



Community Solar Programs: Overview

Craig Schultz, ICF International
Renewable Energy Markets Conference
October 20, 2015

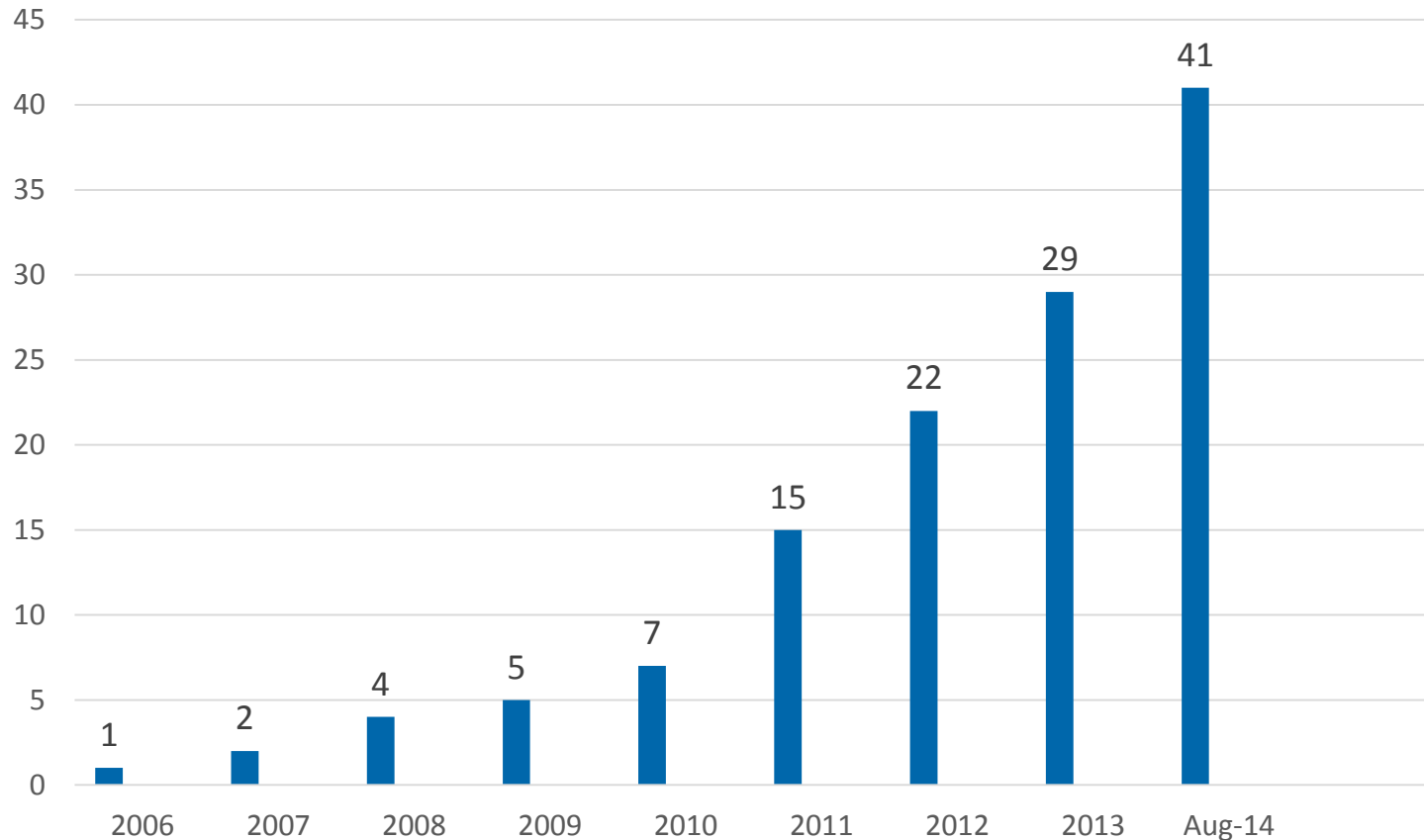
Strong Benefits of Community Solar Programs



