



**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Carbon pricing in FERC-Jurisdictional) **Docket No. AD20-14-000**
Organized Regional Wholesale Electric)
Energy Markets)

**COMMENTS OF
RESOURCES FOR THE FUTURE**

Pursuant to Rule 211 of the Federal Energy Regulatory Commission’s Rules of Practice and Procedure¹, experts from Resources for the Future (RFF) respectfully submit these comments with regard to the request submitted to FERC on April 13, 2020 (the “Request”) regarding the convening of a technical conference on topics related to state, regional, and federal carbon policies as they relate to FERC-jurisdictional wholesale power markets.

RFF is an independent, nonprofit research institution in Washington, DC. Its mission is to improve environmental, energy, and natural resource decisions through impartial economic research and policy engagement. RFF is committed to being the most widely trusted source of research insights and policy solutions leading to a healthy environment and a thriving economy.

While RFF researchers are encouraged to offer their expertise to inform policy decisions, the views expressed here are those of the individual authors and may differ from those of other RFF experts, its officers, or its directors. RFF does not take positions on specific policy proposals.

Researchers at Resources for the Future have had extensive experience in conducting research to help inform the design and evolution of state and regional carbon pricing policies across the US and beyond. Much of our research on these policies has explored policies focused on the electricity sector or on the impacts of broader policies on the electricity sector. We have done modeling to assess how carbon

¹ 18 CFR 385.211 (2019).

pricing can affect consumers, electricity producers and electricity markets at both wholesale and retail levels. We have also studied the question of emissions leakage and how various aspects of policy design affect the environmental consequences of the policy and how carbon pricing interacts with other policies to promote clean energy. Our work on specific regional carbon pricing programs and recent state proposals for carbon pricing includes the following.

- **RGGI:** We were involved in analyzing the RGGI program from the time states began their initial conversations in 2003 around establishing a regional cap and trade program for CO₂ through to the most recent program review and update completed in 2017. We conducted modeling and economic analysis to inform the initial choice of an allowance auction as the mechanism to introduce allowances into the market^{2 3 4 5 6}, the initial RGGI allowance auction design and the role of the price floor⁷, Maryland's decision to join RGGI⁸ and its choices of how to use allowance value⁹, the design of the emissions containment reserve being implemented in 2021¹⁰, the design of regulation in Virginia in preparation to join RGGI^{11 12}, and the on-going discussions within other states (including Pennsylvania) about potentially joining RGGI^{13 14 15}.

² Burtraw, D., & Palmer, K. L. (2006). "Summary of the workshop to support implementing the minimum 25 percent public benefit allocation in the Regional Greenhouse Gas Initiative." RFF Discussion Paper 06-45.

³ Wilson, N. E., Palmer, K. L., & Burtraw, D. (2005). "The Impact of Long-Term Generation Contracts on Valuation of Electricity Generating Assets under the Regional Greenhouse Gas Initiative." RFF Discussion Paper 05-37.

⁴ Burtraw, D., Palmer, K. L., & Kahn, D. (2005). Allocation of CO₂ emissions allowances in the regional greenhouse gas cap-and-trade program. RFF Discussion Paper 05-25.

⁵ Burtraw, D., Palmer, K. L., Bhavirkar, R., & Paul, A. (2001). The effect of allowance allocation on the cost of carbon emission trading. RFF Discussion Paper 01-30.

⁶ Burtraw, D., Kahn, D., & Palmer, K. (2006). CO₂ allowance allocation in the regional greenhouse gas initiative and the effect on electricity investors. *The Electricity Journal*, 19(2), 79-90.

⁷ Holt, C. A., Shobe, W., Burtraw, D., Palmer, K. L., & Goeree, J. K. (2007). "Auction design for selling CO₂ emission allowances under the regional greenhouse gas initiative." Report to the New York State Energy Research and Development Authority.

⁸ Ruth, M., Gabriel, S., Ahmad, S., Burtraw, D., Cotting, J., Conklin, R., ... & Miller, J. (2007). Economic and energy impacts from Maryland's potential participation in the regional greenhouse gas initiative. *Center for Integrative Environmental Research, University of Maryland Technical Report*.

⁹ Paul, A., Palmer, K., Ruth, M., Hobbs, B. F., Irani, D., Michael, J., ... & Myers, E. (2010). The role of energy efficiency spending in Maryland's implementation of the Regional Greenhouse Gas Initiative. *Energy Policy*, 38(11), 6820-6829.

¹⁰ Burtraw, D., Holt, C., Palmer, K., Paul, A., & Shobe, W. (2017). "Expanding the Toolkit: The Potential Role for an Emissions Containment Reserve in RGGI." Resources for the Future Report.

¹¹ Burtraw, D. (2017, September 21). "An Allowance Consignment Auction: How does it Work?" Invited Testimony to State Air Pollution Control Board Meeting, Richmond, VA.

¹² Burtraw, D. & Paul, A. (2017, July 12) "Modeling Analysis of CO₂ Emission Allowance Trading with RGGI and Virginia." Public workshop organized by the Weldon Cooper Center for Public Service at the University of Virginia, Richmond, Virginia.

¹³ Burtraw, D., Domeshek, M., Paul, A., & Picciano, P. (2019). "Options for Issuing Emissions Allowances in a Pennsylvania Carbon Pricing Policy." RFF Issue Brief 19-08.

¹⁴ Burtraw, D., Palmer, K., Paul, A., & Picciano, P. (2019). "State Policy Options to Price Carbon from Electricity in Pennsylvania." RFF Issue Brief 19-07.

