

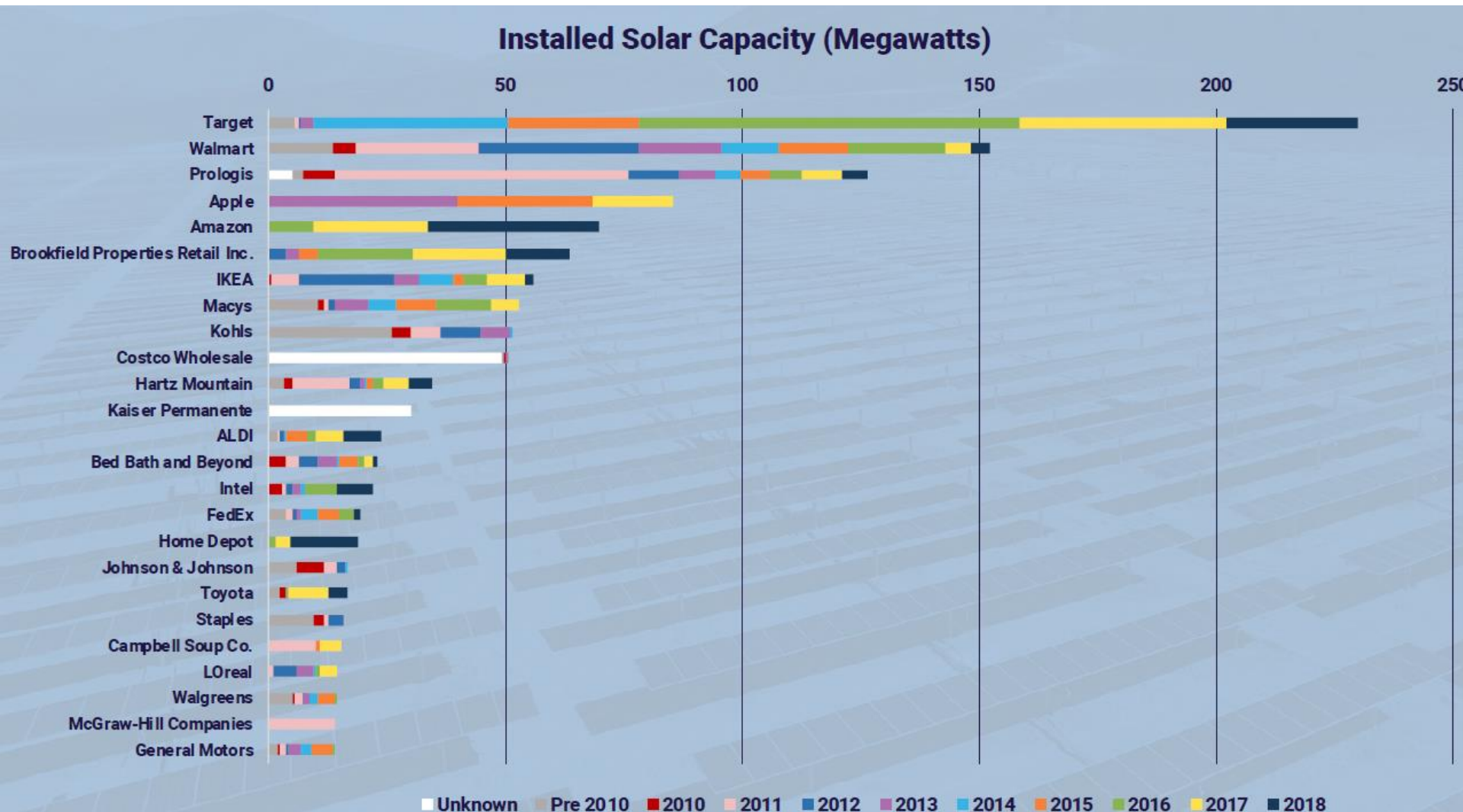
CUSTOMER PERSPECTIVE: VALUE OF DER

March 20, 2020 ESIG Presentation





Corporate On-Site Solar Growth



Source: U.S. SEIA, 2018 Solar Means Business Report



Changing Value Proposition

Value Stream	Then		Now + Future	
Avoided Energy Cost	The main value stream of behind-the-meter solar projects, buoyed by state net metering policies		Decreasing fuel/wholesale energy prices + retail rate design changes are reducing this value stream	
Avoided Demand Cost	Depends on coincidence of solar and customer load shape, rate structures		Move to system coincident demand charge may reduce this value stream for customers, depending on utility load shape	
Renewable Energy Credits	State net metering policies typically grant RECs to customer		Financial value varies significantly by states	
Resiliency	Rarely considered for BTM solar		• Evaluated in planning, sizing, technology combinations • Commercial energy storage still financially challenging	