Growth of Community/Shared Solar Programs



Program Count by Year

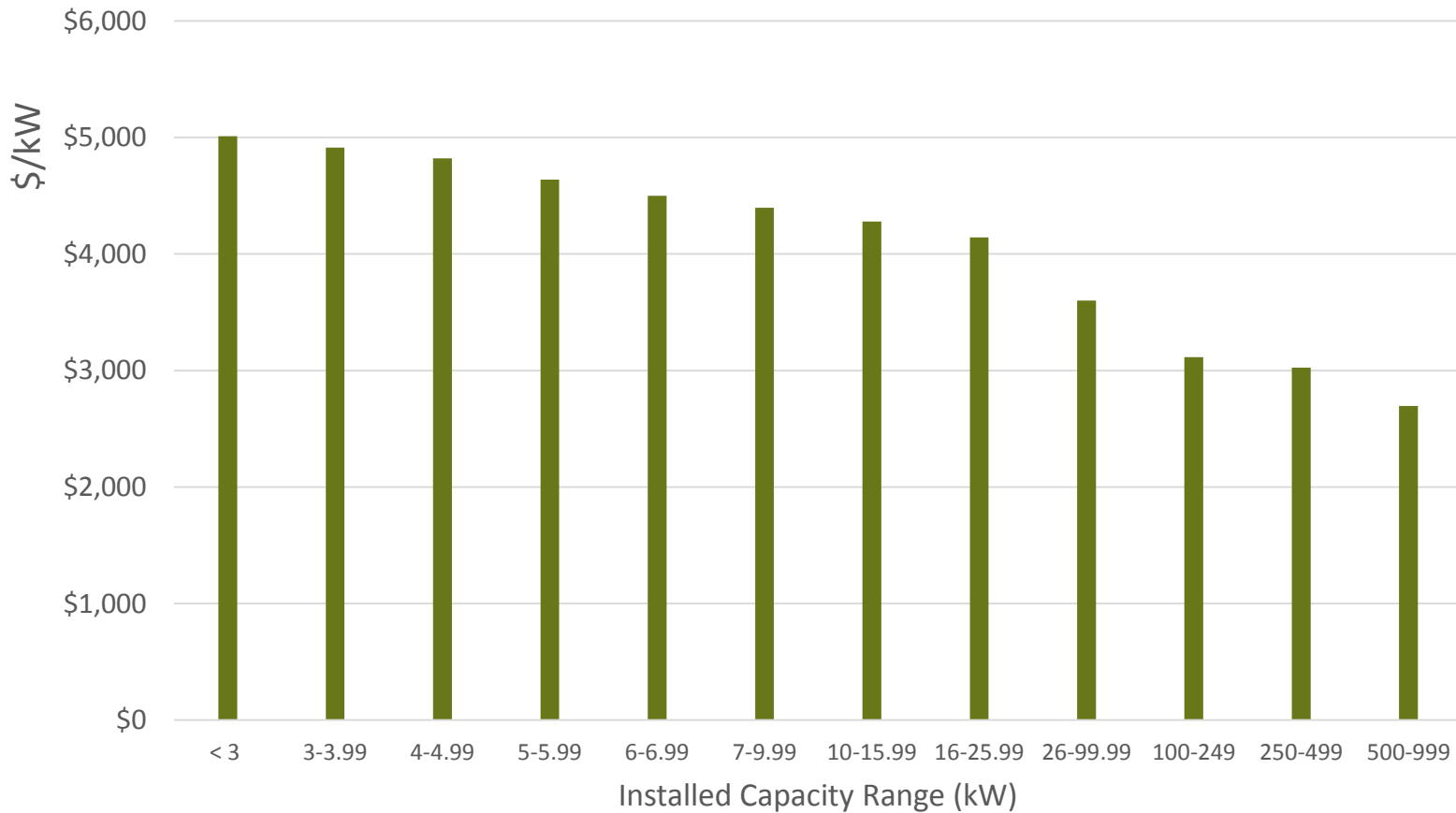


Source: Becky Campbell for Solar Electric Power Association (SEPA) and Laurel Passera, on behalf of Interstate Renewable Energy Council (IREC), *SEPA/IREC Resource: SEPA/IREC Community Solar Program Catalog, 2014*, as referenced in David Feldman et al., National Renewable Energy Laboratory (NREL), *Shared Solar: Current Landscape, Market Potential, and the Impact of Federal Securities Regulation, 2015*.

Capital Costs: Scale Matters Greatly



CSI Capital Costs by Project Size: 2014 and YTD 2015



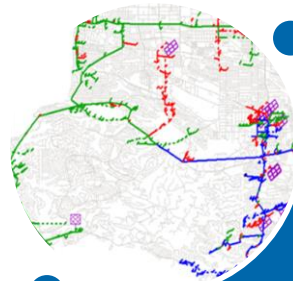
Source: California Solar Statistics, Cost by System Size (data download) for systems in Program Year 2014 and YTD 2015, as of October 14, 2015.

