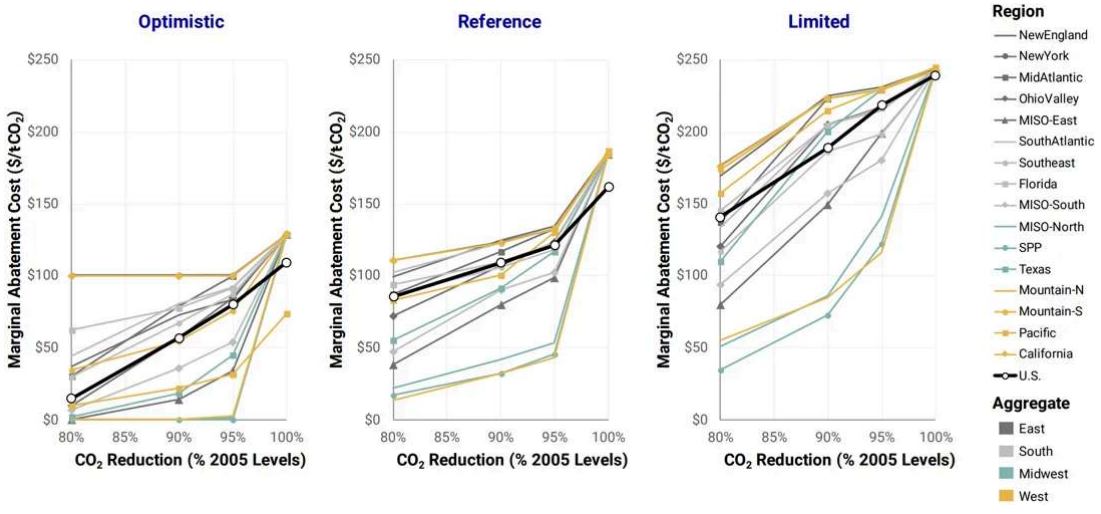
We are pleased to share fresh insights from the Energy Systems and Climate Analysis (ESCA) team. ESCA researchers have published work addressing the value of voluntary carbon markets in decarbonizing energy systems, the economic competitiveness of advanced nuclear reactors, carbon management technology pathways in meeting net-zero goals, and informing the U.S. 2035 nationally determined contribution.

For more of our research head to ESCA's website.

Visit our interactive webpage to learn more about ESCA's history of cutting-edge climate change and decarbonization research.

Research Highlights

Value of Voluntary Carbon Markets in Energy Systems Decarbonization: Regional Economic, Environmental, and Technological Impacts



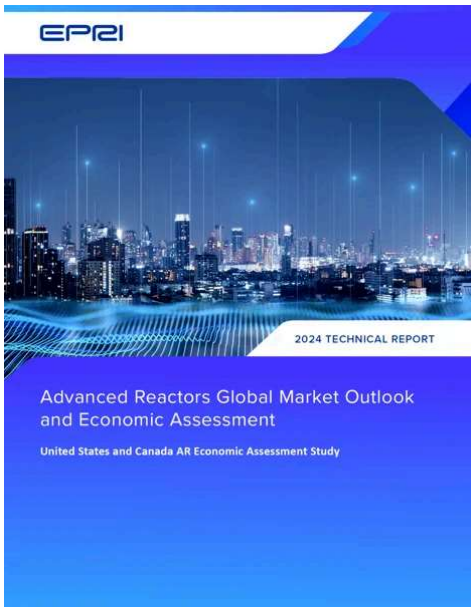
ESCA researchers produced a new white paper exploring how the value of voluntary carbon markets changes under different regional, technology, and policy conditions. This analysis uses EPRI's US-REGEN model to explore the value of voluntary carbon markets under a range of scenarios related to electricity CO_2 reductions, regional flexibility, economy-wide decarbonization, and technical assumptions. Read the full white paper or our two-page summary to learn more.

VIEW FULL PAPER

READ SUMMARY

For more information reach out to John Bistline.

