



NEWSLETTER AND RESEARCH HIGHLIGHTS

Greetings,

We are excited to share this month's highlights from EPRI's Energy Systems and Climate Analysis (ESCA) group:

- New analysis to assess [potential implications of power plant performance standards](#) under Sections 111(b) and (d) of the Clean Air Act (**released today**);
- A recent report on the [applications of emerging integrated system planning processes](#) in utilities across the United States;
- A collaborative research paper on the [economic implications of the climate provisions of the Inflation Reduction Act](#);
- Appointment to a [task force investigating the creation of a federal Office of Carbon Scoring](#);
- A compendium of technical briefing papers and frequently asked questions on the [role of greenhouse gas emissions offsets to achieve corporate decarbonization goals](#);
- An inventory of [climate adaptation measures in the electric sector](#).

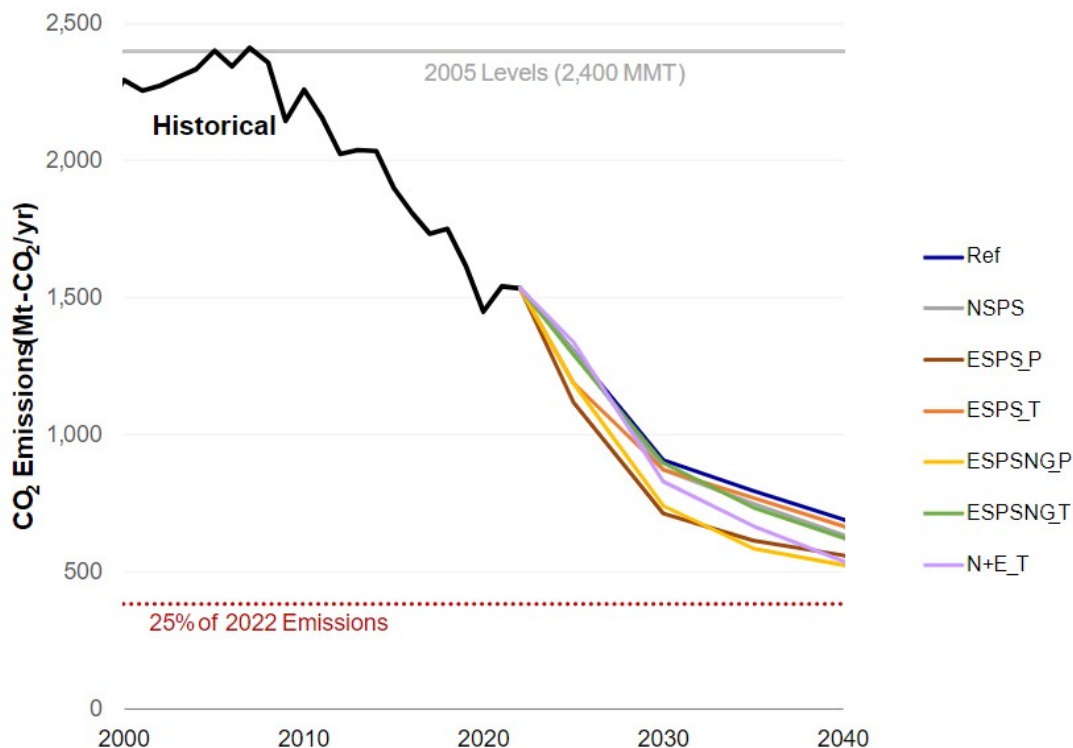
We are planning our [26th Annual Energy and Climate Seminar](#) in D.C. for May 10-11. Registration is open now!

All of ESCA's publicly available research can be found on the [ESCA website](#).

ESCA Research Highlights

Power Plant Performance Standards and Tax Credit Interactions: Impacts of Design Decisions and the Inflation Reduction Act on the U.S. Power Sector

READ REPORT



With the EPA scheduled to release proposed rules later this month on new and existing source performance standards for power plants under Sections 111(b) and (d) of the Clean Air Act, this analysis uses [EPRI's US-REGEN model](https://www.epri.com/research/products/000000003002026291) to assess potential implications of these rules for power sector investment decisions, operations, emissions, and costs. This analysis is free to download on epri.com:

<https://www.epri.com/research/products/000000003002026291>

The analysis finds that:

- Performance standard design decisions—especially their flexibility/trading provisions, form, and stringency—can materially alter electric sector outcomes.
- **Standards based on hydrogen cofiring at existing gas-fired generators are more costly** than standards based on gas cofiring at coal-fired power plants, even with Inflation Reduction Act (IRA) incentives. **CO₂ standards, paired with IRA incentives, can lower electric sector emissions 62-70% by 2030 from 2005 levels**, using inside-the-fenceline cofiring measures.
- **Standards based on carbon capture and storage are considerably more costly** than cofiring-based standards but lead to lower emissions, though magnitudes depend on the stringency of the standards.
- Coal generation and capacity decline over time in all scenarios considered in this analysis, but the pace depends on policy and varies by region. Natural gas generation declines over time, though **gas-fired capacity plays key roles as dispatchable assets and decreases at a slower rate than coal capacity**.
- New and existing source performance standards also have significant implications for electric sector costs, criteria pollutants, fiscal costs, and infrastructure expansion.

In the weeks ahead, we will be monitoring proposed power plant CO₂ standards from EPA and helping members to understand their potential impacts.

For more information, please contact John Bistline jbistline@epri.com.

