

SCIENCE POLICY EXCHANGE



*Connecting People and Science
for Environmental Solutions*



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ABOUT US > The Science Policy Exchange (the Exchange) was created in 2012 as a collaborative of six world-class research institutions and four associated National Science Foundation Long Term Ecological Research (LTER) sites all dedicated to increasing the influence of science on environmental policy, conservation, and natural resource management.

OUR APPROACH > The Exchange works at the interface of science and policy to confront pressing environmental challenges. We *engage* leaders in the government, nonprofit, and corporate sectors to define critical environmental challenges and identify knowledge gaps. We convene interdisciplinary teams to *synthesize* research on timely policy and conservation questions. We *communicate* policy-relevant science in formats that meet the needs of decision makers. And we *assess* our project outcomes to promote learning and share best practices.

OUR TRACK RECORD > As partners in the Exchange we bring a record of outstanding scientific achievement, an extensive network of experts, and a team of creative policy and communication staff to our work. We build on such notable successes as the Hubbard Brook Research Foundation's *Science Links* program, Harvard Forest's *Wildlands and Woodlands* initiative, the Cary Institute's *EarthWise* radio show and biennial *Cary Conference*, and the MBL Ecosystems Center's *Logan Science Journalism Program*.



SCIENCE—A KNOWLEDGE BANK FOR CHANGE

Through meticulous long-term measurements scientists gain intimate knowledge about how nature works and how human decisions alter ecosystems. In the face of climate and other environmental change, insights from decades-long research can help adapt approaches of the past and guide decisions about the future. Taking advantage of this knowledge bank calls for creative and enduring programs that convene scientists and decision makers at all levels of society to exchange knowledge and produce shared solutions.

THREE STRATEGIC INITIATIVES

The Exchange has launched three initiatives to address the interacting effects of climate change, land use, and pollution on ecosystems and their benefits to people. The three initiatives—**Energy Transformation, Landscapes & Resilience**, and **Water Sustainability**—each consist of projects that draw on our scientific expertise to address specific environmental challenges. The projects focus on the northeastern U.S. and have national to global significance with potential for impact on major policy decisions in the next three to five years.

Investing in bold experiments at the interface of science and policy will yield great benefits for humankind and the ecosystems that sustain life.





