

Alternative Energy Regulation:

Including Net Metering and Feed-In Tariffs

NARUC Energy Regulatory Partnership Program

The Public Services Regulatory Commission of Armenia
and The Iowa Utilities Board



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Overview

- Requirements Under U.S. Law
- Early State Incentive Rates
- States Turn to Other Incentives
- Federal Incentives Added
- The Iowa Experience
- Feed-In Tariffs



Requirements Under U.S. Law

- In 1978, the U.S. federal government enacted the Public Utilities Regulatory Policies Act (PURPA)
- PURPA requires utilities to interconnect with renewable energy producers and purchase their output at "Avoided Cost"
- "Avoided Cost" is what it costs the utility to produce the same power itself or purchase it from another source
- Some states concluded that "Avoided Cost" rates were not high enough to encourage renewable energy development



Early State Incentive Rates

- Some states (including Iowa) required their utilities to purchase renewable energy at incentive rates higher than "Avoided Cost"
- Initially the higher incentive rates were allowed by the Federal Energy Regulatory Commission (FERC)
- In the late 1990s, FERC changed its policy and ruled that states (including Iowa) could not require their utilities to pay more than "Avoided Cost" for renewable energy
- FERC also ruled that states could require utilities to purchase specific amounts of renewable energy



States Turn to Other Incentives

States turned to other methods to encourage renewable energy development:

- Renewable Portfolio Standards (RPS) – Requiring that a certain percentage of energy sold to utility customers must come from renewable sources
- Green Pricing Programs – Requiring utilities to sell renewable energy to their customers, apart from the utility's RPS requirements
- Net Metering – Allowing customer's renewable kWh production to be netted against their retail kWh usage
- State Tax Incentives – Tax credits and tax exemptions



Federal Incentives Added

The federal government also offered tax incentives for renewable energy:

- Production Tax Credit (PTC) – Currently allows renewable energy producers to claim a federal income tax credit of 2.1 cents for every kWh produced, over 10 years
- Investment Tax Credits – Lump sum federal income tax credits of various amounts to offset the investment costs of renewable energy equipment
- Accelerated Depreciation – Five-year depreciation of renewable energy equipment costs for federal income tax purposes



The Iowa Experience

After the FERC overturned Iowa's Alternate Energy incentive rate program in 1997, Iowa also turned to other incentives to encourage renewable energy development:

- Net Metering
- State Tax Incentives
- Low Interest Loan Program
- Advance Ratemaking Principles



The Iowa Experience

Net Metering:

- Iowa's net metering rule was initially part of the Alternate Energy incentive rate program:
 - Defines net metering as "a single meter monitoring only the net amount of electricity sold or purchased" (outgoing kWh netted against incoming kWh)
 - Equivalent to the utility purchasing at its retail rate
 - However, a metering arrangement rather than a purchase arrangement
 - Is intended for small renewable generators built primarily for the customer's self-use
- Current net metering practice under Iowa utility tariffs:
 - Net metering is limited to capacity of 500 kW per customer (if the generator is larger than 500 kW, the output is prorated)
 - If facility produces excess electricity, the excess is carried forward for net metering in future months rather than purchased at "Avoided Cost"



The Iowa Experience

State Tax Incentives:

- Tax Credit Programs – Allow renewable energy producers to claim state income tax credits of either:
 - 1 cent per kWh for wind energy production, or
 - 1.5 cents per kWh for sales of wind energy or other renewable energy
- Tax Exemptions – Exempts renewable energy generators and equipment from state sales and property taxes

Low Interest Loan Program:

- Alternate Energy Revolving Loan Program – Provides 50% of the total loan amount for renewable energy equipment, up to maximum of \$1 million, at 0% interest



The Iowa Experience

Advance Ratemaking Principles:

- Applies to certain types of generation (including renewable generation)
- Ratemaking principles for new plant determined "in advance" before plant construction, and binding in utility's next rate case
- Reduces utility risk of building new generation
- Advance ratemaking principles can include:
 - Plant investment cost cap (costs below the cap are not subject to review in the utility's next rate case)
 - Rate of return that will apply to the plant in future utility rate cases
- Of the 3,620 MW of wind generation developed in Iowa, over 40% built and owned by Iowa utilities



Feed-In Tariffs

- Feed-in tariffs are a form of incentive rates
- The feed-in tariff purchase rates paid by utilities are based on the investment cost and return required by the renewable generator, rather than the "Avoided Cost" of the purchasing utility
- Different feed-in tariffs for different technologies
- Potential methods for determining investment cost and return requirements for renewable technologies:
 - Research cost data and return data for renewable projects (to the extent available and reliable)
 - Establish feed-in tariff rates by competitive bid



Feed-In Tariffs

- Feed-in tariffs have been applied in Europe
- The concept is currently being discussed in the U.S.
- However, FERC "Avoided Cost" policy is a potential barrier to adoption in the U.S.
- Based on Iowa's previous experience with incentive rates and FERC's "Avoided Cost" policy, FERC rulings and federal law are monitored for policy changes
- Otherwise, results similar to feed-in tariffs might be accomplished through a combination of targeted RPS requirements, and utility procurement through competitive bids



Questions?



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