Energy for Economic Growth Initiative

Pathways for Accelerating and Expanding Distributed Renewable Energy Generation in America
Energy for Economic Growth Project Leaders

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Background

Incentive-based rate structures, which include Standard Offer Contracts, Renewable Energy Dividends, and Feed-in Tariffs (FITs), have become the most widely used policies in the world for accelerating renewable energy development. Recognizing the potential of this mechanism to help the 25x’25 Alliance achieve its vision of producing 25 percent of our nation’s energy from farms, forests, and ranches by the year 2025, the 25x’25 Steering Committee launched an Energy for Economic Growth (EEG) Initiative in 2011.

The EEG Initiative is exploring how incentive policies might be used to accelerate economic development and distributed renewable energy generation through rural electric utilities (REUs) and other power providers that serve rural communities. Its ultimate goal is to partner with REUs in developing and testing renewable energy incentive policies and programs and sharing these results with the REU community and their partners across the country.

With the support of the Rockefeller Brothers Fund, a first phase of the project was launched in June of 2011. Within this phase, 25x’25 committed to:

- Forming a team of agricultural leaders, rural utility representatives, and renewable energy experts to help guide and direct the project.
- Examining how incentive-based rate structures have been successfully utilized in Europe and other places to accelerate the deployment of distributed energy generation in rural areas.
- Conducting a national review to identify candidate rural utility partners for piloting incentive programs.
- Holding a renewable energy study tour in Germany to provide potential utility partners with more information on incentive policies.
- Securing commitments of utility partners to help advance the initiative in future phases.

This document provides a summary of the EEG Initiative’s progress, its findings, and a series of options for a path forward as it enters its next phase.

Progress Report

The first task for the EEG Initiative was to form a steering committee to shape the project and strengthen its relationship with its target audience of rural utility providers. Over the course of the first few months of the project, 25x’25 assembled a leadership team chaired by Nebraska Public Service Commission Member Jerry Vap and composed of a diverse cross section of representatives from rural electric cooperatives, non-governmental farm organizations, business, and the public sector.
The project leaders held their first in-person meeting in the Washington, DC area in July of 2011. This meeting focused on developing and approving an action plan for the project moving forward. Following it, the work group turned its efforts towards researching incentive-based rate mechanisms, resulting in an internal report presenting basic background information on the policies and summarizing some of their benefits as well as related challenges. The Work Group found that incentive rates were attractive because of their:

- **Simplicity and Efficiency** – A standard incentive-based rate structure contract is easy for both the utility and the producer to understand and implement. Unlike most renewable energy credits (RECs), the lengthier contacts and specified payments help to reduce investment risk for producers.

- **Cost Effectiveness** – While ratepayers are more directly impacted by incentive-based rate structures since they share in the cost of generating renewable energy, it is important to note that other policies, such as net metering, renewable portfolio standards, and tax incentives/grants all eventually impact ratepayers. The complexity of these other policies generally increases transaction costs and do not necessarily maximize the benefits to local communities.

- **Payments Directly Tied to Energy Production** – Tax incentives and grants may reduce the upfront cost of installing renewable energy systems; however, they may not provide sufficient incentives for continued production of renewable energy well into the future. In providing a long-term fixed payment, incentive-based rate structures ensure that ratepayers pay for actual energy production and that installation owners have an ongoing incentive to maintain their systems.

• **Economic Development** – While the same can be said of larger scale renewable energy projects, incentive-based rate structures increase investment within the community and create and maintain jobs manufacturing, installing, and maintaining renewable energy systems.

• **Demonstrable Successes** – As a result of incentive-based rate policies, Germany and Denmark count renewable energy as, respectively, 25% and 28% of their overall power.

The group also examined some of the commonly cited concerns with the policies, including that they might increase utility rates, conflict with existing “all requirements contracts” between Distribution and Generation & Transmission Cooperatives, in addition to technical barriers.

In the fall of 2011, the work group began outreach to utilities. To assist in generating awareness of the project within the rural utility community and to help identify potential partners, the work group contacted representatives from the National Renewables Cooperative Organization (NRCO), the Rural Electric Statewide Managers Association, and the USDA Rural Utilities Service in winter of 2012. Included with this outreach work was a document summarizing the project and describing how incentive-based rate mechanisms might address some of the challenges currently facing many of their members, such as increasing load, consumer demand for renewable energy, and the need for additional economic development within their service territories.

Next, the leadership team developed a list of candidate utility partners based on selection criteria developed by the Work Group. Farmers Electric Cooperative, Highline Electric Association, Jasper County Rural Electric Membership Association, and Wabash Valley Power Association expressed interest in learning more about the project as a result of the outreach and accepted 25x’25’s invitation to join members of the leadership team in a Renewable Energy Study Tour in Germany from September 23rd to 29th.