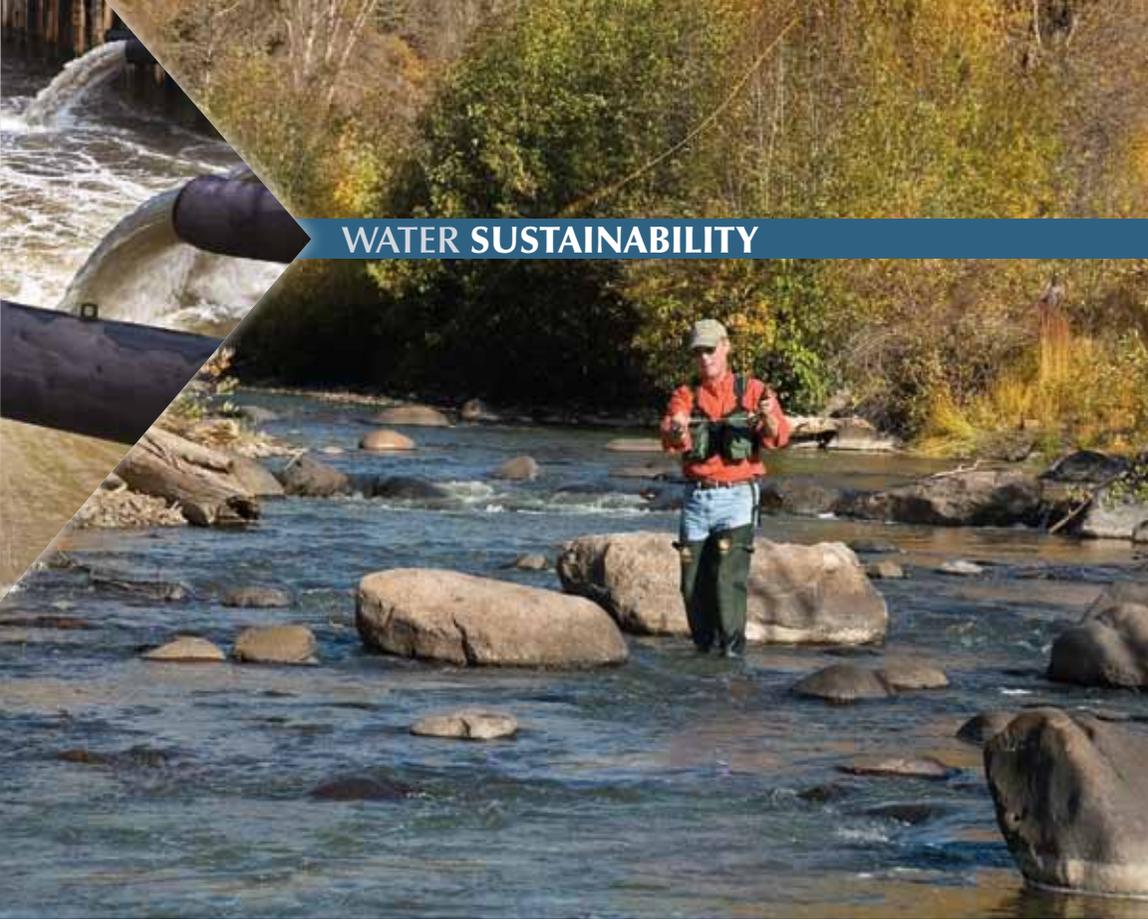
ENERGY TRANSFORMATION

PROJECT > **Benefits of Curbing Power Plant Emissions**

Exchange collaborators—Syracuse University, Harvard School of Public Health, Hubbard Brook Research Foundation, Harvard Forest

Objective—Engage policymakers and an interdisciplinary team of scientists to quantify and communicate the environmental and human health benefits of decreased conventional air pollution associated with policies to curb greenhouse gas emissions from U.S. power plants.

Impact—The results will inform upcoming state and federal policy decisions aimed at limiting greenhouse gas emissions from existing U.S. power plants.



WATER SUSTAINABILITY

PROJECT > **Green Infrastructure: Lessons from Science and Practice**

Exchange collaborators—Syracuse University, Cary Institute, University of New Hampshire, MBL Ecosystems Center

Objective—Collaborate with water managers, community groups, engineers, and ecologists to synthesize and communicate data on green infrastructure implementation barriers, stormwater performance, and water quality benefits.

Impact—The results will inform water management investment decisions and promote the adoption of effective green infrastructure by advancing next-generation designs that build on lessons from early adopters.

An aerial photograph showing a landscape with a winding river, green fields, and a residential area with many houses. The title 'LANDSCAPES AND RESILIENCE' is overlaid on a green banner across the middle of the image.

LANDSCAPES AND RESILIENCE

PROJECT > **Changes to the Land**

Exchange collaborators—Harvard Forest, University of New Hampshire, Hubbard Brook Research Foundation

Objective—Partner with diverse stakeholders to produce land-use scenarios and analyze their consequences for ecosystem services, climate change resilience, and biodiversity in New England.

Impact—The results will inform state land-use and climate adaptation plans, state zoning reform, and land conservation priorities.

PROJECT > **Forest Pests and Pathogens: Impacts and Options**

Exchange collaborators—Cary Institute, Harvard Forest

Objective—Synthesize and share data on the ecological and economic impact of introduced insect pests and pathogens on forests of the Northeast.

Impact—The results will inform federal and state policy efforts to reduce the introduction and spread of damaging forest pests and pathogens.

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Marine Biological Laboratory (MBL)
Ecosystems Center
Syracuse University
University of New Hampshire

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National Science Foundation
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► **FOR MORE INFORMATION** about the Science Policy Exchange,
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The mission of the Science Policy Exchange is to harness the power of science to promote ecosystem resilience and human well-being.



Cary Institute
of Ecosystem Studies



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