

Energy Codes and Solar— How They Fit Together, How We Move Forward Together

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We Partner to Build the New
CLEAN ENERGY ECONOMY



STOP
ENERGY WASTE



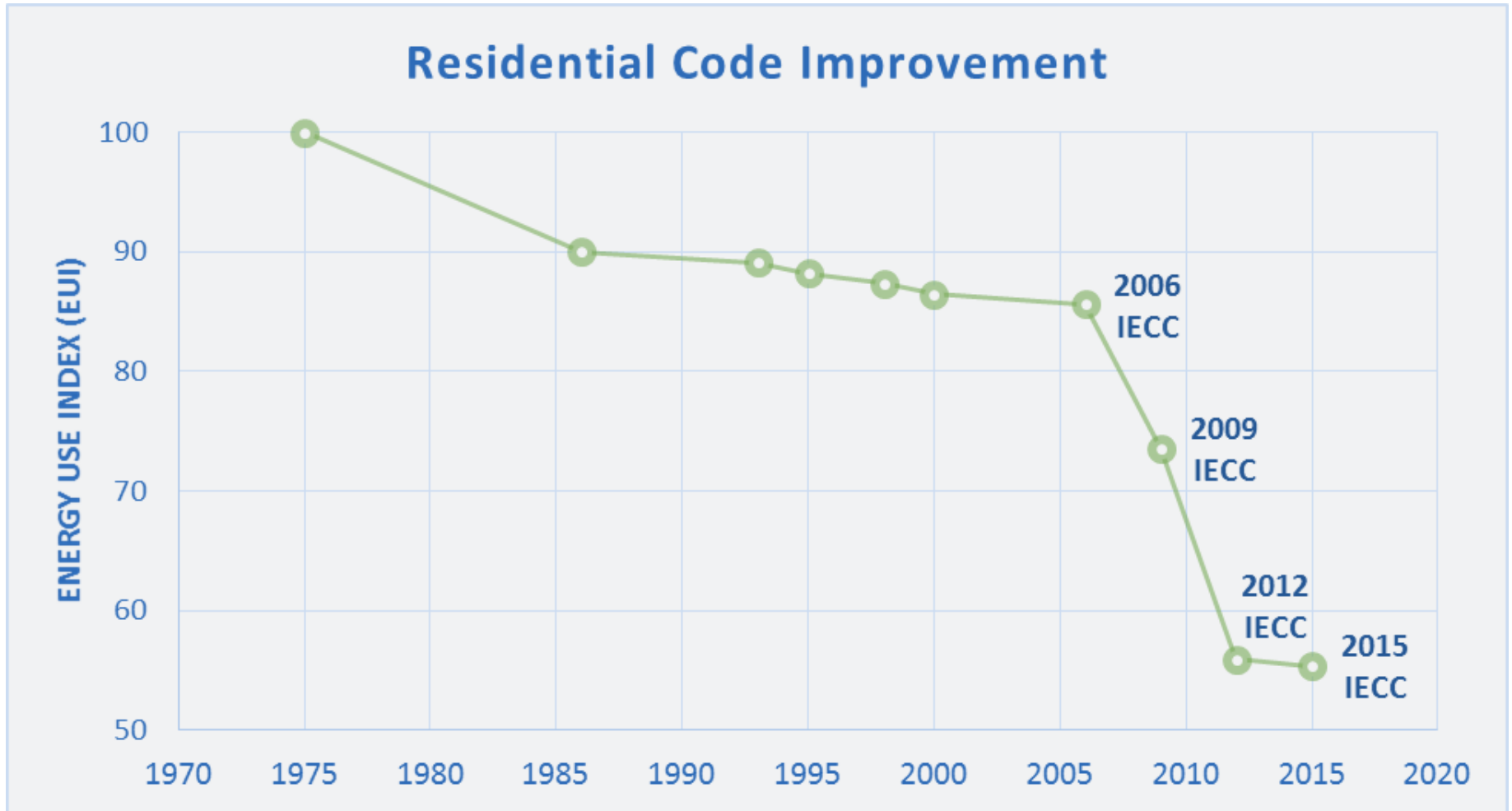
CREATE
CLEAN ENERGY



BUILD
A SMART ENERGY FUTURE



Residential Energy Code Improvements



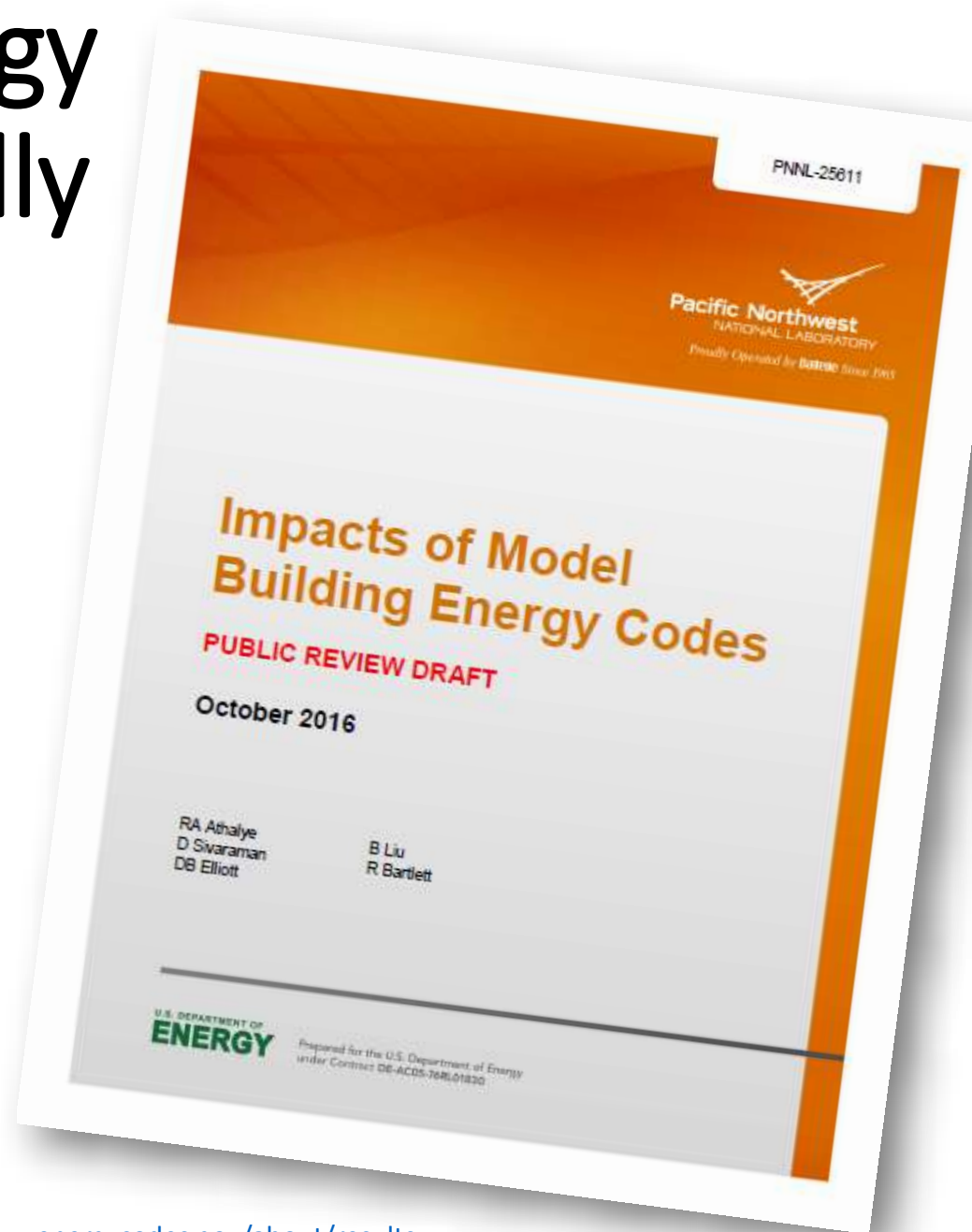
Impact of Energy Codes Nationally

(2010-2040)

