The National Academies of
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Electricity Use in Rural and Islanded Communities: A Workshop Supporting the Quadrennial Energy Review's Public Outreach

February 8-9, 2016
Keck Center, Room 100
500 5th Street N.W.
Washington, D.C. 20001

Workshop Objective: Speakers will be encouraged to identify challenges and opportunities for increasing efficiency, reducing emissions and costs, and improving resiliency, as well as to discuss innovative clean energy strategies being implemented in rural and islanded communities. Speakers will also be encouraged to offer to the QER Task Force insights on research needs and state and local policies, in addition to recommendations on federal policies (examples of federal policies include executive actions, legislation, R&D initiatives, and/or funding distributions that can be implemented in both the short and the long term).

February 8, 2016

Welcome and Opening Presentations

8:00 a.m. – 8:30 a.m.	Continental Breakfast
8:30 a.m. – 8:50 a.m.	Introduction to QER: For the second installment of the Quadrennial Energy Review, the QER Task Force will conduct an integrated study of the U.S. electricity system from generation through end use. The Task Force will produce a report offering recommendations on executive or legislative actions to address the energy challenges and opportunities facing the Nation. In this workshop, the QER Task Force is interested in your expertise on electricity use in rural and islanded communities. **Karen Wayland** *Department of Energy*
8:50 a.m. – 9:05 a.m.	Q&A with Karen Wayland
9:05 a.m. – 9:15 a.m.	Introduction to workshop structure and planning committee. **K. John Holmes** *National Academies of Sciences, Engineering, and Medicine*

9:15 a.m. – 9:30 a.m.	Describe characteristics of electricity use in rural communities. Identify salient differences from other communities. **Chris McLean** *U.S. Department of Agriculture, Rural Development*
9:30 a.m. – 9:45 a.m.	Q&A with Chis McLean
9:45 a.m. – 10:05 a.m.	Introduce critical electricity issues for islanded communities. Compare challenges across different islanded communities. **Chris Yunker** *Hawaii State Energy Office* **Meera Kohler** *Alaska Village Electric Cooperative*
10:05 a.m. – 10:15 a.m.	Q&A with speakers
10:15 a.m. – 10:30 a.m.	Break

Topical Sessions

10:30 a.m. – 11:30 a.m.	Incorporating Efficiency: Survey implemented strategies for improving end-use efficiency. Consider benefits to rural and agricultural communities. **Curtis Wynn** *Roanoke Electric Cooperative* **R. Neal Elliott** *American Council for an Energy-Efficient Economy*
11:30 a.m. – 12:30 p.m.	Increasing Resilience/Reliability: Describe methods to improve electricity system resilience and reliability. Discuss how technology and automation can benefit rural communities. **David Wade** *EPB Electric Power* **Henri Dale** *H Dale, LLC*
12:30 p.m. – 1:30 p.m.	Lunch

1:30 p.m. – 2:30 p.m.	Rate Design: Consider time-of-use and other rate designs as strategies to manage demand, account for grid maintenance costs, and address potential consumer privacy concerns. **Ken Colburn** *New Hampshire Electric Cooperative Board* **Ron Meier** *La Plata Electric Association*
2:30 p.m. – 3:30 p.m.	Generation alternatives for CO_2 reduction: Review technology alternatives including renewables with grid storage. Identify barriers and enablers for bringing distributed generation into rural systems. **Marc Mueller-Stoffels** *University of Alaska, Alaska Center for Energy and Power* **David Dunn** *Green Mountain Power*
3:30 p.m. – 3:45 p.m.	Break
3:45 p.m. – 5:00 p.m.	Technological and Operational Innovation: Discuss technologies deployed to improve electricity service and reduce costs in rural areas. Identify operational strategies to increase system performance. **Gary Connett** *Great River Energy* **Rich Silkman** *GridSolar* **Kerrick Johnson** *Vermont Electric Power Company*
5:00 p.m. – 5:30 p.m.	Turning Smart Technology into Smart Grids: Introduce social, technological, and legal dimensions of smart grid deployment. Identify alternative paths forward and implications for rural electricity users. **Jennie C. Stephens** *University of Vermont*
5:30 p.m.	ADJOURN DAY 1 OF WORKSHOP

February 9, 2016

Welcome and Keynote Presentation

8:00 a.m. – 8:30 a.m.	Continental Breakfast
8:30 a.m. – 9:00 a.m.	Opening Keynote: Anticipate developments in new technologies, planning paradigms, and business models that will impact rural electricity systems over the next 5 to 25 years. Point to steps the federal government and others could take over this time frame that direct towards desired outcomes. **Joe Brannan** *North Carolina Electric Membership Corporation*
9:00 a.m. – 9:15 a.m.	Q&A Joe Brannan

Topical Sessions –Modernizing the Rural & Islanded Electricity Systems through Emerging Technologies & Planning Paradigms

9:30 a.m. – 11:00 a.m.	Modernization of Planning Paradigm: Consider Hawaii as an example of alternative planning strategies using big data and emerging technologies to strive for a 100% renewable grid. **Jim Connaughton** *C3 Energy* **Chris Yunker** *Hawaii State Energy Office* **Terry Surles** *University of Hawaii* **Richard Rocheleau,** short commentary *Hawaii Natural Energy Institute*
11:00 a.m. – 12:00 p.m.	Transportation Linkage to Electricity System: Discuss influence of, and possible synergies between, electric vehicles and the grid.

	Richard Rocheleau *Hawaii Natural Energy Institute* **Gary Connett** *Great River Energy* **Tom Bialek** *Sempra Energy*
12:00 p.m. – 1:00 p.m.	Lunch
1:00 p.m. – 2:30 p.m.	Microgrids: Discuss the potential for microgrids to improve resilience and operations. Consider new technologies and business models for decentralized generation and their implications for rural and islanded communities. **Tom Bialek** *Sempra Energy* **Steven Rowe** *General Electric* **Aloke Gupta** *Imergy* **Andrew Merton** *Spirae*
2:30 p.m.	ADJOURN WORKSHOP