

New York— America's carbon removal incubator

New York is a forerunner in carbon removal policy and entrepreneurship, hosting numerous company headquarters and deploying carbon removal projects with significant potential for economic gains.

How It Works

Removing carbon dioxide from the atmosphere can take many forms. New York's coastlines, forests, agricultural lands, and buildings all provide possible locations for carbon removals, and the geology can provide storage for multiple forms of carbon.

While New York still imports most of its energy, the state's extensive development of renewable energy, third in the nation¹, also provides an opportunity for direct air capture (DAC) deployment. DAC facilities capture carbon dioxide from ambient air and require low carbon energy to provide net removals. Most of southwestern New York (along with PA, WV, OH, and part of KY) sits over the Appalachian Basin, which has potentially 18 billion metric tons of available underground geologic storage for carbon captured by DAC and bioenergy with integrated carbon capture (BECCS).²

Agricultural lands and coastlines can both utilize enhanced rock weathering by spreading certain types of finely ground minerals over fields or coastal areas. This accelerates natural processes that remove carbon while potentially replacing some soil amendments for farmers and reducing ocean acidity when deployed along coasts.

Image: Travertine's facility outside of Rochester, NY



How It Benefits New York

New York's economy is dominated by the New York City metropolitan area, and this is reflected in the large number of carbon removal companies founded and headquartered in NYC. This provides jobs for the founders and early employees bringing these companies to maturity, as well as the many technicians, assemblers, and construction workers who will build the physical infrastructure and tools necessary to deploy carbon removal. DAC alone could remove 21 million metric tons of carbon per year in 2050 and create as many as 12,600 jobs.⁴

Other industries like manufacturing (especially textiles, chemicals, and plastics) and mining can also integrate carbon removal. Manufacturing can better manage their wastewater by adding minerals to reduce acidity and remove carbon or by stabilizing carbon in waste sludge. Projects like Travertine's chemical and carbonate production can produce new income streams for mining and extraction operations and improve their efficiency. The potential process improvements can advance the state's decarbonization goals and stabilize or increase the number of jobs these industries provide.

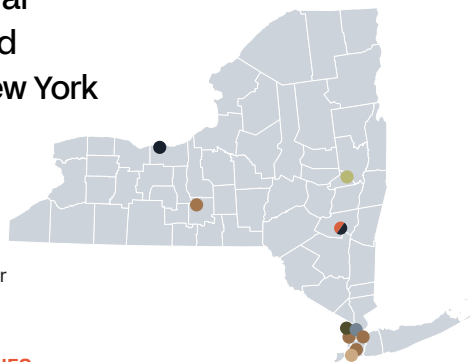
Cities can benefit from multiple forms of carbon removal. Carbon can be captured from HVAC or natural gas heating systems, improving air quality inside and outside the building. Demonstrations of these technologies are already underway in NYC, although most won't provide net negative removals. Municipal wastewater treatment can also integrate carbon removal, similar to industrial wastewater treatment, by disposing of biosolids for storage or adding carbonate minerals during water treatment. This could significantly improve waste management in NY, which currently produces more than 40 million metric tons of emissions a year.⁵

New York is a top producer of crops like apples, grapes, cherries, pears, and maple syrup. Integrating carbon removal through enhanced weathering on agricultural lands can replace some soil amendments while increasing the productivity and soil health of these areas. The regeneration of climate-resilient forests would make these areas more resistant to pests, disease, and temperature variability, and the forests in southeast NY could contribute to more than 1.5 billion metric tons of removals in the northeastern US from 2025–2050.⁶

Top Image: CREW Carbon operating at a local water treatment facility

Carbon Removal Companies and Research in New York

- Production
- Research
- Headquarters
- Project
- Office
- Incubator/Accelerator
- Policy



CRA MEMBER COMPANIES



TRAVERTINE

WHAT THEY'RE WORKING ON

CREW: CREW integrates with existing wastewater processes to create more efficient and cost-effective water treatment, while permanently storing away carbon dioxide. The company has already signed over \$30M of offtake agreements and has five active kiloton-scale commercial projects.

Travertine: Travertine is operating its first demonstration plant in the Town of Ontario, NY that produces a vital input into the fertilizer and battery production industries. Travertine upcycles gypsum and carbon dioxide into calcium carbonate that is blended into cement and sulfuric acid.

New York Carbon Renewal Key Institutions & Players

UNIVERSITIES AND RESEARCH ORGANIZATIONS

Universities are developing carbon removal technologies and leveraging the state's entrepreneurial ecosystem to launch companies. Columbia University hosts the New York State Energy Research and Development Authority's (NYSERDA) Carbontech Development Initiative (CDI)⁸ for research and commercialization.⁹ Cornell University has research projects funded by CDI¹⁰ and spun out Carbon to Stone. Rensselaer Polytechnic Institute researchers are developing a novel carbon capture material with funding from the Dept of Energy.¹¹

Commercial research at GE and E2H2Nano is developing carbon capture technologies and they have received funding from the Dept of Energy to support their work.¹²

INCUBATORS AND ACCELERATORS

New York City has a top tier startup ecosystem that builds on the state's research capabilities. The state is home to incubators and accelerator programs that help startups to become successful. Newlab Ventures has a location at the Brooklyn Navy Yard with carbon capture as a focus area. Activate, which supports scientists bringing research to market, has a carbontech focused accelerator based in NY.¹³

BUILDING DESIGN AND CONSTRUCTION

Building materials can provide low or negative carbon alternatives to conventional options, like concrete that uses carbonates or biochar. Captured carbon can also be stored in concrete, mineralizing carbon injected into the concrete or used to cure precast concrete forms. Several buildings in NY are testing carbon capture systems, including CarbonQuest, which captures carbon from gas boilers and sells it for use in concrete.

POLICY LANDSCAPE

State:

- New York has passed leading legislation to address carbon and other greenhouse gas emissions. NYSERDA is charged with driving carbon neutrality and economic growth for the state through energy and decarbonization,¹⁴ and the state budget for 2025–26 includes more than \$1 billion for decarbonization.
- The state also put forward a property tax abatement for some buildings using carbontech solutions (S5450/A777) and the Carbon Dioxide Leadership Act (S8171) directing the state to procure carbon removal, although neither advanced out of committee.
- New York City has implemented Local Law 97 requiring significant decarbonization of many buildings in NYC, driving carbon capture along with other building decarbonization.¹⁵

Federal:

- Rep. Paul Tonko is a leading advocate for carbon removal at the federal level. He sponsored the Carbon Dioxide Removal Leadership Act of 2024 (H.R. 7054)¹⁶ and the Carbon Dioxide Removal Research and Development Act of 2023 (H.R. 5457)¹⁷ and 2022 (H.R. 7434).¹⁸
- In 2021, seven of New York's representatives cosponsored the Energy Innovation and Carbon Dividend Act of 2021 (H.R. 2307). They are Reps Morelle, Meng, Suozzi, Maloney, Rice, Nadler, and Meeks.¹⁹



1. US Energy Information Administration
2. US Geological Survey
3. NY State Energy & Research Dev Authority
4. Rhodium Group
5. Climate Act Dashboard
6. Roads to Removal
7. Not exhaustive

8. Columbia University
9. US GHG Center
10. Cornell University
11. RPI
12. CarbonCredits.com
13. Activate
14. New York State

15. American Chemical Society
16. Congress.gov
17. Congress.gov
18. Congress.gov
19. Congress.gov