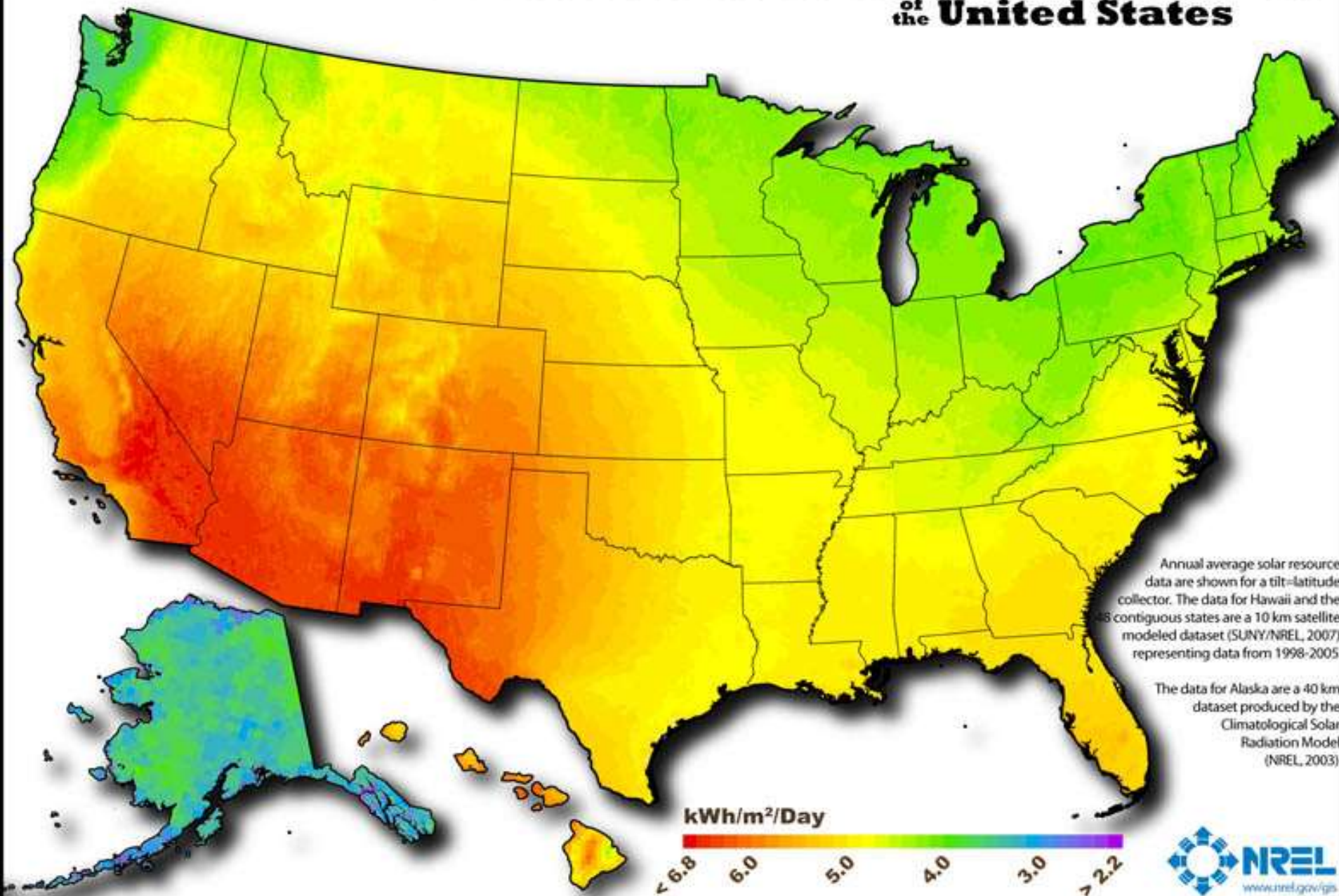
- **\$126 billion** energy cost savings
- **841 MMT** of avoided CO₂ emissions
- **12.82 quads** of primary energy

Equal to:

