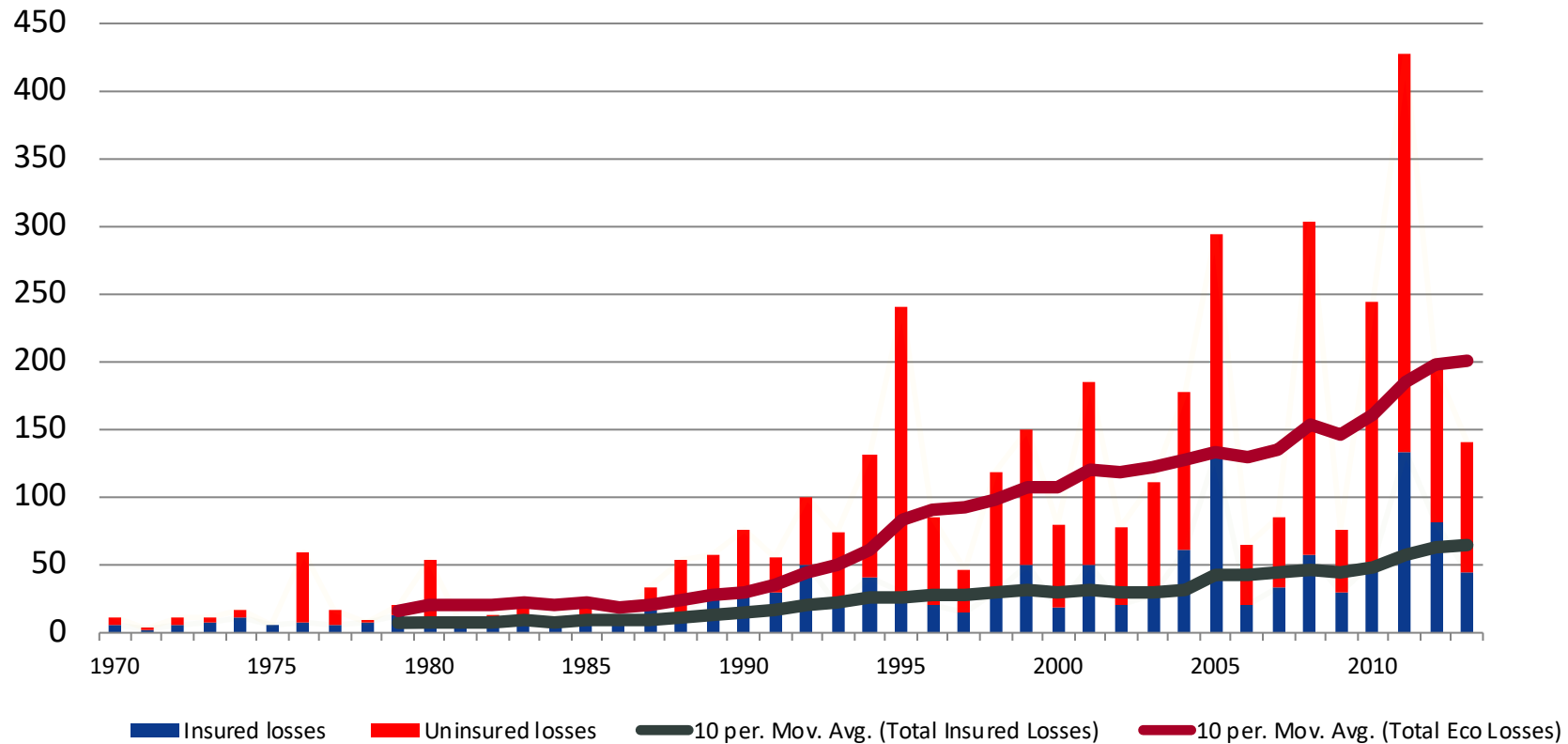
Figure 1. Energy Prices (\$/kWh) for Renewable Energy on Oahu (2010 - 2018) Compared to Avoided Costs⁸



