

Vistra, Malta, and Southwest Research Institute Collaborate on Department of Energy Funded Study to Advance Clean Power Generation

CAMBRIDGE, Mass. and IRVING, Texas, April 14, 2021 [/PRNewswire/](#) -- Vistra (NYSE: VST) a leading Fortune 275 integrated retail electricity and power generation company and Malta Inc., a leading developer of long-duration thermal energy storage solutions, in collaboration with Southwest Research Institute (SwRI), have been awarded a Department of Energy (DOE) grant. The federally funded project will study how Malta's energy storage system can improve the environmental and economic performance of a natural gas-powered power plant, help to balance the diverse power generation on electric grids, and improve the reliability and resiliency of the electric system as more intermittent renewables come online.

"Malta is committed to accelerating the energy transition," said Ramya Swaminathan, Malta's CEO. "We are proud to collaborate with Vistra as it works to achieve aggressive net-zero carbon emissions goals and to expand our relationship with SwRI, one of the premier research organizations in the country. This collaboration furthers our mission by validating the Malta system's ability to enable cleaner, more affordable, and more reliable electricity."

The U.S. Department of Energy-funded study will focus on integration of the Malta system with a Vistra-owned natural gas-fired plant to optimize its environmental and economic performance. The Malta energy storage system will use electricity generated by the natural gas plant, convert and store that energy as heat, and then convert it back to electricity that can be redistributed on the electric grid as demand necessitates. The unique design of the Malta system would further diversify Vistra's generation portfolio and create a more stable and resilient grid as intermittent renewable resources comprise a greater percentage of the generating capacity in the years ahead.

"Vistra is committed to leading our industry in the effort to address climate change," said Molly Sorg, Vistra's chief purpose and sustainability officer. "Vistra sees immense value in the increased research and development of new, longer-duration energy storage technologies, which will play a crucial role in grid reliability, balancing the intermittency of the power produced by renewable resources. We're proud to work with Malta and SwRI to advance innovative solutions for a global energy transition."

According to the U.S. Energy Information Administration, natural gas is the leading fuel source in the U.S. electricity sector, representing 39% of all electricity generated in 2020 and approximately 30% of utility and independent power producer generation units. Long-duration energy storage technologies, like the Malta system, promise to enable cleaner, more efficient operation of gas plants while supporting the operators' transition to more variable renewable energy sources.

"Our goal is to design the future of integrated power systems," said Natalie Smith, the study's Principal Investigator and Senior Research Engineer at SwRI. "Pairing Malta's innovative storage technology with Vistra's diverse and evolving portfolio is the first step toward a clean, efficient, and resilient electricity generation landscape in a sustainable future."

The Malta Pumped Heat Energy System (PHES) is a long-duration energy storage solution. The system uses turbomachinery and heat exchangers, well established and proven technologies in power generation, in a novel way to store electricity and dispatch it to the grid on demand. The Malta PHES is capable of storing electricity for up to 200 hours, with initial systems focused on current market applications for 10-12 hours of storage. This system uses hardware components, technologies, workforce personnel and skillsets, and a supply chain similar to those used by fossil plants, allowing for synergy when co-locating the two technologies.

About Malta Inc.

Malta is developing a Pumped Heat Energy Storage (PHES) system that employs well-established principles and technologies in a novel way to store electricity for long durations and dispatch it to the grid when needed. The Malta system was incubated at X, Alphabet's

Moonshot factory, before becoming an independent company in 2018. The company is located in Cambridge, Massachusetts and is backed by a world-class investor syndicate that includes Bill Gates-led Breakthrough Energy Ventures and Alfa Laval, a world leader in heat transfer technologies, and others. For more information visit www.maltainc.com.

About Vistra

Vistra (NYSE: VST) is a leading, Fortune 275 integrated retail electricity and power generation company based in Irving, Texas, providing essential resources for customers, commerce, and communities. Vistra combines an innovative, customer-centric approach to retail with safe, reliable, diverse, and efficient power generation. The company brings its products and services to market in 20 states and the District of Columbia, including six of the seven competitive wholesale markets in the U.S. and markets in Canada and Japan, as well. Serving nearly 4.3 million residential, commercial, and industrial retail customers with electricity and natural gas, Vistra is one of the largest competitive residential electricity providers in the country and offers over 50 renewable energy plans. The company is also the largest competitive power generator in the U.S. with a capacity of approximately 39,000 megawatts powered by a diverse portfolio, including natural gas, nuclear, solar, and battery energy storage facilities. In addition, the company is a large purchaser of wind power. The company is currently constructing a 400-MW/1,600-MWh battery energy storage system in Moss Landing, California, the largest of its kind in the world. Vistra is guided by four core principles: we do business the right way, we work as a team, we compete to win, and we care about our stakeholders, including our customers, our communities where we work and live, our employees, and our investors. Learn more about our environmental, social, and governance efforts and read the company's sustainability report at <https://www.vistracorp.com/sustainability/>.

About SwRI

Southwest Research Institute is a premier independent, nonprofit research and development organization using multidisciplinary services to provide solutions to some of the world's most challenging scientific and engineering problems. Headquartered in San Antonio, Texas, our client-focused, client-funded organization occupies more than 1,500 acres, providing more than 2.3 million square feet of laboratories, test facilities, workshops, and offices for approximately 3,000 employees who perform contract work for government and industry clients.

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