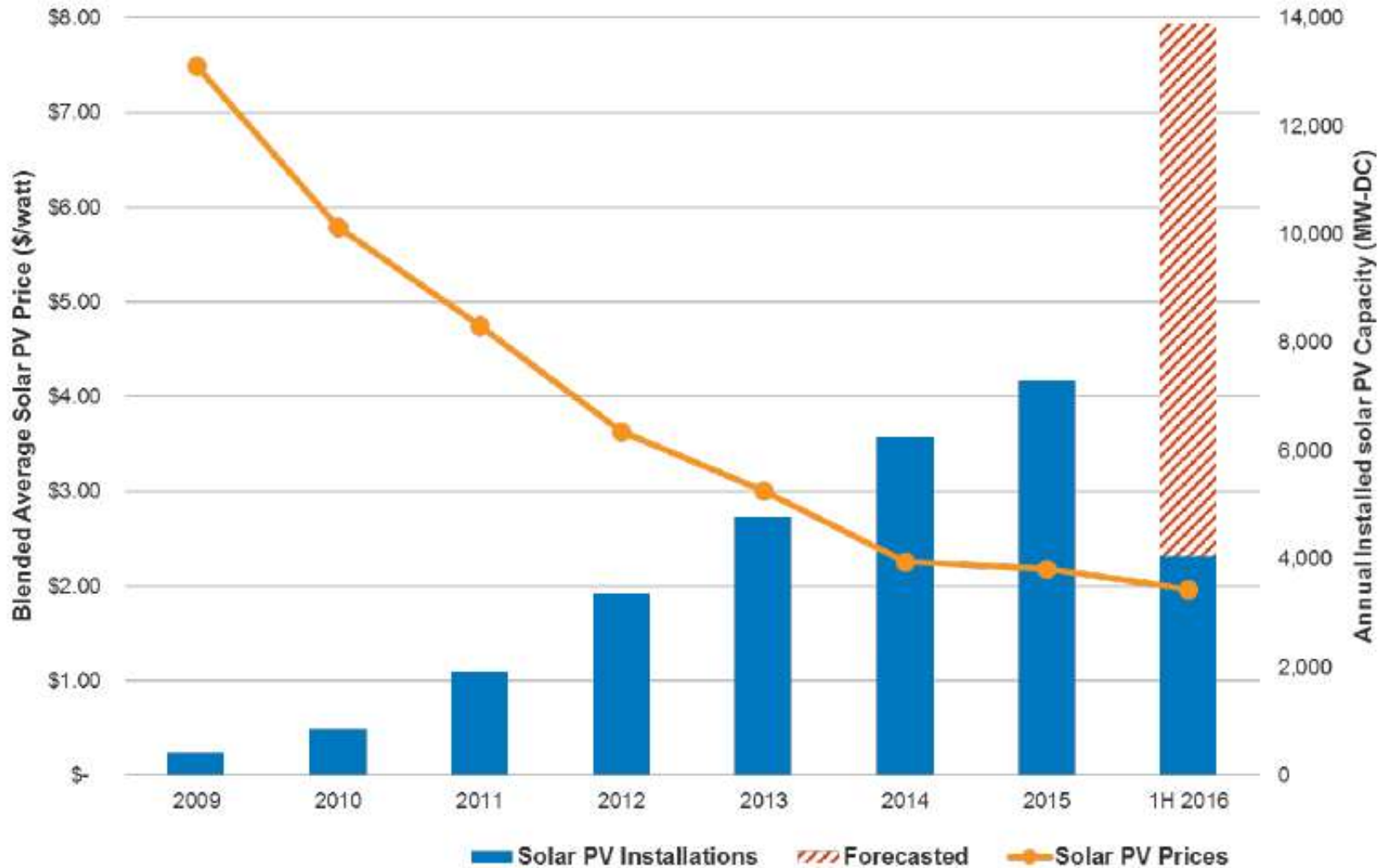
- * **177 million** cars
- * **245** coal power plants
- * **89 million** homes



Photovoltaic Solar Resource of the United States



Solar cost decline in U.S.