Some Key Market Factors Affecting Community Solar Over the Next 1-5 Years

Effect of Improving Cost, Performance, & Market Participation of Battery Storage on Community Solar?



Net Metering Caps Being Reached

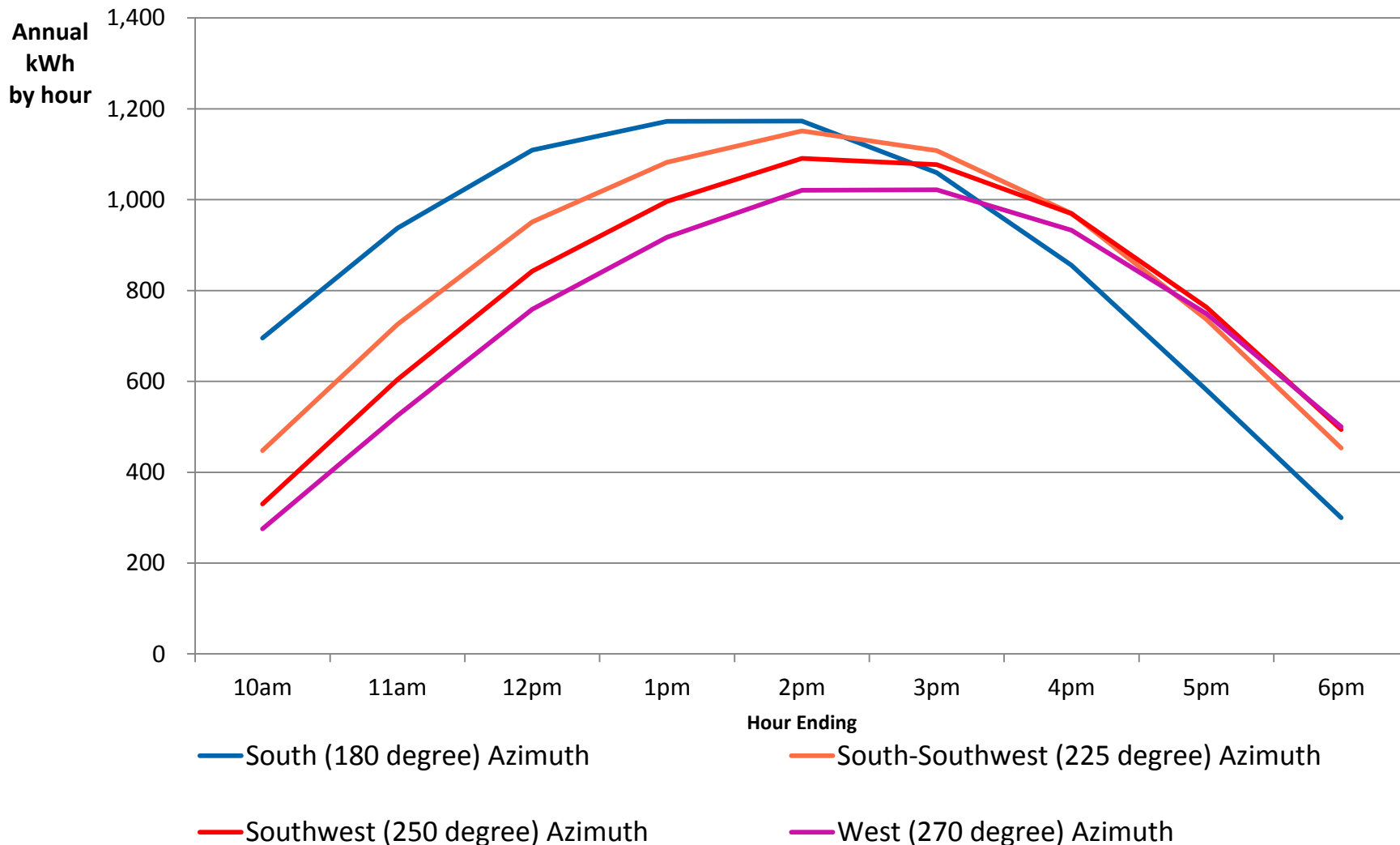