Emerging Integrated System Planning Methods: Utility Perspectives and Applications



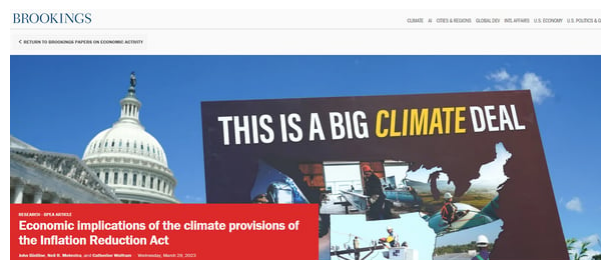
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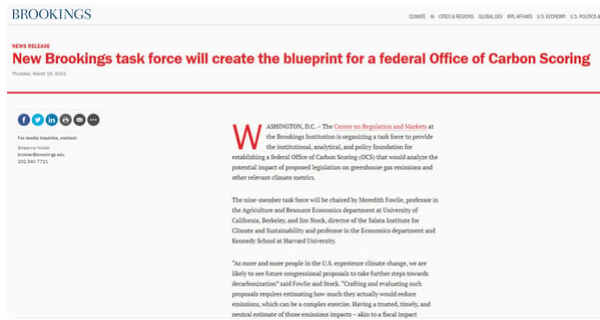
This report reviews how different electric companies in the United States are conducting a more **coordinated planning process across generation, transmission, distribution, and customer-sided resources**. In addition to describing how utilities are implementing the process and applying new frameworks and methods, the paper presents critical insights and lessons learned that other electric companies may use to inform their own integrated system planning efforts.

<https://www.epri.com/research/products/00000003002025566>

For more information, please contact Karen Tapia-Ahumada ktapia-ahumada@epri.com or Nidhi Santen nsanten@epri.com.

ESCA collaborations with the Brookings Institution: Economic Impacts of the Inflation Reduction Act, and a blueprint for the federal Office of Carbon Scoring





DRAFT REPORT ON IRA ECONOMIC IMPACTS

TASK FORCE ANNOUNCEMENT

In the month of March, the Brookings Institution highlighted the recent work and expertise of two ESCA researchers.

- John Bistline, alongside Catherine Wolfram and Neil R. Mehrotra, presented draft research on the [economic implications of the climate provisions of the Inflation Reduction Act](#) as part of the Brookings Papers on Economic Activity spring 2023 conference. This preliminary paper draft discusses potential effects of IRA on economy-wide emissions, power sector investments, electrification, fiscal costs, and macroeconomic outcomes.
- Geoff Blanford was named to a [task force investigating the creation of a federal Office of Carbon Scoring](#). The task force will analyze the most efficient way to score the emissions impact of legislation for policymakers and will answer questions on the institutional set-up and support for this federal office.

The Role of GHG Emissions Offsets to Achieve Corporate Decarbonization Goals



READ HERE

As electric companies and combined electric and natural gas utilities develop strategies and make plans to reduce their future greenhouse gas (GHG) emissions, some are considering the role that GHG emissions offsets may play in assisting them to meet their short, mid, and long-term decarbonization and “net zero” goals. In some cases, these **companies may be considering developing GHG emissions offsets projects themselves, and/or buying approved GHG emissions offset credits generated by third-party developers**. Incorporating GHG emission offsets into a company’s decarbonization strategy is a complex undertaking, requiring a breadth of knowledge about GHG emission offset project development, market structures, and the various ways in which offsets can be used to complement broader decarbonization goals.

<https://www.epri.com/research/programs/109396/results/3002025723>

For more information, please contact Adam Diamant adiamant@epri.com.

Climate Adaptation Measures in the Electric Sector



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Electric power system resilience is an increasingly pertinent feature of asset management in the face of climate change.

Despite the wide range of resources documenting potential adaptation options, literature often focuses on a specific hazard or asset class.

This document **catalogs the range of potential climate adaptations from all aspects of the electric sector** (generation, transmission and distribution, and utilization, community, and human factors) across a **wide range of climate hazards** (e.g., extreme temperature and precipitation, storms, sea level rise, wildfires, reduced snowpack, wind and solar changes, among others).

<https://www.epri.com/research/programs/109396/results/3002024488>

For more information, please contact Jonathan Lala JLala@epri.com or Delavane Diaz DDiaz@epri.com

**26th Annual Energy and Climate Research Seminar
May 10-11, 2023**



Please join us in person for the 26th **Energy and Climate Research Seminar - May 10-11, 2023**. This year's seminar will be held over a full day on Wednesday, May 10 with a reception, and a half day on Thursday, May 11, 2023. To encourage in-person discussion and networking, we are not pursuing alternative formats such as virtual, hybrid, or streaming.

This long-running event covers key energy and environmental topics of significant interest to the U.S. energy sector related to **climate science understanding, policy perspectives, decarbonization technologies and research priorities**. This seminar delivers and expands upon EPRI research and features presentations by EPRI staff and external experts from academia, government, industry, and non-profit organizations along with interactive discussions among the seminar participants. This event is supported by EPRI's Program 201 on Energy, Environmental, and Climate Policy Analysis

Event Website and Registration

Member Center

The ESCA Group conducts its research as part of EPRI Programs 178 ([Resource Planning for Electric Power Systems](#)) and 201 ([Energy, Environmental, and Climate Policy Analysis](#)). Examples of recent program-specific research includes:

- Cost Projection Factors for Resource Planning ([3002025394](#)) - Program 178
- 2022 Energy System Technology Cost and Performance Summary: Market Trends & Technology Insights ([3002024231](#)) - Program 178
- Understanding Distributional Impacts of Decarbonization: Modeling Effects of Household Income on Transport Electrification ([3002024043](#)) - Program 201
- Economic and Policy Conditions for the Deployment of Carbon Capture and Storage in the Power Sector ([3002024257](#)) - Program 201

For more information about these programs, please contact [Nidhi Santen](#) (P178) or [David Young](#) (P201).

Thank you for your continued interest in our work. If you have any questions, please email eea@epri.com.

Best,
EPRI Energy Systems and Climate Analysis Group



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