Changing Value Proposition

Cost Drivers

Then

Now + Future

Panel Costs

Significant part of installed system costs, but large YoY declines



Despite tariffs and supply constraints, panel costs are now a small part of the installed system cost



Soft Costs

High permitting, surveying, other soft costs



Drone technology has reduced surveying costs, permitting streamlined, but soft costs have not declined as significantly



Interconnection Upgrade Costs

Rare to encounter for 500 kW system sizes



Increasing in frequency and size of costs in required upgrades



ITC

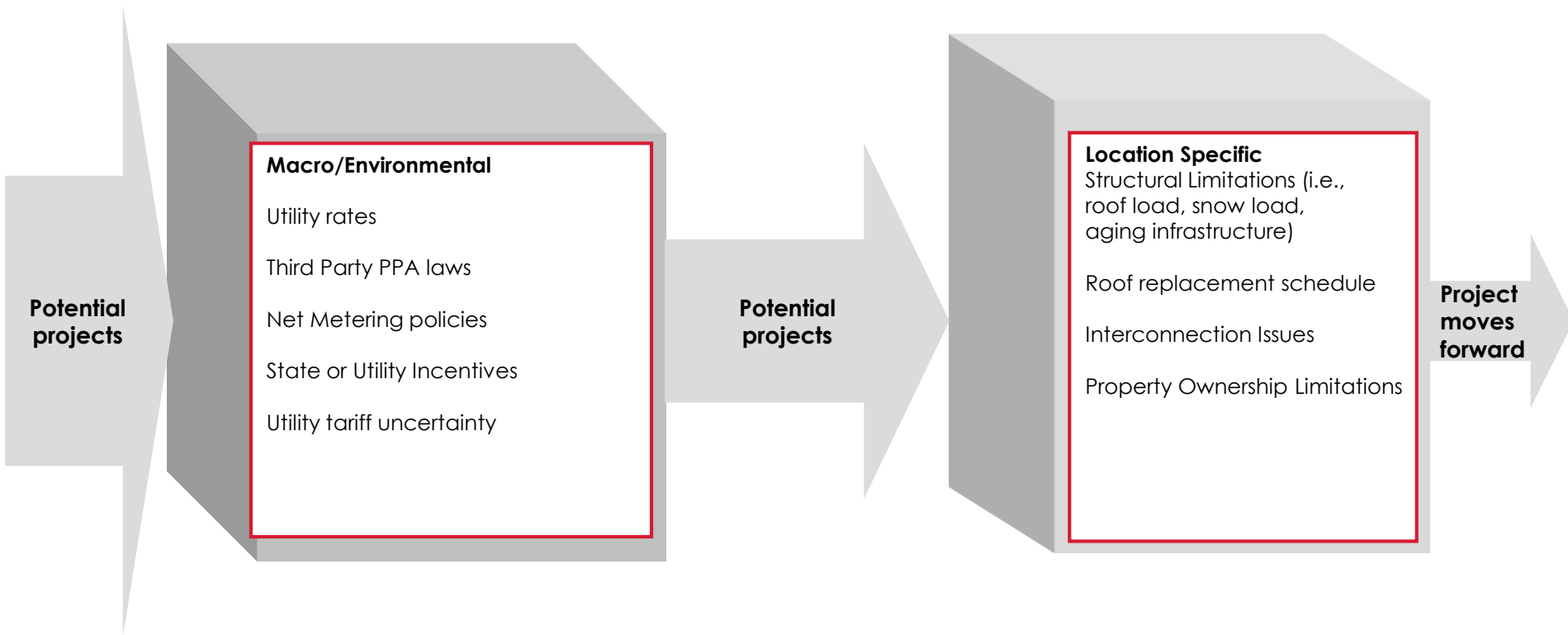
Large component of project financials



- Still valuable, but declining to 10% in 2022
- IRS guidance on ITC for solar+ storage helping market