Growing Utility Role in Solar Market, Integration, Locational Value of DERs

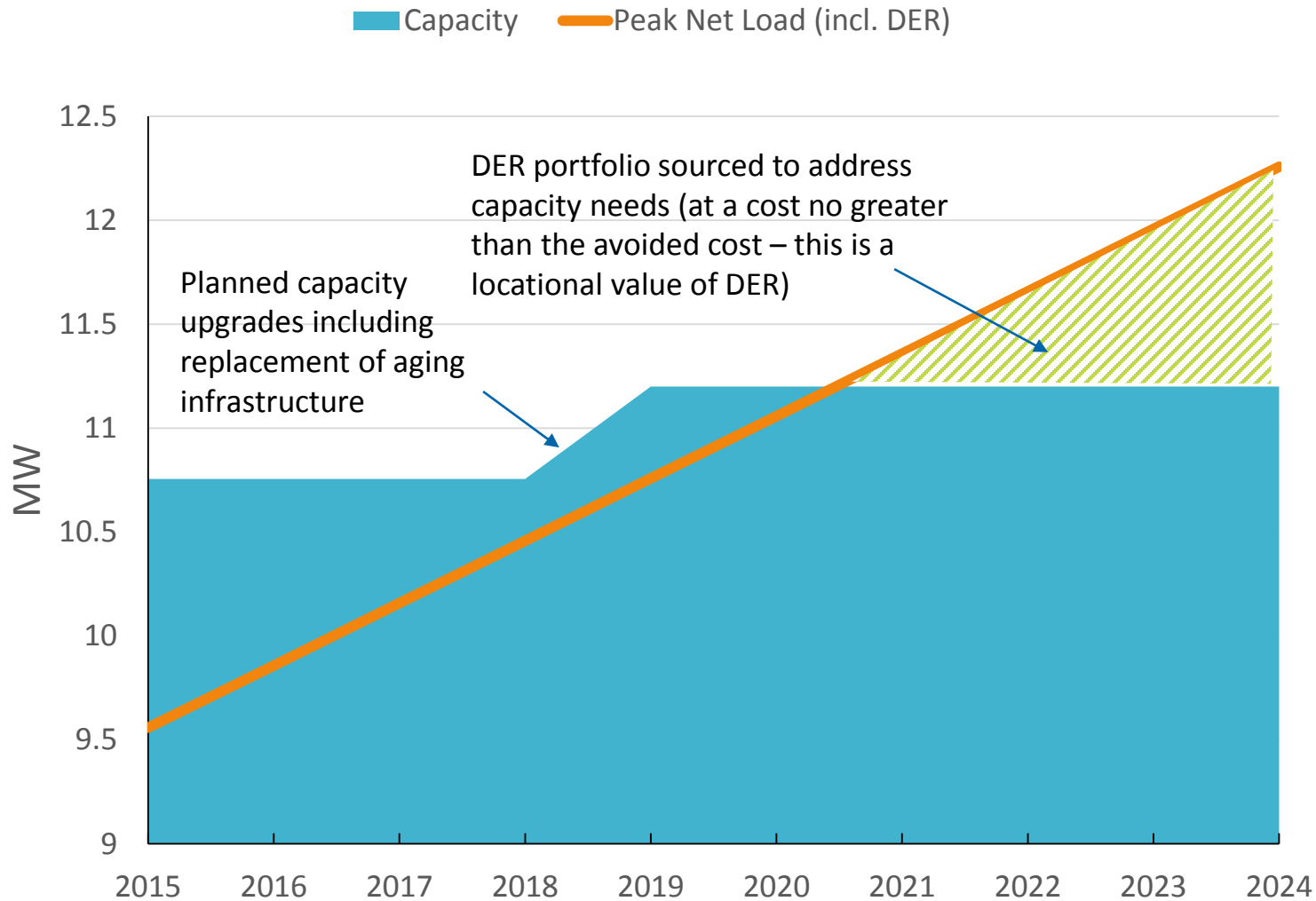


ITC Reduction Pressure on Solar Economics

System Value: Maximizing Solar Production at Time of Utility Peak Loads in Late Afternoon



