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NEM Lessons from California and Nevada: Two States, One Story

ANEEL Net Energy Metering Webinar

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RAP

An aerial photograph of a residential roof covered with solar panels. The panels are arranged in a grid pattern, with some sections appearing darker blue and others lighter blue or teal. A central vent pipe is visible. A dark blue rectangular overlay covers the middle portion of the image, containing the title text. A thin vertical bar with a yellow-to-orange gradient is on the left edge of the blue overlay.

Net Energy Metering in Nevada: Narrative and Lessons Learned

NEM in Nevada

- Full Net Energy Metering Supported Distributed Solar Growth
 - DG growth steady and then accelerating
 - Utility allegations of a cost shift to non-participating customers was persistent
- Regulators voted to replace Full NEM with Net Billing and Differential Rates in 2014 in anticipation of penetration levels that would induce a cost shift
 - Vehement protests led to legislative mandate to examine cost shifts
- E3 study showed no cost shift in Northern Nevada
 - Commission returned to Full NEM with a cap on installations in 2016
- Growing cost shift eventually led to 15-minute netting, reduced payment for net exports to the grid (75% of retail rate)

Lessons from Nevada's Experience

- Cost of Service Rate of Return Regulation biases Utilities against Distributed Solar
 - The throughput and the gold-plating incentives ensured utility opposition
 - Organized labor employed by utilities stepped in to support utilities
- Solar constituency was inflexible and politically powerful
 - Absence of an opportunity to align installer profitability, utility profitability, and customer benefits hardened installers for Full NEM
- Utilities do not want performance-based regulation but that is what is needed to align utility, consumer and solar interests
- **Incentive alignment in NV worked with the resurrection of Demand Side Management programs – tragic that did not happen with the revised NEM tariff**

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Net Energy Metering in California: Narrative and Lessons Learned

NEM in California

- Full NEM with Annual Netting prior to 2016 (NEM 1.0)
 - Evidence of a cost shift emerged
- Commission order in 2016 led to NEM 2.0
 - Mandatory Time of Use rates for solar adopters
 - Full NEM largely left intact
- Severity of the cost shift growing annually, reaching billions of dollars per year by 2022
 - Vehement protests led to legislative mandate to examine cost shifts
- NEM 3.0 implements Net Billing
 - Export rates at time differentiated “avoided cost” rather than retail rate (inducing storage)
 - Litigation to return to Full NEM still pending
- NEM 3.0 and legacy solar customer bills have been affected by income differentiated fixed charge increases in 2025 affecting all customers

Lessons from California's Experience

- Lessons for California are the same as Nevada, but some isolated success stories indicate opportunities to increase the value of Distributed Resources
 - **Blue Lake Rancheria Microgrid** demonstrates the win-win for all customers of using remote microgrids rather than hardening transmission
 - **Peninsula Clean Energy 24/7 Carbon Free Energy Tariff** demonstrates the opportunity local aggregations of customers to self-provide clean energy to meet local needs
 - **Silicon Valley Clean Energy Special Contract with Google** demonstrates the opportunity to coordinate local energy, energy efficiency and contracted procurement with utility procurement to meet customer need



Transitioning from Full NEM Well

Transitioning from Full NEM Well

- Full NEM can accelerate adoption without cost shifts initially
- When adoption level crosses the cost shift threshold:
 - Net Billing and Time Differentiated Rates for consumption and compensation are useful
 - Supporting integrated storage and solar opportunities allows solar adopters to manage the changed paradigm
 - Best practice requires utility, service provider and customer incentive alignment
 - Effective alignment harmonizes more granular data architecture, effective distributed energy resource management systems (DERMS), and targeted utility infrastructure investment to produce greater system utilization and reduced costs for adopting and non-adopting customers alike

About RAP

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