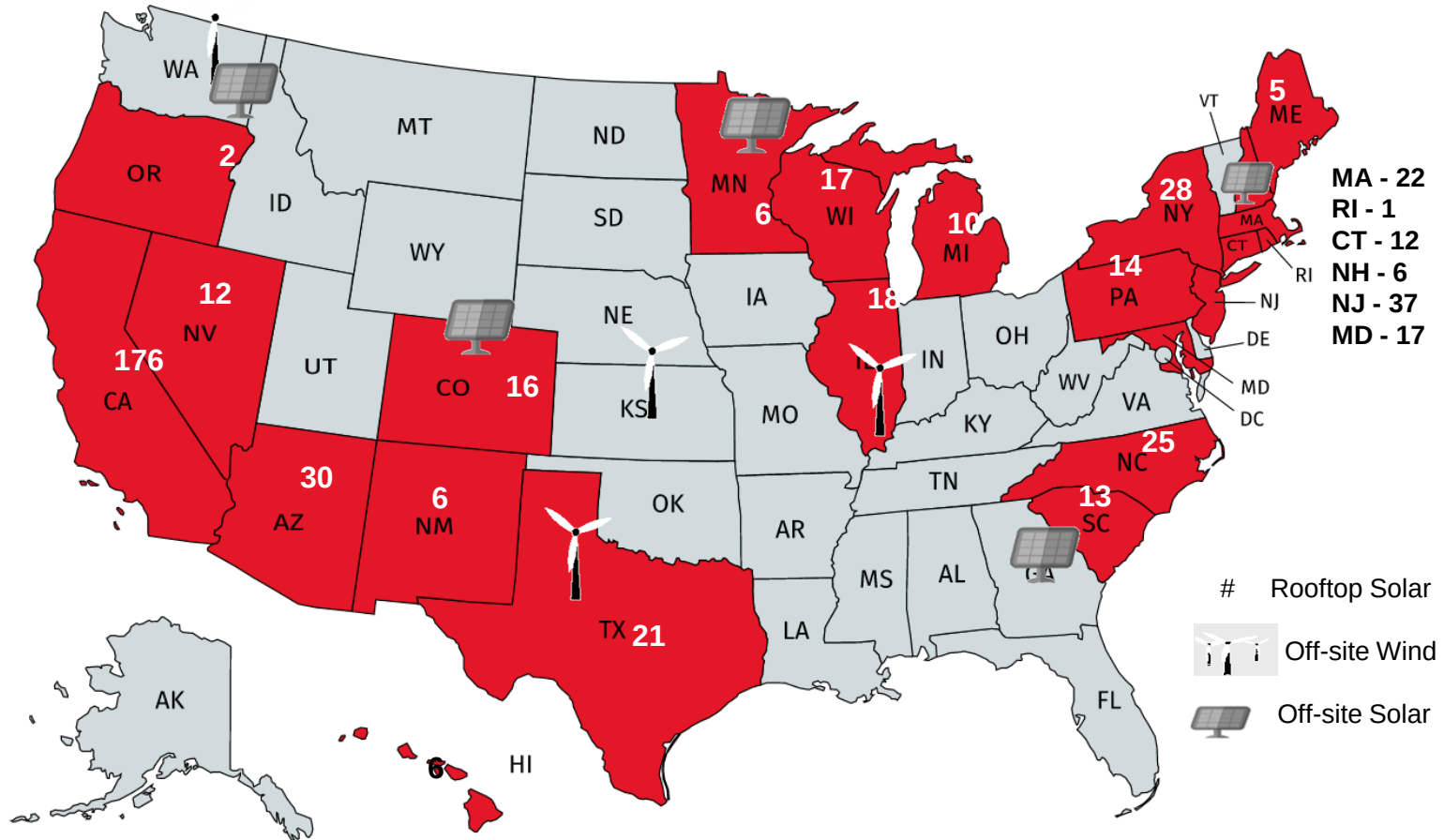


Project Selection Process



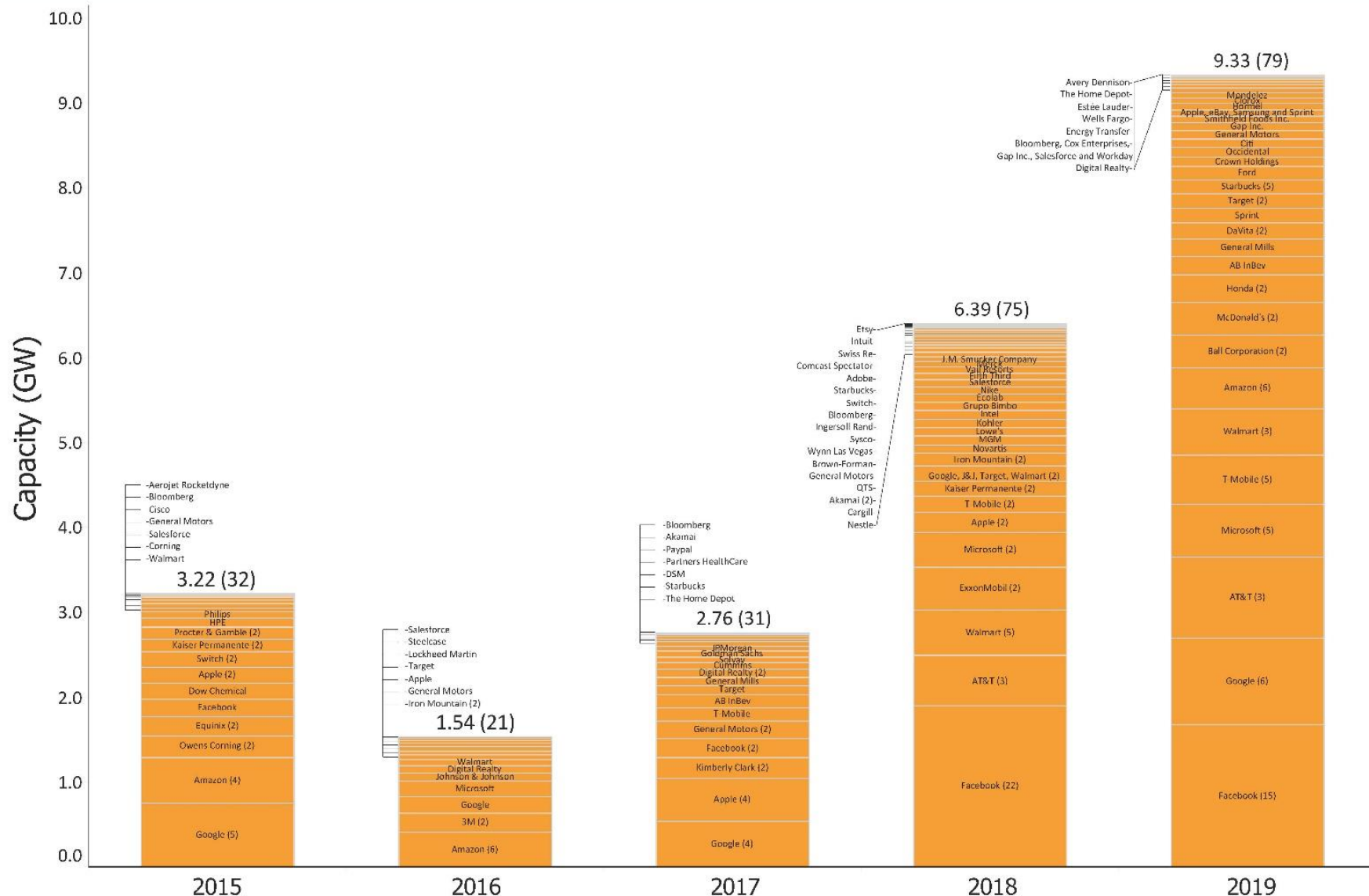


Clean Energy Projects by State



Large-scale Renewable Energy Deals

2015 – 2019



As of December 31, 2019. Publicly announced contracted capacity of corporate Power Purchase Agreements, Green Power Purchases, Green Tariffs, and Outright Project Ownership in the US, 2015 – 2019. Excludes on-site generation (e.g., rooftop solar PV), deals with operating plants and deals meant to meet RPS requirements. (#) indicates number of deals each year by individual companies.



Q&A



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