Risk/Protection Gap

The cost of disasters is widening along with the gap between uninsured and insured losses

Global natural catastrophe losses, 1970-2013 (in USD bn)





Bouncing Forward

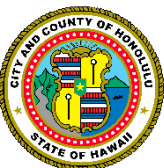
Action 11: Protect Lives and Property by Updating Building Codes

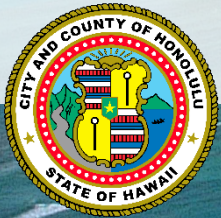
Performance Metric: Reductions in insurance premiums for improved homes

National Benefit-Cost Ratio Per Peril <small>*BCR numbers in this study have been rounded</small>	Exceed common code requirements	Meet common code requirements	Utilities and transportation	Federally funded
Overall Hazard Benefit-Cost Ratio	4:1	11:1	4:1	6:1
Riverine Flood	5:1	6:1	8:1	7:1
Hurricane Surge	7:1	Not applicable	Not applicable	Not applicable
Wind	5:1	10:1	7:1	5:1

National Benefit-Cost Ratio by Hazard Mitigation Measure
If the City invests now in mitigation, rather than clean-up after a natural hazard, the return on investments are considerable:
Exceeding common code requirements saves \$4 per \$1 spent; Adopting model codes saves \$11 per \$1; mitigating infrastructure saves \$4 per \$1 spent; Federal mitigation grants save \$6 per \$1 spent.

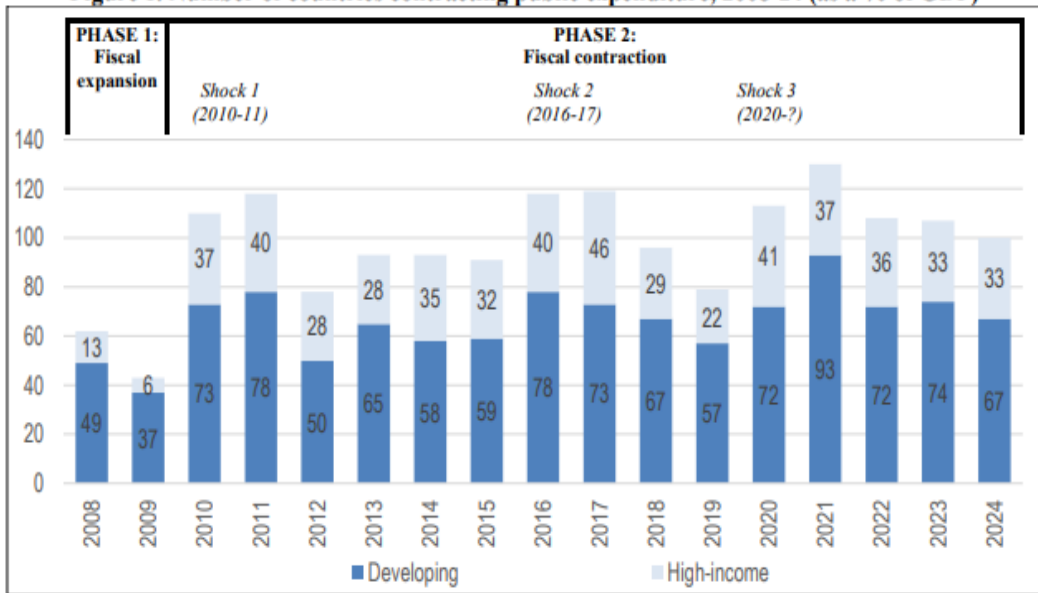
Graphic Adopted from National Institute of Building Sciences