The study tour provided sixteen participants with firsthand knowledge of Germany’s renewable energy incentive programs which have enabled over 200,000 of their farmers to become energy producers. It examined how incentive-based rate structures were developed, designed, and implemented in the country through:

- On-site tours of farms where a variety of renewable energy technologies (solar, wind, biogas, etc.) have been installed as a result of incentive-based rate structures.
- Meetings with German government officials and policy experts familiar with the history of the incentive systems and their impact on their region.
- Discussions with renewable industry representatives on the challenges and benefits of incentive-based rate structures to their sector.

To fund the tour, the 25x’25 Alliance matched a $25,000 grant from the Rockefeller Brother Fund with $25,000 from the Bohemian Foundation and $5,000 from the Heinrich Böll Foundation. 25x’25 also partnered with the German American Chamber of Commerce of the Southern United States (GACC) in developing a week-long program, securing speakers and visit sites, translation, and preparing an
advanced packet for participants. Also assisting with the program was the Meister Consulting Group (MCG), a consulting firm specializing in alternative energy solutions based in Germany with offices in the United States.

Following the tour, the participants developed a report summarizing their findings, which was shared through the 25x’25 newsletter and blog. The group found that:

1. Germany’s decision to transition from a centralized to decentralized generation platform has yielded significant economic, national security, and environmental benefits for the nation. Individual energy producers and rural communities have been major beneficiaries of this policy.
2. Renewables are part of a larger strategy that is driving economic transformation in Germany. German ratepayers are willing to invest in and accept higher near-term energy costs in order to reduce future energy costs and create new economic opportunities.
3. Feed in tariffs (FITs) were established via a national policy directive tied to a comprehensive long-term energy security plan. The U.S. lacks such a plan and, given our current economic and political environment, the passage of a national energy plan with specific goals and mechanisms for achieving goals is unlikely.
4. While the adoption of a national FIT within the U.S. is unlikely, opportunities exist to integrate their core components into locally designed rate mechanisms. Such local policies can be created to take into account the unique needs, opportunities, and goals of individual utilities and communities.
5. Policies supporting renewable energy development can serve as a smart, long-term investment vehicle for local communities.
6. By providing transparency, longevity, and certainty (TLC), properly designed renewable energy policies create the framework that enables private investors (i.e. RECs and members) to own, build, and operate distributed energy generation.
7. Local leadership was the catalyst for transitioning to renewable energy and has evolved into a network of local energy cooperatives that are pooling community resources to invest in renewable energy and energy infrastructure that they could not afford as individuals. Since 2005, more than 80,000 citizens have set up around 600 energy cooperatives.
8. Germany has successfully demonstrated that technical and policy challenges related to renewable energy, though legitimate, can be overcome.

The participants also developed a series of recommendations for the EEG Initiative next phase that are described in greater detail later within this report.

**Phase I Findings**

1. **Many rural electric utilities and cooperatives are interested in increasing renewable energy generation** – Both distribution and generation and transmission (G&T) cooperatives are being motivated by a number of factors to expand upon their renewable energy generation. These factors include load growth, consumer demand, and economic development as well as concerns over future fuel costs, regulations, and implementation of renewable portfolio standards.

2. **Collaborative dialogue with rural electric cooperatives is needed on both the benefits and challenges posed by adding renewable energy to the grid** – Though cooperatives are increasingly interested in renewable energy generation, additional dialogue will be needed in order to
strengthen knowledge of existing technologies, identify barriers and potential solutions to implementation, and create effective business models for use in service territories.

3. **Incentive-based rates structures have been an effective means of increasing distributed renewable energy and economic development in many places and could represent a viable option for rural utilities** – As demonstrated in the experiences in Germany, incentive-based rate structures can be an effective strategy for increasing both renewable energy production and rural development. This success is attributable to the policy’s three basic components:
   - Access to the grid for renewable energy
   - Standard, long-term contracts
   - Payment levels based on the actual cost of generation for specific technologies plus a modest return on investment

Together, these components provide potential generators with the transparency, longevity, and certainty (TLC) they need to invest in new installations. It is important to note, however, that the best policies will reflect the unique goals and resources available to each community as opposed to a “one size fits all” approach.

Furthermore, incentive policies offer rural utilities a means of taking advantage of tax credits in affordably increasing renewable energy in their service territories. As non-profit organizations, many rural utilities are ineligible for tax credits that often serve as the primary incentive for renewable development from the federal government and many states. Since consumers can access these tax credits, they could contribute to reducing the incentive rates offered by utilities.

4. **A successful incentive-based policy would represent a balance of multiple goals and objectives** – A properly designed policy would provide enough of an incentive to encourage renewable energy development without adversely impacting safety, the reliability of power, electricity rates, and existing power purchase contacts. The experiences in Germany, and even with rural utilities within the United States, show that these barriers can be overcome. However, they should play an important role in the discussion and implementation of any policy.

