In this issue…

For our second year now, The Electricity Journal is proud to present this symposium issue in collaboration with the Center for Advanced Energy Studies’ Energy Policy Institute (EPI) and its recently concluded Fifth Annual Energy Policy Research Conference. Over two early-September days in Denver, more than 100 attendees from industry, national laboratories, academia, the government, and non-profits came together to bear a keynote address from former Duke Energy chairman Jim Rogers and 50 paper presentations. Participants delved into topics ranging from renewables integration to valuation and risk, leveraged with a fair amount of analysis of the EPA’s Clean Power Plan. From this rich trove of papers, we have selected 10 that we feel are especially pertinent for publication in this special issue. We owe a special debt to EPI and CAES, a partnership comprised of the University of Idaho, Sandia National Laboratories, the University of South Carolina, and Idaho Power Company, for their assistance in pulling this together.

If you find these articles to be rewarding reading, then it’s not too early to mark your calendar for EPI’s sixth conference, in Santa Fe, N.M., on Sept. 8-9, 2016. EPI is part of the Center for Advanced Energy Studies (CAES), a partnership comprised of the Idaho National Laboratory, Boise State University, the University of Idaho, Idaho State University, and its newest member, the University of Wyoming.

More information about the Energy Policy Research Conference, EPI, and CAES can be found at http://epi.boisestate.edu/. Now on to this issue’s articles, all of them drawn, as we have noted, from this year’s conference.

We open with a pair of analyses of the Clean Power Plan. Brian H. Potts and David R. Zoppi assess that basic question of whether the plan will make it through the courts. Their perhaps-controversial bottom line: while the Supreme Court probably should overturn the rule, it probably won’t — not because the law is necessarily on the agency’s side, but because the plan deals with a public policy issue of paramount importance, climate change.

Wesley Cole, Trieu Mai, Kelly Eurek, Daniel C. Steinberg and Robert Margolis assess the role of solar generation under rate-based targets in the plan, using the Renewable Energy Deployment System.

Scott Anders, Jae D. Kim, Nilmini Silva-Send, Clark Gordon and Yichao Gu tackle the question of how to allocate policy-induced greenhouse gas reductions between those stemming from efficiency moves and those from renewables supply increases.

Joyce McLaren, Carolyn Davidson, John Miller and Lori Bird assess the tricky conundrum of how to protect utilities against the lost revenue due to increased adoption of solar energy, weighing the alternatives of increased fixed charges, minimum bills and residential demand charges on PV and non-PV customer bills.

Using Michigan as a cautionary case study, Jeremiah X. Johnson and Joshua Novacheck examine the environmental benefits of renewable portfolio standards in an age of coal plant retirements, concluding that significantly more natural gas is displaced by an expanded RPS, thereby reducing the emissions mitigation potential.

Daniel Esposito, John Rupp and Sanya Carley analyze the individual and interactive risks associated with use of natural gas and renewable resources for electricity, drawing the preliminary conclusion that development-related issues such as construction of power plants and transmission systems have risks that may compound, whereas other types of risks such as planning, costs and policy decisions have the potential to be offset.

Piyush Sabharwall, Shannon Bragg-Sitton, Lauren Boldon and Seth Blumscak offer an economic case study of nuclear renewable integration, keying in on a system that incorporates nuclear and wind energies in combination with high-temperature steam electrolysis (HTSE) to yield hydrogen.

Lisa A. Skumatz analyzes energy efficiency programs’ non-energy benefits, and shows how states are finally making some progress in incorporating these benefits into cost-benefit tests.

Andrew A. Chien, Richard Wolski and Fan Yang propose a high-value, dispatchable demand for renewables that they dub Zero-Carbon Cloud (ZCCloud). We end with Andrew Hatchwell and Peter Cappers’ proposal of a framework for organizing electric utility regulatory and business models, both those existing today and those we’re likely to see in the future.

Richard Cohen
Gerry Khermouch