

Strategic/Policy View – A 100% Clean Electricity Future and its Impacts on Utilities

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American Public Power Association

- Represents the more than 2,000 public power (publicly owned utilities) that serve over 49 million people in 49 states
- What we do:
 - Electricity Policy Advocacy
 - Member Education and Information
 - Best Practices and Resources

Public Power Business Model

- Owned by the community
- Run by local or state government
- Not-for-profit
- Answer to customers not remote shareholders
- Supporting local commerce and jobs
- Investing back into the community

Public Power Serves

- Serves about 15% of the load in the U.S. but has about 10% of the generation
 - Large public power utilities mostly self-supply
 - Mid-sized and smaller utilities: combination of JAAs and PPAs with other utilities and wholesalers, and some self-supply
- Many public power utilities have clean energy goals
- Some have 100% renewables goals (e.g., Apex, NC; Denton, TX; Gainesville, FL, Longmont, CO)

Public Power Moving Forward

- According to the Sierra Club, 6 communities have achieved their 100% renewable power goals
 - Aspen, CO
 - Burlington, VT
 - Greensburg, KS
 - Georgetown, TX
 - Rock Port, MO
 - Kodiak Island, AK (co-op)

Electricity Industry Moving Forward

- Across the country, the electric utility sector, including public power, continues to make great strides in reducing CO2 emissions
 - Trending toward more renewables and gas; likely no new coal and fewer large nukes
- EIA notes power sector CO2 emissions have declined 28% since 2005
- EIA has calculated that CO2 emissions from the sector totaled 1,744 million metric tons in 2017 – lowest level since 1987

Issues to Consider as We Move to a Cleaner Energy Future

- Balance between clean energy goals and rate impacts, especially in an era of low gas prices
- Clean energy goals must include nuclear and hydro – goals that exclude these technologies are not realistic
- Some areas of the country may need a longer glide path to a cleaner energy future

Regional Differences – Winter of 2019

Tests Upper Midwest

- Polar vortex 2.0 in late January/early February 2019 – coldest temperatures in about 40 years
- Air temperatures hit minus 40°F with minus 60°F wind chill in northern Wisconsin and Minnesota
 - Several wind projects in MISO stopped running at -20 degrees
- Xcel Energy asked all natural gas customers to lower thermostats to 65° to ensure system operations stability
- Detroit Edison asked customers to turn thermostats down to 63° to stabilize system

Coal Plants Provided Half of the Energy Needs During Polar Vortex 2.0

- Kept lights on/ensured reliability and resilient systems
 - Most APPA member coal and gas plants ran at or near maximum output with no forced outages
- Ensured that natural gas pumping stations continued to push gas down the lines to heat homes/businesses and start gas generation
- Provided power to blower fans/pump/other essential equipment to keep all other fuel sources (natural gas, propane, etc.) operating
- Similarly, PJM January 30 winter peak was served by 37% coal, 29% gas, and 27% nuclear

Some Need Longer Glide Path to Cleaner Energy Future

- Some public power utilities that are facing a major transition serve in economically disadvantaged communities
- Many have debt on existing resources and risk having stranded assets if they are forced to make the transition too soon

Reality Check

“The idea [that] we're going to have by 2050 ... a 100 percent renewable system is not realistic ... It doesn't violate the laws of physics to do it. But that doesn't mean it is politically or economically implementable, and I think that is the issue.”

--former Energy Secretary Ernie Moniz

Moving Public Power Forward

- Technology and customers are evolving
- APPA is helping public power utilities prepare for a new era in electricity through
 - Research
 - Education
 - Advocacy
 - New tools & technologies

APPA's New Smart Energy Provider Program

- Best practices designation for utilities
- Program assesses utility commitment and practices across 4 areas:
 - Smart Energy Information
 - EE & DERs
 - Environmental and Sustainability Programs/Initiatives
 - Communication/Education and Customer Experience

The Value of the Grid Paper

- Addition of DERs + electrification makes the electric grid a more important resource
- Highlights studies and data demonstrating that grid defection is unlikely
- Public power business model as being well-suited for managing this advanced grid – closer to customers and greater regulatory flexibility
- Free for members and non-members

Creating a Smart City Roadmap for Public Power Utilities

- Primer -- explains smart city concept and provides a list of considerations for cities and utilities thinking of engaging in smart city effort
- Smart city -- betters the lives of residents and businesses through mindful investments and deployments of advanced technologies
- Highlights CPS Energy and SMUD and emphasizes the natural fit for public power within the smart city paradigm
- Free for members and non-members

APPA Resources

- **Electric Vehicles**
 - [Creating an Electric Vehicle Blueprint for Your Community](#)
 - [Understanding the U.S. Plug-In Electric Vehicle Market](#)
 - [Public Power EV Activities Tracker](#)
 - Electric Vehicle Interest Group
- **Energy Storage**
 - [Behind-the-Meter Energy Storage](#)
 - [Understanding Energy Storage](#)
- **Solar**
 - [Value of Solar Primer](#)
 - [Community Solar A-Z](#)
- **Rate Design**
 - **Coming Soon!** Future of Rate Design
 - [Rate Design Options for Distributed Energy Resources](#)
 - Rate Design Interest Group
- **Other**
 - [Value of the Grid](#)
 - [Creating a Smart City Roadmap](#)
 - [Distributed Energy Resources and Public Power](#)

<https://www.publicpower.org/public-power-forward>

116th Congress – Climate Change

- Hearings on climate change in Energy & Commerce, Natural Resources and Science Committees
- Green New Deal – non-binding resolution
- House may move legislation – energy efficiency and weatherization
- House will vote on H.R. 9 next week (the bill to keep the U.S. in the Paris climate accord)
- APPA action – We will continue our education efforts on the Hill on public power's efforts to reduce emissions

If Congress Decides to Act on Climate Change APPA Could Support

- Federal legislation that would reduce CO2 emissions while keeping electricity affordable and reliable
 - promote hydropower development, nuclear, DERs, EVs, energy storage, and EE
- Comprehensive climate change legislation that addresses the issue on an economy-wide basis

Questions?

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