5. **Additional research is needed to build, implement, and demonstrate effective business models for incentive-based rate policies** – Since these policies are new to most rural utilities, local models should be created in conjunction with experienced experts to meet the unique goals of each community. Implemented policies should be analyzed to serve as robust case studies for other utilities interested in exploring similar policies.
Recommendations

Throughout the project a number of different recommendations for its next phase have been suggested by work group members and other participants. The following is a summary of these recommendations, which are not necessarily mutually exclusive.

1. **Initiate dialogues on renewable energy with rural utilities in partnership with the National Rural Electric Cooperative Association.**

Many rural utilities are skeptical of distributed energy as a source of cost competitive and reliable power. For this reason, the conversation begun through the 25x’25 Energy for Economic Growth Initiative and its study tour in Germany should be expanded to include other rural electric cooperatives and organizations representing their interests. As the trusted voice of rural electric cooperatives across the nation, the National Rural Electric Cooperative Association (NRECA) is best poised to serve as an ally in opening doors to new communities. Other organizations cited for engagement include the National Rural Utilities Cooperative Finance Corporation, CoBank, the National Renewables Cooperative Organization, the Rural Electric Statewide Managers Association, and the Generation and Transmission Managers Association.

Through these conversations, concerns and questions about renewable energy would be identified. In particular, the following renewable energy barriers for rural utilities would be examined:

- Potential cost impacts for utilities and ratepayers
- Balancing between the need for long-term price certainty for renewable energy investment with honoring “all requirements” contracts between distribution and G&T cooperatives
- Determining the limitations of the REC’s distribution grids to interconnect renewable energy generators in remote areas without adversely affecting safety, power quality, or the ability to transfer loads to backup feeders
- Pinpointing potential conflicts with local and state policies such as building codes and permitting processes
- Energy storage solutions as a means of offsetting intermittency
- Financing mechanism to fund renewable energy project installation.

Information would also be exchanged regarding a wide range of renewable energy technologies (e.g. wind, solar, biomass, and heat), methods for encouraging their growth, and the economic benefits experienced by rural communities in Germany.

An outcome of these conversations could be a “Renewable Energy Toolbox” which would serve as a resource for rural utility questions related to implementing renewable energy, such as integrating new installations, balancing costs, dealing with interconnection issues, and negotiating purchase agreements. This document would offer real world examples and summaries of the various challenges that were experienced along the way and how they were resolved. Participating utilities have offered to use their own success stories as case studies.

2. **Develop an information exchange program between U.S. and German energy cooperatives**

Another possible opportunity is to facilitate and support a mutually beneficial exchange between U.S. and German energy cooperatives. Many of the energy cooperatives in Germany have formed in just the
past few years and, through formal exchanges, could take advantage of the extensive experience of U.S. cooperatives. Similarly, German cooperatives could share with their American counterparts some of the challenges and benefits they have experienced in their energy transition for potential application within the U.S.

3. **Partner with rural electric utilities in modeling and piloting incentive-based rate mechanisms for multiple renewable energy technologies (e.g. wind, solar, biomass, and heat) using a cross-section of generation & transmission and distribution cooperatives.**

The Work Group believes that the implementation of incentive-based rate mechanisms by rural electric utilities would be beneficial. This would include modeling and piloting incentive rates that encourage distributed generation for multiple renewable energy technologies and examining their impact on ratepayers and utilities. It would also study the long-term economic impacts of increasing renewable energy as well as its effects on existing infrastructure. To guide the development and execution of these models, a diverse team composed of energy policy experts, multiple stakeholders, and an organization widely recognized by rural electric cooperatives like NRECA, the National Renewables Cooperative Organization, or the National Rural Utilities Cooperative Finance Corporation has been recommended.

In supporting these efforts, 25x’25 should provide a variety of support services to help partnering distribution and G&T cooperatives. Participating utilities would receive from 25x’25, in collaboration with other experienced experts, the following assistance:

- **Information and Educational Support** – 25x’25 could provide utility partners with general information on incentive payment policies and various models used in the past and present.

- **Technical Assistance** – 25x’25 could help utility partners secure technical assistance to design and test incentive-based rate mechanisms. This includes aiding in the design of policies that meet the unique opportunities and concerns of participating utilities, conducting assessments on the impact of policies prior to implementation, and analyzing them once the policies have been put in place.

- **Communications Support** – 25x’25 could work alongside utility partners to create strategies and materials for candidly communicating the benefits and potential drawbacks of incentive programs to a wide range of audiences, including utility board members and managers, as well as ratepayers.

**Conclusion**

The 25x’25 Alliance project leaders are eager and prepared to continue this exploration of incentive policies for distributed renewable energy. In doing so, they invite interested stakeholders to join with them in this important conversation on creating new economic opportunities and renewable generation in rural America.