Introduction

Matthew J. Kotchen, Yale University and NBER
Tatyana Deryugina, University of Illinois at Urbana-Champaign and NBER
Catherine D. Wolfram, Massachusetts Institute of Technology and NBER

Welcome to the fifth volume of *Environmental and Energy Policy and the Economy (EEPE)*. The six papers that follow fit into the overall aim of the EEPE initiative: to spur policy-relevant research and professional interactions in the areas of environmental and energy economics and policy. The annual conference is hosted by the National Bureau of Economic Research (NBER), with participants from academia, government, and nongovernmental organizations.

This year’s conference took place at the National Press Club in Washington, DC, with participants also tuning in online. We were fortunate to have a keynote presentation about climate and energy policy by Ben Harris, former Assistant Secretary for Economic Policy at the U.S. Treasury. We are grateful to all the authors for their time and effort producing outstanding papers and helping to make the fifth year of EEPE a continued success.

In the first paper, Sarah Armitage, Noel Bakhtian, and Adam Jaffe start with the observation that newly scaled policy instruments focused on climate and energy are motivated not only by unpriced environmental externalities, but also by innovation market failures. They review an extensive literature on innovation market failures, with an eye towards producing insights about the implementation of such policies in a climate and energy context. The paper will serve as a go-to resource for those looking for policy-relevant insights bridging the literatures on climate and innovation.

Richard Newell, William Pizer, and Brian Prest evaluate two methods of accounting for capital displacement in benefit-cost analysis. They illustrate how an approach based on the shadow price of capital is more solidly grounded in economic theory than the typical approach of using discount rates based on investment rates of return. Using theory and examples, they show how the approach is relatively straightforward to implement, and the paper has already had an impact on proposed revisions to the way the U.S. government recommends conducting benefit-cost analyses of federal regulations.

Tihitina Andarge, Yongjie Ji, Bonnie Keeler, David Keiser, and Conor McKenzie provide a valuable contribution to the literature on environmental justice. Focusing on the Clean Water Act, they review all regulatory impact analyses since 1992 for insights about how environmental justice has, or has not, been taken into account. They also produce an original analysis of how the current configuration of water pollution discharges across the United States affects different groups. The authors show that water pollution is more likely to impact households that are poor, white, and less-educated. These patterns differ from those of air pollution, largely because most discharges take place in rural rather than urban locations.

Mark Curtis, Layla O’Kane, and Jisung Park contribute much-needed insights about employment transitions into and out of jobs most likely to be impacted by de-carbonization. They show that the number of transitions to “green” jobs is increasing rapidly, but the transitions from carbon-intensive sectors remain relatively low, and the effects differ by location, worker age, and education. The analysis is important because policy-makers often want such job-related information, and the authors leverage
unique data sets and methods to provide the needed insight. This work also complements a paper in last year’s EEPE volume that characterizes the set of green jobs emerging in the U.S. economy.

Lucas Davis provides a detailed analysis of heat pump adoption in the U.S. While evidence suggests that many energy-efficiency subsides tend to benefit high-income households, Davis shows this not to be the case with heat pump adoption, which many state and federal policies are seeking to promote. Heat pump adoption is strongly correlated with geography, climate, and energy prices, and these are configured in a way that makes adoption uncorrelated with household income. Thus, heat pumps appear to offer an opportunity for subsidizing a low-carbon technology without favoring high-income households.

In the final paper, Robert Huang and Matthew Kahn examine the question of whether Republican-leaning states have a comparative advantage at generating green power. They find that Republican counties are faster at granting renewable energy permits because they have less strict zoning regulations. Republican counties also appear to have an advantage in wind generation due to lower land prices, lower population density, and higher wind speeds. In contrast, Democratic counties are more favorable for solar installations because solar panels are less land-intensive and Democratic-leaning states provide more incentives for solar developers. These results provide insight about where energy transitions might be expected in the coming years.

Finally, we would like to thank Evan Michelson and the Alfred P. Sloan Foundation for the financial support that has made the EEPE initiative possible. We are also grateful to Jim Poterba, president and CEO of the NBER, for continuing to support the EEPE initiative, and to the NBER staff, especially Denis Healy, Rob Shannon, and Helena Fitz-Patrick. Planning is already underway for next year!