



Fly Pond Outlet near Old Forge NY Photo Credit: Barry Baldigo



Air Quality and Public Health

- [Program Opportunity Notice \(PON\) #4895, Energy-Related Air Quality Research](#) was released in October with proposals due on January 18, 2022. The major goals of NYSERDA's Environmental Research Program are to increase understanding and awareness of the environmental impacts of current and emerging energy options, provide a scientific and technical foundation for formulating effective, equitable, energy-related environmental policies and resource management practices, and build scientific capabilities within New York State (NYS).

The PON will build on the Long Island Sound Tropospheric Ozone Study (LISTOS) efforts and other research needs identified in the Environmental Research Plan. It supports research to improve the scientific and technical foundation for addressing key policy-relevant questions related to air quality research.

Targeted research categories include: ozone chemistry dynamics in NYC- Long Island region; utilization of satellite and other remote sensing products for air quality characterization at fine spatial scales and improved air quality forecasting; and methane and co-pollutant emissions monitoring, source characterization and inverse modeling to improve the greenhouse gas inventory.



Biomass

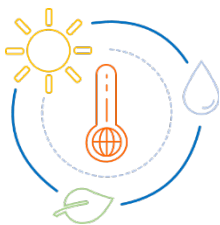
- In September 2021 the U.S. Court of Appeals denied a petition by the wood heating appliance industry trade group Hearth, Patio, and Barbeque Association (HPBA) to the U.S. Environmental Protection Agency’s (EPA) 2015 New Source Performance Standard for Residential Wood Heaters, asserting that it should not allow audit testing. The audit provision stays.

In October, the Office of Inspector General (OIG) for EPA announced that it planned to begin an evaluation of EPA’s oversight of its testing and certification program for residential wood heaters. This evaluation is part of OIG’s oversight plan for fiscal year 2022 and addresses the following fiscal year 2022 top management challenge for the Agency: enforcing environmental laws and regulations. OIG’s objective is to determine whether EPA effectively uses its oversight and enforcement authority to ensure that all residential wood heaters reaching consumers are properly tested and certified in accordance with established standards.



In December, EPA announced that it would formally withdraw Alternative Test Method-125 and Alternative Test Method-127 for wood stove certification under the 2015 New Source Performance Standard. This was done after a thorough review and evaluation of data contained in the test reports. In April of 2021, seven states, including NYS, sent a letter requesting revocation of these test methods. In May (2021), nine state attorneys generals, lead by the NYS Attorney General, also sent a revocation request of these methods that were developed primarily by industry. The concerns raised were that the “method allows far too much flexibility within the methodology, such that a test lab can ‘explore’ in its testing to find approaches for passing any appliance, regardless of design, ultimately resulting in a certification program where a manufacturer simply pays the lab to provide a passing test, rather than to measure the actual emissions from their appliance without such positioning.”

Photo Credit: NYSERDA



Climate Change

- During this quarter, work on the Climate Impacts Assessment continued in earnest. The eight technical workgroups (TWGs) met to refine their scope in anticipation of initial deliverables due in the first quarter of 2022. In addition, Sector Advisors for each TWG were selected. The Sector Advisors will bring additional perspectives to the work and provide feedback and input to their respective sectors. Several TWGs held their initial meeting with their advisors this quarter.



Ecosystem Response

- Progress has been made on the development of a plan for SCALE: A Survey of Climate Change and Adirondack Lake Ecosystems. Based on the information gathered and discussed during the workshop held this past July (2021), Dr. Kevin Rose (Rensselaer Polytechnic Institute) and Dr. Peter McIntyre (Cornell University) have identified four priority research and management questions to act as the foundation for this surveying effort.

These four priority areas are:

- How is climate change affecting carbon cycling and the ability of lake sediments to act as carbon sinks?
 - How is climate change affecting the unique biota of Adirondack lakes?
 - Will harmful algal blooms (HABs) become more prevalent in Adirondack lakes under climate change?
 - Does warming create deep-water ‘dead zones’ from oxygen depletion in Adirondack lakes?
- A planned in-person workshop, supported by NYSERDA, to develop a plan for establishing a soil carbon monitoring network in the Northeast, was cancelled due to COVID. However, a working group consisting of over 10 researchers led by Dr. Gregory Lawrence (U.S. Geological Survey) and Dr. Ivan Fernandez (University of Maine) met virtually this quarter to discuss topics to be included in this plan, as well as the approach for developing this plan. This working group identified three major steps they felt were necessary to form this regional soil carbon monitoring network. The first step, to produce a document that defines the need for a network and a plan for its formation, is currently underway and will include topics that discuss what we know, what we need to know, and how we can address these key questions.

A fawn and Virginia ctenucha wasp moth (*Ctenucha virginica*), both photographed in a NYS solar panel field.





Land Based-Renewables

- The Agricultural Technical Working Group (A-TWG) convened in November 2021. Pace Law Center presented the new framework for the Smart Solar Siting Scorecard (“Scorecard”) for discussion with the A-TWG. The new framework included a separate section for agriculture, environment, and collaboration/innovation. In addition, NYSERDA introduced the concept of creating an Agrivoltaics Incubator and solicited feedback on how mitigation payment funds collected through NYSERDA solar programs should be used. Keep up to date with what the A-TWG is up to by visiting the [A-TWG website](#).
- Over the next three years WSP, under the direction of Sarah Quintal, will be working with the A-TWG Team to provide technical and support services for NYSERDA and the A-TWG. These services will be used to address issues related to agriculture, the environment, and solar energy planning, siting, construction, operation, monitoring, or related topics that have been identified by stakeholders in NYS. WSP has already been tasked with aligning minimization strategies in the Scorecard with NYS regulations and NYSERDA programs, as well as researching PFAS contamination associated with solar development.
- Throughout 2021, Max Zhang led a team of researchers at Cornell University who have been testing sensors that measure photosynthetically active radiation (PAR), solar radiation, air temperature, humidity, and soil moisture, for deployment at 10 solar sites in the Northeast in Q2 2022 (see photo below). These sensors will be placed at solar sites that differ in the type of panels used, tilting, spacing, ground clearance, and ground cover, to analyze and model the microclimates in and around solar panels. The data collected will be used to optimize solar sites for agricultural production and energy generation.



