EEA Newsletter and Research Highlights (June 2019)

The ESCA group recently sent out the third installment of its public newsletter. Download the PDF version of the June 2019 newsletter. If you would like to sign up for the ESCA public mailing list, please email eea@epri.com

Back Pocket Insight: Impact of Battery Storage on the Electric Sector Mix

Our brief investigates the potential impacts of low-cost battery storage on electric sector generation and investment changes, using the US-REGEN model. The analysis shows how battery storage can help (but not solve) the misalignment between wind and solar profiles and load shapes. Battery deployment may be extensive but changes the backup for renewables more than total wind and solar penetration. Energy storage can lower system costs and curtailments of wind and solar in some grids, especially if trends in cost declines for lithium-ion batteries continue. However, the impacts of batteries and other energy storage technologies can vary by region, assumptions about the future, and company-specific considerations.

Insights into Low CO_2 Targets for Wisconsin

As part of its recently released Climate Report, WEC Energy Group collaborated with EPRI to assess the risks and opportunities associated with transitioning to a low-carbon economy. An analysis using EPRI's US-REGEN model evaluated multiple pathways for reducing emissions in the electric sector and other key sectors of the economy, including transportation, industry, and buildings. The results improve understanding of how Wisconsin's carbon profile could evolve under a wide range of assumptions around greenhouse gas (GHG) reduction targets, natural gas and other fuel prices, technology availability and costs, and other variables.

EPRI's modeling highlights the potential role for electricity to facilitate GHG reduction by decarbonizing the electric power system and electrifying end uses in transportation, buildings and industry. The exact blend of electric sector investments – to minimize overall system costs and maintain reliability – will depend on a range of technical, public policy and economic factors. Results from this analysis can be used to inform decision-making under future uncertainty.

EEA Research Summaries

The ESCA group recently updated its renewables research summary and published a new electricity storage research summary. The Renewables Research and Electricity Storage Research Summaries provide a list of all ESCA research related to renewable generation and the economics of electricity storage technologies, including works in progress. Web links are included where available. Publications marked with an * are available to the public free of charge or are published in academic journals. Other publications are available to EPRI member companies, as indicated by the program number in brackets preceding the publication. The research summaries are organized by topic and by date and are updated several times a year.

EEA Recent Publications (June 2019)

The ESCA group routinely submits publications to peer-reviewed journals and publishes research that is available to the public. A list of our recent publications includes:

- Methods to Account for Greenhouse Gas Emissions Embedded in Wholesale Power Purchases. EPRI Report 3002015044.
- Santen, N., and Young, D. 2019. Electric Generation Investments Under Climate Policy Uncertainty. EPRI Report 3002015555.
- Bistline, J. 2019. Technology, Policy, and Market Drivers of (and Barriers to) Advanced Nuclear Reactor Deployment in the United States After 2030. Nuclear Technology. DOI: 10.1080/00295450.2019.1574119