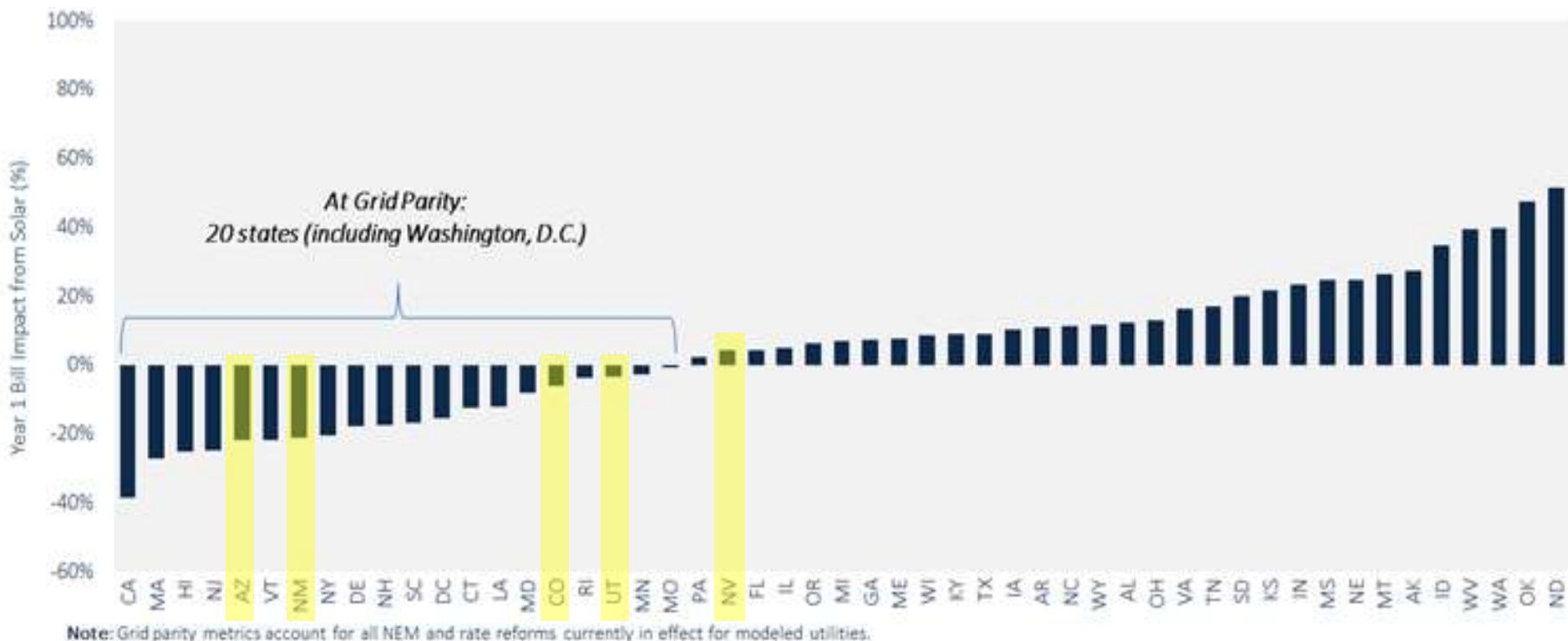


Solar growth in Utah



* - Rocky Mountain Power Projection




Residential Solar is at Grid Parity!



Third-party ownership

3rd-Party Solar PV Power Purchase Agreements (PPAs)



-  Authorized by state or otherwise currently in use, at least in certain jurisdictions within the state
-  Apparently disallowed by state or otherwise restricted by barriers
-  Status unclear or unknown

* Limited to certain sectors

Sources: Database of State Incentives for Renewable Energy & Efficiency and NREL (Feb. 2013)

Have we maxed out efficiency in the energy code?

Climate Zone 5	2015 IECC	DOE Zero Energy Ready Home
Wall (R-value)	20 or 13+5	20 or 13+5
Ceiling (R-value)	49	49
Windows (U-factor)	0.32	0.27
Air tightness (ACH)	3	2
Efficient lighting	75%	80%
Heating equipment	As proposed	94 AFUE

Energy Efficiency + Solar





Photo: Tesla from IEEE Spectrum

Thank you!

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