¹⁵ Burtraw, D., Palmer, K., Paul, A., & Picciano, P. (2019). "State Policy Options to Price Carbon from Electricity." RFF Report 19-04.



- California:** We conducted early analysis of potential ways to address emissions from imported power into California in the initial design of the cap and trade program¹⁶ and have also analyzed its implementation in working papers^{17 18 19 20}, legislative testimony, and testimony at workshops of the California Air Resources Board. Dallas Burtraw has served on three panels involved in the development and oversight of the California climate policy. These include the State of California Market Advisory Committee for Greenhouse Gas Policy (2006-2007), the State of California Economic and Allocation Advisory Committee (2009-2010), and the California Independent Emissions Market Advisory Committee, which he chairs (2018-present).
- New York:** We conducted a modeling analysis of the costs and environmental efficacy of the proposal to price carbon emissions within the NYISO system and studied the interactions between this policy and RGGI as well as with other state clean energy policies²¹. We also looked at the effects of the policy on emissions leakage within the broader Eastern Interconnect.
- Oregon:** We have conducted studies for the Oregon Climate Change Office regarding the design and potential implementation of carbon pricing^{22 23 24 25} and testified before Oregon’s Joint Legislative Committee on Climate Change on three occasions.

¹⁶ Palmer, K. L., Burtraw, D., & Paul, A. C. (2009). “Allowance allocation in a CO2 emissions cap-and-trade program for the electricity sector in California.” RFF Discussion Paper 09-41.

¹⁷ Burtraw, D., & Parry, I. W. (2011). Options for returning the value of co2 emissions allowances to households. Resources for the future discussion paper 11-03.

¹⁸ Burtraw, D., McLaughlin, D., & Szabelan, S. J. F. (2012). “For the Benefit of California Electricity Ratepayers: Electricity Sector Options for the Use of Allowance Value Created under California’s Cap-and-Trade Program.” Resources for the Future Discussion Paper 12-24.

¹⁹ Burtraw, D., McLaughlin, D., & Szabelan, S. J. F. (2012). “California’s New Gold: A Primer on the Use of Allowance Value Created under the CO2 Cap-and-Trade Program.” Resources for the Future Discussion Paper 12-23.

²⁰ Burtraw, D., Bushnell, J., Gambardella, C., & Pahle, M. (2019, April). “The Response of Market and Policy Design to Increasing Shares of Renewables in California and Germany.” AHEAD Report. Available at: https://media.rff.org/documents/ahead_report_renewable_comparison.pdf

²¹ Shawhan, D., Picciano, P., & Palmer, K. (2019). “Benefits and Costs of Power Plant Carbon Emissions Pricing in New York.” RFF Report 19-08. Summary and powerpoint available at: <https://www.rff.org/publications/reports/benefits-and-costs-of-the-new-york-independent-system-operators-carbon-pricing-initiative/>

²² Burtraw, D., Morgenstern, R., Keyes, A., & Munnings, C. (2019). “Carbon Pricing in Oregon.” RFF Report 19-01.

²³ Burtraw, D. (2020). “A New Approach in Oregon’s Greenhouse Gas Initiative.” RFF Issue Brief 20-01.

²⁴ Burtraw, D., Keyes, A., & Munnings, C. (2018, December). Memorandum for the Oregon Climate Policy Office. Available at: <https://www.oregon.gov/gov/Documents/Market%20Design%20for%20Carbon%20Pricing.pdf>

²⁵ Linn, J. & Burtraw, D. (2017, November 9) “Combating Emissions Leakage from Oregon’s Industrial Sector.” Memorandum to Regulated Entities Work Group. Available at: https://www.oregonlegislature.gov/helm/workgroup_materials/WG%203%20-%20Linn%20Burtraw%20Leakage.pdf



We endorse the petitioners' proposal for FERC to host a technical conference. Carbon pricing is an efficient way to reduce carbon emissions and including a price on carbon in electricity markets will address an important source of inefficiency in existing markets that typically fail to account for this important environmental cost imposed by using fossil fuels to produce electricity. Pricing carbon will reward and encourage cleaner sources of generation and discourage the use of fossil fuels. It will help to align electricity market operations and outcomes with environmental goals.

The agenda for the technical conference provided in appendix A of the petitioner's Request includes several key aspects of the implementation of regional/state carbon pricing for electricity generators and how such a policy intersects with electricity markets as well as the interactions between carbon pricing and other state environmental policies. One important aspect of carbon pricing that is missing from the agenda is the issue of how the value that is created by the carbon pricing policy within a state or a region is used. The use of allowance value (from a cap and trade program) or carbon pricing revenues (from a direct pricing program) will have implications for how the policy affects consumers and producers and potentially on its environmental efficacy. Allowance value can be used to reduce the impact on electricity consumers, to fund new technologies or the encourage energy efficiency, but it also be used as a mechanism to deter emissions leakage, something that we have studied extensively at RFF. The technical conference should include a question about options for use of the value created by the policy and how it might address leakage as well as interactions with other policies that states might adopt to encourage clean energy.

Appendix A of the Request suggests a breakdown of topic by participant group (states, RTOs, experts, and others). We suggest that the conference enable independent experts to weigh in on topics listed for other groups in addition to those outlined for "Stakeholders and Experts." RFF scholars can provide useful insights on many of these topics, such as policy interactions between carbon pricing and existing state policies and options for border adjustments as another method for managing emissions leakage.



Respectfully submitted,



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