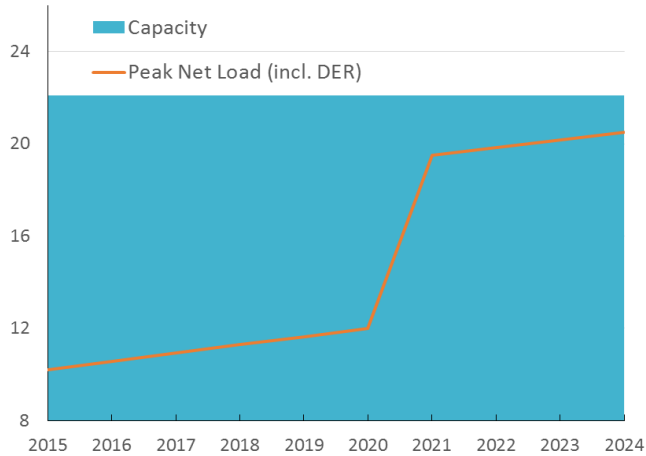
Deficiency in Distribution Feeder Capacity can be Addressed by Effective Distributed Energy Resource (DER) Portfolios, including Solar



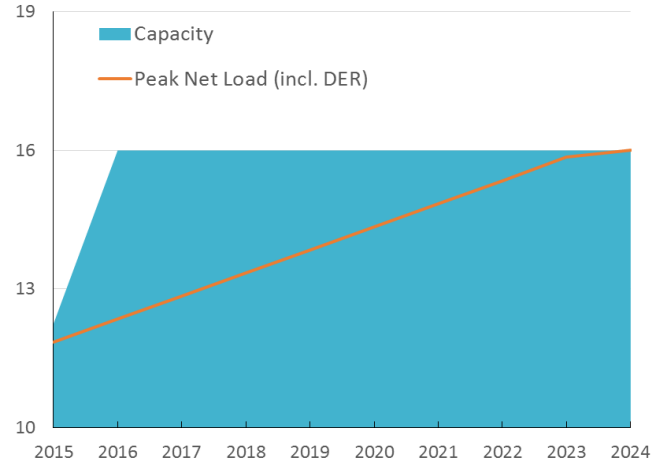
Where DERs (including Solar) will have the most Distribution System Value Varies with Different Feeder Characteristics



Feeder Type 1

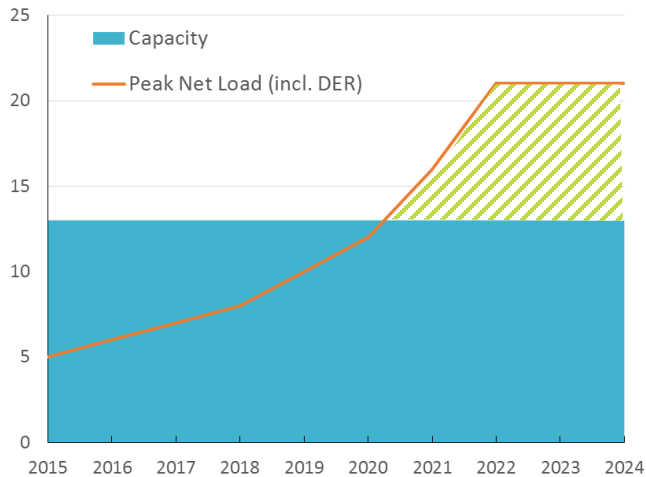


Feeder Type 2

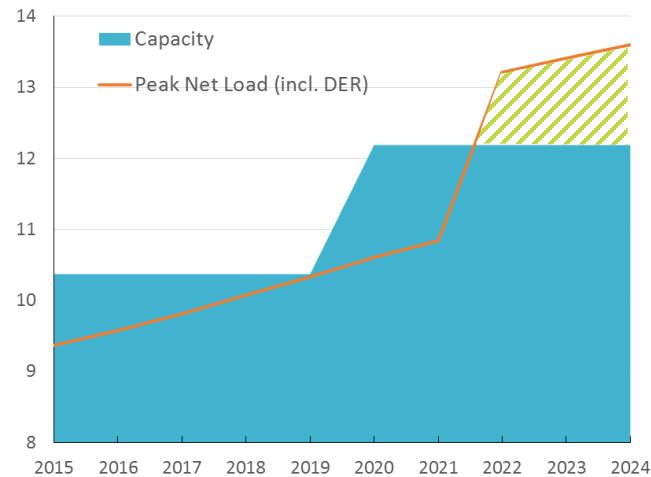


Feeders with no capacity deficiency

Feeder Type 3



Feeder Type 4



Feeders at several locations benefit from an effective DER portfolio to address capacity deficiency

Summary



- Confluence of factors may accelerate community solar growth in programs, participants, and installed capacity in the coming years.
- Do not under-estimate grid integration net costs & benefits, as well as distribution locational value, as increasingly important issues for community solar development.
- Economic uncertainties around federal investment tax credit (ITC) reduction, net metering caps, and solar + storage will likely affect community solar.

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