

Solar Works For Minnesota

Minnesota's Value of Solar: Shining Light on Hidden Values?

Thursday, December 10, 2015

Harvard Energy Policy Group Meeting – West Palm Beach

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2013 Solar Legislation – Policy Innovation

- Solar Energy Standard
- Community Solar Gardens
- Value of Solar Tariff
- Made in MN Solar Incentives
- Xcel Solar*Rewards
- Net Metering
- PACE and GESP



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2013 Omnibus Energy Bill

- MN Laws, 2013,
Chapter 85 HF 729,
Articles 7-13
- Signed into Law: MS 216B.164
Subds. (e) and (f)
May 23, 2013



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The Road to Minnesota's Value of Solar Rate

- Distributed Generation Stakeholder Meetings Convened by Dept of Commerce Division of Energy Resources (DER) 2010-11 concluded that Net Metering could potentially shift costs even if DG was sized to load and that retail NEM was a very rough proxy for solar's value.
- A follow-up series of stakeholder meetings convened by DER with utilities to discuss buy all/sell all and Value of Solar best practices e.g. Austin, TX



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Minnesota's Value of Solar Program

- Legislation requires the Department of Commerce to develop a methodology to quantify the value components of distributed solar electricity including: the value of energy and its delivery, generation capacity, transmission capacity, transmission and distribution line losses, and environmental value.
- VOS Tariff separates customer meters for electricity usage and production
- Investor Owned Utilities may file VOS tariff in lieu of Net Metering for solar PV < 1MW. Co-Ops and Munis exempted.



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MN Value of Solar Methodology

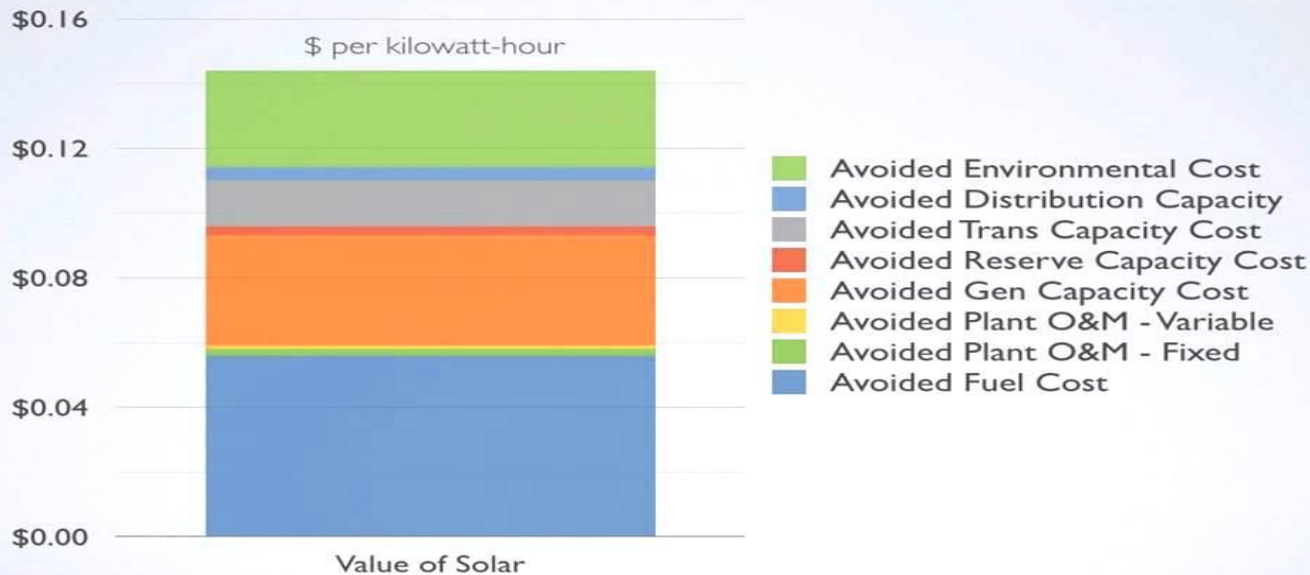
- On Jan 31, the Department of Commerce (DER) submitted a VOS Methodology to the MN PUC (docket 14-65) which it quickly approved.
- The MN VOS Methodology is based on the enabling statute, input from four inclusive stakeholder workshops, extensive written comments from parties across the country, and robust DER analysis
- 25 year fixed rate contracts, adjusted annually for inflation and specific utility data.



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Preliminary Minnesota Value of Solar Calculation



Source: Xcel Energy filing to MN PUC on Docket No. E999/M-14-65, 2/13/14

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Calculating The Value of Solar

- The solar market price includes eight separate factors, but four account for the lion's share of the value: 25 yrs of avoided natural gas purchases, as well as avoided new peaker power plant purchases, transmission capacity, and CO2 pollution costs. Economic development metrics excluded.
- The preliminary levelized 2014 market value of solar by Xcel Energy was 14.5¢ per kWh and revised to 13.6¢ per kWh in 2015. When escalated for inflation as required by statute the 2015 per kWh rate is 10.75¢. This is all based on annually recalculated utility specific data using a PUC authorized template.



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Next Rounds for Minnesota VOS

- Xcel filed for Reconsideration of the VOS methodology with the MN PUC in 2014 based primarily on opposition to the method for calculating avoided CO2 impacts. The PUC upholds its approval of all aspects of VOS.
- MN VOS is part of the ongoing discussion to determine the financing of Community Solar Gardens in Docket 13-867.



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Minnesota's Value of Solar Rate and Grid 2.0

- In the emerging grid edge discussions variously labeled the Age of the Distribution Grid, Grid Modernization, Grid 2.0, MN VOS metrics have helped frame the value of developing the distribution grid in general.
- Five states including Minnesota have proceedings underway to essentially remake their states' electricity sectors. "Regulating the Utility of the Future: Implications for the Grid Edge" by GTM Research analyzes these proceedings.
- Could DER modify MN VOS to include locational benefits mapping, metrics for outage mitigation, resilience, etc. ?

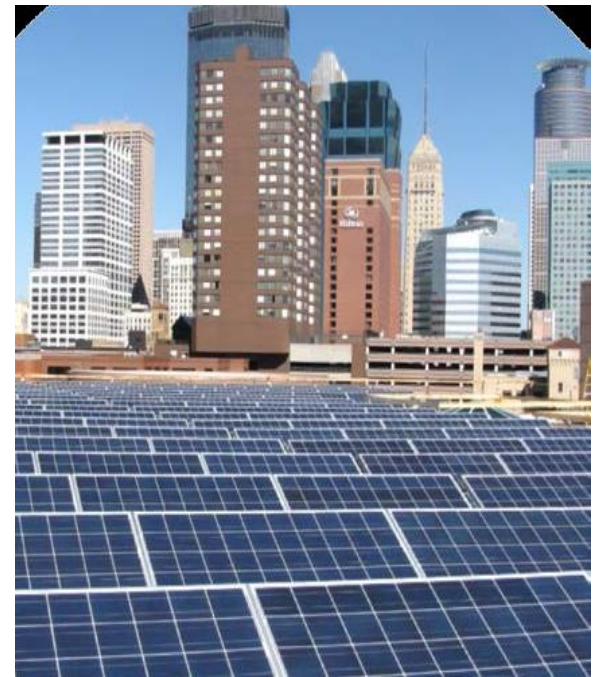


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Light on Hidden Value**

Setting the Stage for Grid 2.0 ?



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Thanks - Questions and Comments

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