

GE Vernova selected by the U.S. Department of Energy to lead pre-feasibility assessment of potential Direct Air Capture regional hub

- *Award supports two-year, \$3.3 million pre-feasibility study to assess the viability of a direct air capture (DAC) system powered by nuclear energy.*
- *GE Vernova is also part of two other teams selected for award negotiations that support early-stage project development of DAC regional hubs.*
- *Will help accelerate GE Vernova's plans to deploy an economical and commercially scalable DAC solution.*
- *Projects support the Biden Administration's goal to remove between 400 million and 1.8 billion metric tons of CO₂ from the atmosphere and captured from emissions sources annually by 2050.*

NISKAYUNA, NY - August, 29, 2023 - GE Vernova's Advanced Research business (GE Vernova) in Niskayuna, NY was selected by the U.S. Department Energy (DOE) to lead a pre-feasibility assessment to establish a [direct air capture \(DAC\) regional hub](#) near Houston, Texas. GE will enter award negotiations with the DOE to finalize the terms and the scope of the study.

The award negotiations are part of the first round of funding announced from the President's Bipartisan Infrastructure Law-funded Regional DAC Hubs program. GE Vernova is also a DAC technology provider for two other projects selected for award negotiations, which will be led by the University of Illinois, and executed in Colorado and Florida.

As part of GE Vernova's proposed study, researchers will explore the feasibility of a novel DAC system design that integrates [GE Hitachi's BWRX-300 small modular reactor \(SMR\)](#) and renewable electricity to enable CO₂ to be captured from ambient air and stored underground or utilized as a value-added product such as a feedstock for sustainable aviation fuels (SAF). Integrating the heat and power from the 300 MWe BWRX-300 with the DAC system has the potential to achieve the



lowest cost of carbon removal. When completed, the project could remove 1 million tons of CO₂ from the air per year. That equates to the annual emissions from roughly 200,000 typical cars that get 22 miles per gasoline gallon.

“We are proud to be a part of the Biden Administration’s bold plans to reduce CO₂ emissions and bolster a vital new energy industry in carbon capture,” said Matt Guyette, Director, Advanced Research at GE Vernova. “Our pre-feasibility study proposes to draw upon our full suite of energy generation assets and capabilities in ways only GE Vernova can, including carbon-free nuclear and renewable electricity, to create what we believe will be a cost-effective solution for removing millions of tons of CO₂ from the atmosphere.”

The two other projects selected for award negotiations that GE Vernova will be partnering on will be led by the Board of Trustees of the University of Illinois (Urbana, Illinois). These projects intend to promote promising technologies that can capture CO₂ from the atmosphere and store it underground in the Tuscaloosa Group in Florida and in the Denver-Julesburg Basin in Colorado. Both studies aim to develop cooperative relationships between DAC technology providers, green energy providers, CO₂ transportation networks, and companies seeking to store CO₂ underground.

All stakeholders in the proposed DAC regional hub projects are dedicated to advancing the development of carbon capture while also delivering community benefit. Stakeholders will promote community communication and engagement to establish comprehensive community benefit plans for their project(s).



Caption: Pictured are five of the 50+ scientists and engineers that make up GE's Carbon Capture Breakout Team, who will be part of the team working pre-feasibility studies. The team works in GE's CAGE (Climate Action@GE) Lab, located on GE's research campus in Niskayuna, NY, where the successful testing of its first Direct Air Capture (DAC) prototype unit occurred.

In March, GE announced the successful demonstration of a [scalable prototype direct air capture system](#) at its Niskayuna research facility. Guyette says GE Vernova's selection for these DOE award negotiations will help accelerate GE Vernova's goal to deploy a commercially scalable DAC solution by the end of the decade.

"The learnings and sheer potential of these DAC hub studies will only drive greater momentum around our plans to deliver an economical and commercially scalable solution before 2030," Guyette said. "We believe that our world-leading materials science research, combined with the unique ability to integrate a wide range of



energy assets from across the GE Vernova portfolio, positions us well to be a major player in this emerging industry for decades to come.”

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About GE Vernova’s Advanced Research business

GE Vernova’s Advanced Research business is the central innovation engine for GE’s portfolio of energy businesses, which will be unified under one banner called GE Vernova. The research organization is made up of 250+ researchers representing virtually every major scientific and engineering discipline. Collectively, they are driving major research programs and initiatives to decarbonize power, accelerate renewables, and promote electrification and the creation of a 21st century grid fit to power a zero-carbon energy future.

About GE Vernova

GE Vernova is a planned purpose-built global energy company comprising of Power, Wind, and Electrification segments and supported by its accelerator businesses of Advanced Research, Consulting Services, and Financial Services. Building on over 130 years of experience tackling the world’s challenges, GE Vernova is uniquely positioned to help lead the energy transition by continuing to electrify the world while simultaneously working to decarbonize it. GE Vernova helps customers power economies and deliver electricity that is vital to health, safety, security, and improved quality of life. GE Vernova is headquartered in Cambridge, Massachusetts, U.S. with 70,000 employees across 140+ countries around the world. Learn more: [GE Vernova](#) and [LinkedIn](#).

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