Net Metering and Fixed Utility Costs Panel

Lisa Schwartz
Electricity Markets and Policy Group

Western Conference of Public Service Commissioners
May 25, 2016
Panel Format

- Moderator remarks and introductions (10 min)
- Moderated discussion among panelists (45 min)
- Q&A with conference participants (20 min)
Future Electric Utility Regulation Series

- A new series of reports from Lawrence Berkeley National Laboratory taps leading thinkers to grapple with complex regulatory issues for electricity
- Unique point-counterpoint approach highlights different views on the future of electric utility regulation and business models and achieving a reliable, affordable and flexible power system
- Primary funder: DOE Office of Electricity Delivery and Energy Reliability, National Electricity Delivery Division
- Reports published or underway:
  1. Distributed Energy Resources (DERs), Industry Structure and Regulatory Responses
  3. Performance-Based Regulation in a High DER Future
  4. Distribution System Pricing for DERs (webinar on May 31)
  6. Future of Resource Planning

- Additional reports forthcoming: feur.lbl.gov
- Expert advisory group (“Additional Slides”)
Report #5 - Recovery of Utility Fixed Costs

- **Mechanisms featured**
  - Higher fixed charges
  - Minimum bills
  - Demand charges
  - Time-varying rates
  - Tiered rates
  - Revenue decoupling
  - Lost revenue adjustment mechanisms
  - Frequent rate cases
  - Formula rate plans

- **Four perspectives**
  - **Utility** - Lisa Wood, Institute for Electric Innovation, and Ross Hemphill, RCHemphill Solutions (former ComEd VP)
  - **Consumer** - John Howat, National Consumer Law Center
  - **Environmental** - Ralph Cavanagh, Natural Resources Defense Council
  - **Economist** - Severin Borenstein, University of California, Berkeley

- Literature review by Jeff Deason and Lisa Schwartz, LBNL
- Expected release in June: feur.lbl.gov (webinar to follow)
### Four Perspectives on Fixed Cost Recovery

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<th>Wood/Hemphill (utility)</th>
<th>Howat (consumer)</th>
<th>Cavanagh (environmental)</th>
<th>Borenstein (economist)</th>
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Legend: **〇** Poor, 〇 Better, ▪ Good, ▪ Preferred

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1. First set volumetric price to reflect actual social marginal costs, including costs of externalities whether or not the utility has to pay those costs.
2. Linked to periods of coincident peak and subject to negotiated resolution of important technical issues.
3. Reflecting full social marginal cost, with the remaining revenue requirement balanced between higher volumetric rates and higher fixed charges.
4. Assuming a number of safeguards are implemented (see report).
5. Necessary but not sufficient.
6. In combination with a formula rate plan and only for setting revenue requirement; rate design issues to be addressed less frequently (e.g., every three years).
7. Implementation of formula rates should not deny utility customers and other stakeholders the ability to periodically review and litigate a utility's cost structure.
Other Berkeley Lab Reports on Net Metering and Fixed Cost Recovery
Analysis of financial impacts of a combined energy efficiency and net-metered PV portfolio on prototypical northeast and southwest utilities – Coming fall 2016
How Might Rate Reforms Affect DG-PV Growth?

Net Metering and Market Feedback Loops: Exploring the Impact of Retail Rate Design on Distributed PV Deployment

- Modeled distributed PV deployment under various rate and NEM reform scenarios
- Compared to a reference case that maintains current retail rate structures and NEM rules; results below are for U.S. as a whole through 2050

https://emp.lbl.gov/publications/net-metering-and-market-feedback-0

Percent Change in Residential DG-PV Deployment Relative to Reference Case
Benefit Streams for Residential PV

*Tracking the Sun*: Data for Systems Installed in 2013 (Select States)

**Net Present Value of Benefits for Host-Owned Residential PV**

Based on project level data collected for Berkeley Lab’s annual “Tracking the Sun” report. Bill savings are calculated from EIA data for average retail electricity prices by utility, with adjustments for usage tiers and other rate design details.

https://emp.lbl.gov/projects/solar
Net Metering and Rate Reforms Have Proliferated

2015 Policy Action on Net Metering, Rate Design, or Solar Ownership

Particulars of Rate Reform Proposals Vary

Some are specific to distributed solar PV, others are broader

<table>
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<tr>
<th>Proposal</th>
<th>Applicable to DG customers only</th>
<th>Potentially applicable to all customers</th>
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<tr>
<td>1. Increased customer charges</td>
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<td>2. Increased standby charges, interconnection charges</td>
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<td>3. Minimum bills</td>
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<td>4. Mandatory demand charges</td>
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<td>5. Reduced compensation for grid exports</td>
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<td>6. Two-way rates (feed-in tariff, value-of-solar tariff)</td>
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<td>7. REC ownership transferred via NEM</td>
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<td>8. Unbundled attribute pricing</td>
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<td>9. Time-varying pricing</td>
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<td>10. Locational pricing</td>
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<td>11. Compression of inclining block rates</td>
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Proposals Partly Due to Fixed-Cost Recovery Concerns

DG-PV growing fast, but in most states still ≤1% of retail sales

• With DG-PV growth, corresponding concerns about:
  – Fixed cost recovery: cost-shifting, erosion of utility shareholder profits, or both
  – Reduced utility earnings opportunities from deferred utility capital investments

• Similar concerns also with energy efficiency

Calculated from PV installed capacity data from GTM Research and EIA
Panelists

- **Shawn Elichegui**, Senior Vice President, Regulation & Strategic Planning, NV Energy
- **Commissioner Mike Florio**, California Public Utilities Commission
- **Wendy Gerlitz**, Policy Director, Northwest Energy Coalition
- **Bob Jenks**, Director, Citizen’s Utility Board of Oregon
For More Information on the Series

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Additional Slides
Future Electric Utility Regulation Advisory Group

Janice Beecher, Institute of Public Utilities, Michigan State University
Ashley Brown, Harvard Electricity Policy Group
Paula Carmody, Maryland Office of People’s Counsel
Ralph Cavanagh, Natural Resources Defense Council
Hon. Michael Champley, Hawaii PUC
Steve Corneli, NRG
Hon. Mike Florio, California Public Utilities Commission
Peter Fox-Penner, Boston University Questrom School of Business
Scott Hempling, attorney
Val Jensen, Commonwealth Edison
Steve Kihm, Seventhwave
Hon. Nancy Lange, Minnesota PUC
Ben Lowe, Duke Energy
Sergej Mahnovski, Consolidated Edison
Kris Mayes, Arizona State University College of Law/Utility of the Future Center
Jay Morrison, National Rural Electric Cooperative Association
Allen Mosher, American Public Power Association
Sonny Popowsky, Former consumer advocate of Pennsylvania
Karl Rábago, Pace Energy & Climate Center, Pace University School of Law
Rich Sedano, Regulatory Assistance Project
Hon. Audrey Zibelman, New York PSC
Peter Zschokke, National Grid