A sensor installed at the Cascadilla site under Agreement #154272.

Photo Credit: NYSERDA



Off-Shore Wind

- The NYSERDA Offshore Wind Learning from the Experts webinar series continues to deliver informative presentations from experts on important topics in offshore wind energy, including technology, development practices, regulatory processes, and research initiatives. More information can be found here: <https://www.nyserdera.ny.gov/osw-webinar-series>
- On November 3 and November 5, 2021 NYSERDA held the New York Offshore Wind Supplier and Workforce Forum. This year's forum focused on capacity building for the industry at large, including discussions on critical investments in New York State ports, the State's comprehensive incentive framework, progress on local manufacturing facilities, commitments to building equity, and workforce development programs in the offshore wind industry.
- NYSERDA presented at the American Fisheries Society Annual Conference held from November 6 - November 10, 2021 in Baltimore, Maryland. A portion of the conference was focused on the potential interactions of offshore wind on the Northeastern U.S. shelf ecosystem, considering ecological, socio-economic, and fisheries management dimensions. The two NYSERDA presentations included a panel discussion on the role of environmental and fisheries efforts during the pre-development stage of offshore wind energy, and a second presentation on effective stakeholder engagement in offshore wind energy development: New York State's Fisheries and Environmental Technical Working Groups.
- The Ports Cumulative Impact Assessment and Alternatives Analysis Study continues to progress and is expected to be finalized by early 2022. The goal of this study is to assist with planning for the current and upcoming offshore wind energy projects. In addition to providing a clearer understanding of the potential environmental and sociological implications of port upgrades in support of New York State's goal of 9 gigawatts (GW) of offshore wind energy by 2035, the study will also be useful in providing context for individual port upgrades by supporting the environmental impact assessments for those upgrades.
- A Project Advisory Committee (PAC) meeting was held for Addressing Commercial Fishing Access within Wind Energy Areas, a project managed by Rebecca Green at the National Renewable Energy Laboratory. The project team provided initial details of the final information gathering report and discussed next steps for maximizing fishing and offshore wind energy generation scenario building.

(Offshore Wind, continued...)

- On November 23, 2021, the Bureau of Ocean Energy Management (BOEM) published a Request for Information (RFI) to obtain input from the public, especially the fishing community, on avoiding, minimizing and, if needed, compensating for impacts from offshore wind energy projects to commercial and recreational fisheries. BOEM, working with the National Marine Fisheries Service and affected coastal states, seeks to develop guidance to ensure fair, equitable, and predictable methodologies for mitigating impacts of offshore renewable energy projects. NYSERDA continues to be a part of these ongoing discussions with BOEM, other states, and stakeholders. Further details can be found here: <https://www.boem.gov/renewable-energy/request-information-reducing-or-avoiding-impacts-offshore-wind-energy-fisheries>
- The Environmental and Fisheries Technical Working Groups (TWGs) met with the Sunrise Wind project team to continue to evolve the Environmental and Fisheries Mitigation Plans. Meeting summaries for these discussions can be found on the E-TWG website (<https://www.nyetwg.com/environmental-mitigation-plans>) and the F-TWG website (<https://www.nyftwg.com/fisheries-mitigation-plans/>).
- NYSERDA [announced](#) \$1.25 million to support predevelopment acoustic and oceanographic data collection in the New York Bight to facilitate responsible and cost-effective offshore wind development. The [Request for Proposals](#) to better understand marine mammal presence and changing oceanographic conditions is open until February 3, 2022.
- NYSERDA is seeking feedback on its Offshore Wind Cable Corridor Constraints Assessment Framework cable corridor constraints assessment (Assessment) to better understand the constraints of siting cables in New York State waters, at landfall, and along overland routes to existing points of interconnection through a [Request for Information](#) through February 14, 2022.



Off-shore wind turbine blades being transported.

Photo credit: Avangrid Renewables

Program Reports and Papers

Program Reports & Papers posted recently include:

Air Quality and Related Health Research: Particulate Matter (PM), Ozone and Co-Pollutants

Hopke, P.K., "Recent Advances in Air Pollution Mixture Resolutions," *Microchemical Journal*, Volume 163, 2021, 105907. <https://doi.org/10.1016/j.microc.2020.105907>

Ecosystem Response to Atmospheric Deposition of Sulfur, Nitrogen and Mercury

[The Buck Creek-Boreas River Adirondack Watershed Monitoring Program](#)

Climate Change

[21-27 Climate Change: Equitable Access to Cooling in New York City \[PDF\]](#)

[21-23 Influence of Storm Surge Barrier Closures on Estuary Physical Conditions \[PDF\]](#)

[21-01 Assessment of Future Typical Meteorological Year Data Files \[PDF\]](#)

[Life cycle assessment of forest biomass energy feedstock in the Northeast United States](#)

Offshore Wind

Popper et al. 2022. Offshore wind energy development: Research priorities for sound and vibration effects on fishes and aquatic invertebrates. *The Journal of the Acoustical Society of America* 151, 205 <https://asa.scitation.org/doi/10.1121/10.0009237>