



## The Policy Framework for a Consumer-Driven Electric Power System

The Galvin Electricity Initiative is working with state electricity leaders, consumer groups and communities to transform our power system by developing a new electricity regulatory structure and system design. This transforms policies that date from the New Deal, and the new regulations can achieve the following benefits:

- Improve the competitiveness of states and cities, facilitating economic development and ensuring American cities can compete in fiercely competitive global markets;
- Engage consumers, local governments and entrepreneurs to lower cost, demand and environmental impacts;
- Unlock the benefits of smart grid technology and encourage investment and innovation;
- Prepare utilities for this technology revolution, which will forever change the way consumers use electricity; and
- Substantially increase reliability, accountability and efficiency while achieving climate change goals.

### The Policy Framework

The framework that follows outlines examples of regulatory policies that form the building blocks of a consumer-driven electric power system. When employed at the state and local levels, these policies can create an electricity system that engages and enables consumers while holding utilities accountable for their performance. They accelerate innovation by providing choice to consumers, but also protect them via standards and market boundaries. The framework has at its foundation the Initiative's Electricity Consumer Principles, which act as a bill of rights governing consumer and business participation in the electricity marketplace. The Principles are the result of research and discussions with key electricity stakeholders working together to design a 21<sup>st</sup> century power system. This team of leaders has a common vision for a system in which communities and consumers, large and small, collaborate with utilities and entrepreneurs to most effectively achieve system reliability, efficiency, security, environmental performance and cost savings.

Thanks to local innovation by legislators and regulators, the specific rules, policies and regulations that follow have been implemented by states or other entities across the country. While each recommended reform improves consumer value and attracts private investment and innovation, the combination of several or all of these reforms would put a state on a path toward achieving significant economic advantage over other states and countries.

### REFORMS THAT EMPOWER CONSUMERS AND BUSINESSES

1. **Consumer access to data/AMI** – Give consumers access to interval data and eliminate and disallow rules that prohibit or inhibit the installation of meters by consumers or third parties. Further, policies should establish standards and specifications for advanced meters to ensure quality and compatibility.

*Leaders:* There are numerous state, utility and third-party programs with varying specifications. Texas has established specific advanced meter requirements. Also, some customers are installing AMI downstream of the utility meter to verify their bills and conserve energy.





2. **Retail competition** – Allow communities, businesses and consumers to purchase electricity services from whomever they choose. Allow building owners, aggregated communities and industry to procure low-carbon and renewable generation sources directly.

*Leaders:* Illinois, Pennsylvania, Massachusetts, Connecticut, Pennsylvania and Texas have established both wholesale and retail choice, though it is underutilized by residential customers in most states, with the exception of Texas. This is primarily because of the lack of access to, and incentives for, user-friendly home automation.

3. **Aggregation** – Establish rules that allow communities, campuses and facility owners to aggregate meter loads and billing physically and virtually for procurement, to use local clean generation and to receive payment for ancillary services.

*Leaders:* Ohio, Illinois, Massachusetts and Texas allow residential aggregation, giving customers the ability to purchase renewable energy and reshape their load profile. Ohio also allows multi-tenant aggregation, in which building owners can install rooftop solar and sell the power to their tenants.

4. **Long-term financing** – Establish utility and community long-term financing mechanisms for energy efficiency, distributed energy, backup power and grid improvements, placing demand-side improvements and consumer participation on financial par with grid capacity additions. Also, eliminate punitive tax provisions for community-funded grid improvements.

*Leaders:* California, Illinois and Massachusetts have utility electricity efficiency financing programs or pilots. California, New York, Colorado, Virginia, New Mexico, Texas and Ohio all have laws allowing community long-term financing mechanisms for these types of improvements.

5. **Community investment in improvements** – Establish rules that allow communities to plan and invest in system upgrades similar to any other infrastructure improvements. For example, these rules could require that a percentage of the collected distribution dollars be allocated to communities for improvements based on their needs.

*Leaders:* The Illinois Commerce Commission has passed a rider allowing for Local Government Compliance Adjustment, or LGC. The LGC allows Illinois communities to request local improvements from the utility and cover the ensuing costs via their residents' utility bills.

## **REFORMS THAT VALUE CONSUMER ACTION**

6. **Price transparency** – Provide consumers access to a wide variety of dynamic pricing options, including day-ahead and real-time pricing.

*Leaders:* Massachusetts, Connecticut, New York, Pennsylvania, Illinois, Maryland, Texas (restructured states) and Alabama (non-restructured) offer dynamic pricing options to large commercial customers. Only a few states, among them Texas, Illinois and Washington state, are offering real-time hourly rates for residential customers. Texas offers three or more-tiered pricing; other states offer two tiers, peak and off-peak.

7. **Net metering** – Establish net metering rules that allow customers to sell local distributed generation back to the grid at appropriate rates. Retail net metering allows consumers to install distributed generation up to a size limit and net meter at retail rates. Virtual net metering allows multi-building owners and local governments to install distributed generation in one building and net meter at retail rates all their buildings within a radius of several miles.