Advanced Reactors Global Market Outlook and Economic Assessment: United States and Canada AR Economic Assessment Study



ESCA researcher Francisco R. Fonseca led new work using EPRI's North American REGEN model to analyze nuclear energy's future as an option in U.S. and Canadian energy portfolios. This work investigates how market and policy conditions could impact the competitiveness of advanced nuclear reactors (AR) in the U.S. and Canada and draws comparisons between AR and other power sector resources. Read the new Technical Report to learn more.

READ REPORT

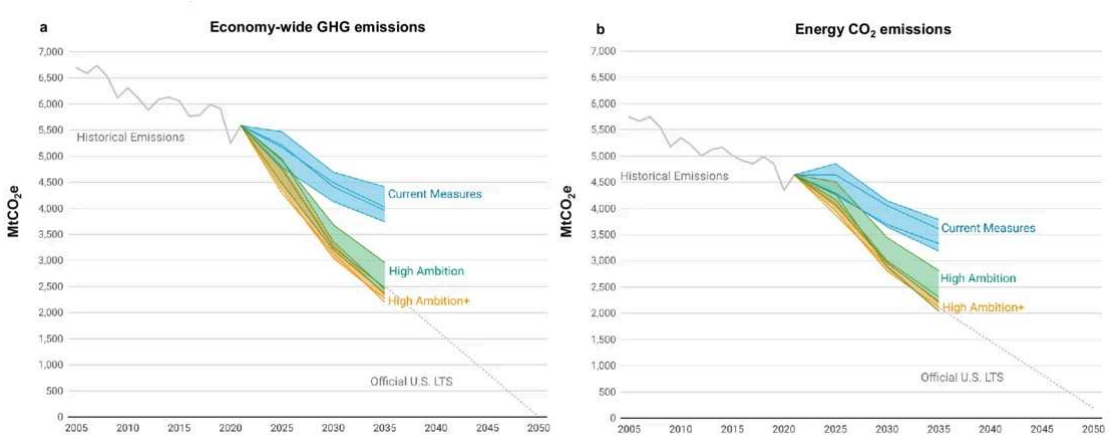
For more information reach out to Francisco Fonseca.

Carbon management technology pathways for reaching a U.S. Economy-Wide Net-Zero emissions goal

ESCA researcher John Bistline contributed to this new peer-reviewed, multi-model study recently published in Energy and Climate Change. The work deploys scenario analysis to explore the role of three potentially key technology suites—point source carbon dioxide capture and storage (PSCCS), direct air capture of carbon dioxide (DACCS), and hydrogen (H_2)—in shaping the broader technology pathways to reaching net-zero carbon dioxide emissions in the U.S. by 2050. Read the full article to learn how CO_2 removal technologies were shown to be a major part of successful pathways to net-zero.

READ REPORT

For more information reach out to John Bistline.



A multi-model study to inform the United States' 2035 NDC

In 2025, countries are expected to submit a third round of nationally determined contributions (NDCs) that outline emission reduction goals for 2035. This study, published in Nature Communications, brought together four U.S. modeling teams, including ESCA's Geoff Blanford and John Bistline, to provide a framework for decisionmakers to use

modeling as an input to inform ambitious and plausible pledges. Results show that an expanded set of federal and state policies beyond current policies could achieve economy-wide emissions reductions of 56-67% below 2005 levels by 2035. Read the full article to learn more.

READ ARTICLE

For more information reach out to John Bistline.

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Resource Planning for Electric Power Systems

178A Webcast: Year-end Update - December 2024

178B Webcast: End-of-Year Research Update - December 2024

Energy, Environmental, and Climate Policy Analysis

Webcast on Powering Data Centers: Energy System and Emissions Impacts of Growing Loads - November 2024

For more information about P178: Resource Planning for Electric Power Systems please contact Nidhi Santen.

For more information about P201: Energy, Environmental, and Climate Policy Analysis please contact John Bistline.

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