Solar Capacity and the Duck Curve

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Source: GTM Research/SEIA, U.S. Solar Market Insight®, 2013 Year-In-Review
Net Metering Program Caps
(percent of utility peak demand)
Valuation Highlights

- Energy value
- Capacity value
- Line losses
- Utility environmental
- Ancillary benefits
- Market price impacts
- Societal benefits
- Costs
AEE/Synapse Benefit-Cost Report

• Discussion of Societal Benefits/Costs
• Various Cost Tests
• Screening and Decision Analysis Templates, Valuation Options checklist
Distributed Solar:

• Primarily offsets combined-cycle natural gas facilities

• Should be credited with a capacity value upon interconnection

• Should include societal benefits
Addressing the “Duck Curve”: TOU rates, demand response, and storage

Credit: CAISO’s Building a Sustainable Energy Future: 2014-16 Strategic Plan
Avoided capacity costs
Hourly Loads for CA IOUs on 9/16/14 (and what they would have been without NEM solar)
Cumulative Loads for CA IOUs on 9/16/14

- SCE
- PG&E
- Solar Capacity
- SDG&E
PV narrows the peak, which could ease the ability of demand response, storage, etc. to provide capacity.
CA: 2012 legislation required a CPUC study of costs and benefits of NEM; LADWP considering VOS approach

AZ: ACC workshops to develop methodology. Multiple studies to date

NV: PUC docket 13-07010, E3 developed study proving NEM’s benefit to grid

MN: 2013 legislation required development of a VOST, methodology complete

VT: 2012 legislation directed the VPSB to complete an evaluation of NEM

ME: 2014 legislation directed PUC to complete VOS study

NC: In docket No. E-100 Sub 136, NCUC is examining avoided cost methodology. PNNL study just released.

SC: E3 chosen to develop valuation methodology for PSC

AL: Consultant hired by PSC in 2014 to study costs-benefits of NEM

LA: Consultant chosen to conduct benefit/cost study

OR: PUC recently held a workshop to discuss solar rates in docket UM 1452

AZ: ACC workshops to develop methodology. Multiple studies to date

CA: 2012 legislation required a CPUC study of costs and benefits of NEM; LADWP considering VOS approach

HI: NARUC funded a NEM benefit/cost study from E3

CO: PUC considering Xcel cost/benefit study of NEM

TX: Austin Energy developed a VOST in 2012; San Antonio’s CPS will be replacing NEM with a SunCredit tariff

UT: Defeat of proposed solar charge, valuation study forthcoming

WA: Docket UE-131883 to discuss costs and benefits of DG

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