Rate Design Guiding Principles for Solar Distributed Generation

As distributed generation (DG) solar energy systems continue to become more accessible and affordable, increased adoption of these grid-energy reducing technologies is likely. SEIA proposes the following principles as a foundation for designing rates that properly value and enable a high penetration of DG, while recognizing the interests of utility shareholders and non-generating customers in a system with just and reasonable rates. Overall, SEIA asserts that these principles are consistent with the imperative of public utility commissions and energy service providers to maintain reliable, cost-effective service to all customers while protecting the right of customers to generate their own energy in a manner that provides many public benefits including environmental protection and economic development.

Established in 1974, the Solar Energy Industries Association is the national trade association of the U.S. solar energy industry. Through advocacy and education, SEIA is working to build a strong solar industry to power America. As the voice of the industry, SEIA works with its 1,100 member companies to make solar a mainstream and significant energy source by expanding markets, removing market barriers strengthening the industry and educating the public on the benefits of solar energy. As the national trade association for the solar industry, SEIA will continue to advocate equally for all forms of solar energy including residential, commercial and central-station solar generation as well as solar heating and cooling applications.

1. **Cover cost of service:** Rates should provide an opportunity for the utility to recover its approved cost of providing service and earn a return on investment as determined by regulators. In determining the proper rates to cover cost of service, the benefits of distributed solar generation should be properly calculated and incorporated.

2. **Right to reduce grid electricity use:** Any reduction in a customer's grid electricity use due to onsite solar generation should not be imputed as a cost to the utility. Exit fees or other charges meant to discourage customer deployment of distributed generation should not be sanctioned.

3. **Rate design based on marginal cost vs. average embedded costs:** Rates should be based on marginal costs. The calculation of marginal cost-based rates should emphasize a long-run perspective in which a utility can gradually replace its current energy infrastructure with cleaner and more efficient technologies. Generally speaking, variable costs should be recovered through volumetric (kWh) charges.

4. **Rates should be based on cost-causation principles:** In other words, recovery of costs should be related to the reason that the costs were incurred in the first place, or why they will presumably be incurred in the future.

5. **Properly price externalities:** To the maximum extent possible, market participants should bear the full environmental and other external costs of electricity service. Utility ratemaking (and other regulatory policies) should strive to minimize negative externalities.

6. **Cost allocation:** Each class should be assigned its cost of service, consistent with principles of equity and affordability. Cost shifts among and within customer classes should be avoided.

7. **Reducing energy consumption and peak loads:** Rates should provide an incentive for customers to reduce demand during higher-cost hours.

8. **Sending accurate and understandable price signals to customers:** Rates should include accurate price signals for peak, shoulder, and off-peak energy usage. Any use of dynamic pricing for critical peak periods (as an overlay on TOU rates) should be well-defined and transparent to the customer. Rates should be understandable, enabling customers to take responsive actions to reduce their usage, shift their load profile, or install on-site generation.
    a. Enable Innovative Technologies – Commissions should consider real-time pricing (such as day-ahead hourly pricing) and other mechanisms as opt-in options for all customer classes to enable and encourage consumers to take maximum advantage of energy information, renewables, energy storage, automated devices, and other smart grid technologies.
    b. Provide Customer Education – Customer outreach and education regarding their energy use, rates, and energy options should be robust and validated.

9. **Rate Transitions:** Rate design changes should minimize impacts to existing customers. In particular, net energy metering customers should be allowed to remain on their current rate form, with the option to move into new rate forms.

10. **Transparency, access to data:** Customers, or solar companies on customers' behalf, should have access to data regarding their own electricity consumption (e.g. hourly load profiles), with transparency into the tariffs available to them. More broadly, customer class data including consumption, monthly coincident and non-coincident peak demands, and load profiles should be available to aid customers in managing their electricity use and for designing workable rate structures.

11. **Consistency across the state**: To the extent possible, create consistency and predictability across the state by implementing any changes uniformly across IOUs, cooperatives and municipal utilities.

ABOUT SEIA

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