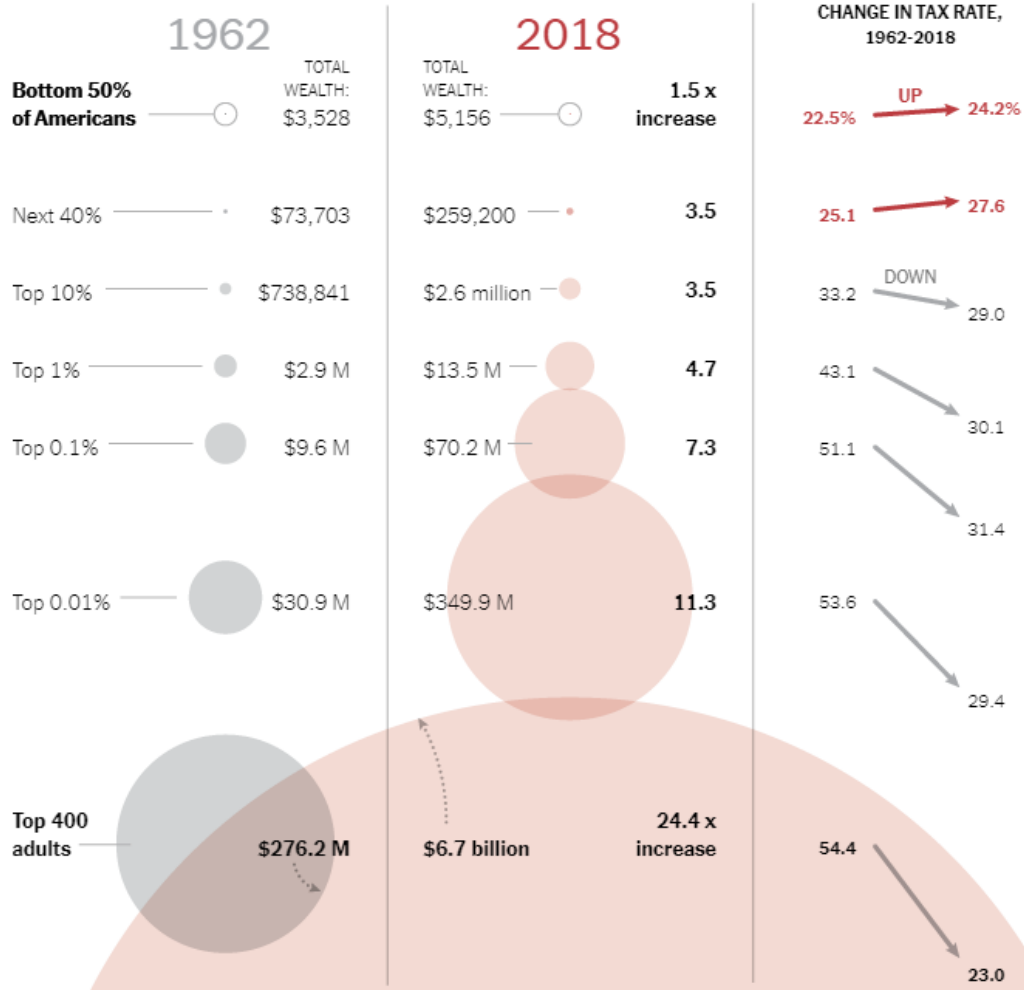
Yet Austerity and Regressivity is the “New Normal”

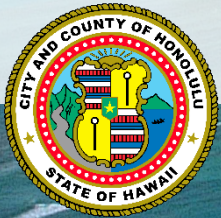
Figure 1. Number of countries contracting public expenditure, 2008-24 (as a % of GDP)



Sources:

- “Austerity: The New Normal,” Isabel Ortiz & Mathew Cummins, Columbia University, Initiative for Policy Dialogue et al.
- “How to Tax our Way Back to Justice,” Emmanuel Saez and Gabriel Zucman, UC Berkley, NYTimes.





Island Resiliency Action Challenge

The most urgent obstacle to greater energy resiliency for islands is:

Activating political will and leadership at all levels to expeditiously fund “no-regrets” grid resilience investments (e.g. PV+Storage microgrids) commensurate with the scale, scope, and urgency of the challenge we face.

The risk is that we invest too little, not too much.



Mahalo



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