*Leaders:* Numerous states have retail net metering programs. Pennsylvania has established a virtual net metering rule. California, Florida and Vermont have used net metering as a performance-based grant program to fund certain technologies by paying more than retail rates for solar energy delivered, commonly called a feed-in tariff.

8. **Ancillary service payments** – Assign a value to customer-supplied grid services such as demand response, voltage support/spinning reserve, carbon reduction and power-generating capacity.

*Leaders:* Illinois, Pennsylvania, Massachusetts, Connecticut, Pennsylvania and Texas offer payments for demand-response. In addition, PJM in Pennsylvania and NYISO in New York are piloting capacity payment programs that will allow for greater customer participation.

## **REFORMS THAT ELIMINATE MONOPOLISTIC REGULATORY BARRIERS**

9. **Streamline local distributed power interconnect rules** – These rules have been a cumbersome and expensive barrier to local, clean distributed power.<sup>‡</sup>

*Leaders:* States that have done this well include Oregon, DC, Maryland, New Jersey, New York and New Mexico.

10. **Enable the post-meter device market** – Limit utility control of the post-meter device market so it can grow freely and offer customers competitive choice and reasonable prices.

*Leader:* States such as Connecticut are using rebates to allow customers to choose their own in-home devices.

11. **Limit ratepayer financing for power distribution within new developments** – Prohibit utilities from subsidizing inefficient site-specific electricity infrastructure with ratepayer funds at the expense of more efficient open-market development.

12. **Microgrids** – Eliminate laws and statutes that prohibit local governments and third parties from owning electricity supply and distribution systems that cross public rights of way. Establish rules that allow for privately owned local microgrids, district energy systems and combined heat and power as part of either new or existing development.

*Leader:* Connecticut allows the establishment of privately owned energy districts, which facilitate microgrid development.

## **REFORMS THAT IMPROVE UTILITY OVERSIGHT**

13. **Smart grid program oversight** – Establish detailed smart grid performance goals, metrics, reporting and program requirements. These ensure utilities are accountable to ratepayers for specific performance goals and reporting of reliability indices; costs for upgrades, repairs and operation and maintenance; source energy usage; CO<sub>2</sub> emissions; demand response; asset utilization; and energy costs.

*Leaders:* Texas has established smart grid goals and program requirements. Illinois requires spending breakouts while the PJM ISO tracks demand-response performance.

<sup>‡</sup> Read more at <http://www.newenergychoices.org/index.php?page=publications&sd=no>.



14. **Reliability targets** – Establish reliability standards, with incentives and penalties, that put state utilities on a path to providing at least a minimum level of electricity quality. These standards would be achieved over time and would help guide utility improvement spending.

*Leaders:* These targets are widely leveraged in Europe and Asia. Several U.S. states have implemented reliability metrics and targets, among them Massachusetts, Illinois and New York, but they are often weak. In Illinois, they include reporting of annual improvement spending by category.

15. **Performance-based rates** – Establish performance-based rate recovery to incent utilities based on overall performance – including energy reliability, efficiency, innovations and customer service – and not simply on the amount of electricity they sell. This decouples utility revenues from commodity sales and removes the incentive to expand usage to increase revenue.

*Leaders:* Massachusetts and California have implemented legislation that establishes performance-based rate recovery and/or decoupling and rewards demand reduction that results from demographic, economic, technological and market impacts. Decoupling is commonplace in the natural gas marketplace.

16. **Efficiency and renewable energy expansion** – Establish incentives for consumers to implement energy efficiency programs and clean, distributed energy for reducing CO<sub>2</sub> emissions.

*Leaders:* California, Texas, New Jersey, New York, Florida and Massachusetts offer these incentives. Massachusetts is requiring a single point of contact for consumers for gas and electricity incentives. Also, the New England ISO provides carbon retirement allowances for local solar power.

17. **Performance-based energy efficiency standards** – Establish building standards that emphasize least-cost ways to achieve energy efficiency targets by incentivising innovation.

*Leader:* California has performance-based energy efficiency standards.

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The Galvin Electricity Initiative, launched by former Motorola CEO Robert W. Galvin, has brought together many of the nation's leading electricity experts to reinvent our electric power system into one that is fundamentally more affordable, reliable, clean and energy-efficient. The Initiative has created innovative business and technology blueprints for the ultimate smart grid — the Perfect Power System. The system is a smart microgrid that meets the needs of 21<sup>st</sup> century consumers and provides reliable, secure electricity regardless of nature's wrath or security threats. To pave the way for Perfect Power and system transformation as a whole, the Initiative is advocating for new policies that reflect a set of guiding Principles — the electricity consumer's bill of rights — in Illinois and other key states. For more information on the Electricity Consumer Principles, the policy framework or the Perfect Power System, visit [www.galvinpower.org](http://www.galvinpower.org).