

Peregrine Turbine Technologies Announces Breakthrough Biomass Solution for Clean Combined Heat & Power Applications

Demonstration project to be located on industrial site Millinocket, Maine

WISCASSET, MAINE, USA, May 3, 2023 /EINPresswire.com/ -- Peregrine Turbine Technologies (PTT) and Our Katahdin, a 501(c)(3) nonprofit organization, have announced a Memorandum of Understanding outlining their plan to [pilot a Peregrine biomass combined heat and power \(CHP\) generation system](#). The sCO₂-enabled system will provide renewable electric power and district heating to Our Katahdin's planned "Innovation Hub" their One North Industrial campus. The CHP system will demonstrate the Peregrine sCO₂ system's commercial capabilities and performance. The CHP project has received support from the Department of Energy through a Fiscal Year 2023 Congressionally Directed Spending Request of \$2,500,000 sponsored by Senator Collins and Senator King.

"We are eager to field our groundbreaking, proprietary system capable of providing sustainable power and heat for various applications, including district heating, commercial, and industrial applications. This system has significant performance



Peregrine's sCO₂ biomass combined heat and power (CHP) generation system




The Peregrine sCO₂ system will provide renewable bio-mass power and district heating to 3 buildings in the planned Innovation Hub at Our Katahdin.

advancements over current best technology systems," stated David Stapp, COE/CTO and Co-Founder of PTT. "We are particularly grateful for the support of the Our Katahdin and the opportunity to demonstrate our advanced sCO₂ energy conversion technologies in such an exciting and innovative commercial environment."

PEREGRINE'S sCO₂ CYCLES AND TECHNOLOGIES ARE A STRONG FIT WITH BIOMASS CHP APPLICATIONS:

Peregrine Turbine Technologies Biomass Power Generation System projects 1.7 X efficiency improvement over "best available" biomass conversion technology and 2.7X improvement over currently used closed thermodynamic systems. The innovative sustainable biomass system integrates the best current direct combustion system technology with Peregrine's proprietary sCO₂ power block and heat exchanger elements.



Our Katahdin building where Peregrine's sCO₂ CHP system is planned to be located

The innovative CHP system has a small footprint based on the company's unique modular designs that enable application-specific system configuration. In addition to locally sourced biomass, the system has a broad fuel conversion capability that covers 70%+ of available fuel types in its targeted global markets, including refuse-derived fuels (RDF) and some municipal bio-solids. It is designed for operational flexibility and can work with 60% moisture content fuel input.



We believe that PTT's technologies will be transformational in bringing a flexible, clean energy solution to our location, powered by local and sustainable biomass fuels."

Sean DeWitt, President of Our Katahdin

Developing efficient, cost-effective combined heat and power systems capable of operating on local, sustainable fuel sources, with minimum transmission and distribution infrastructure at or near the point of use, will lessen the

increasing burden on existing grid systems, bringing clean energy to remote locations.

Our Katahdin's Innovation Hub on the One North industrial site was once home to multiple Great Northern Paper buildings supporting paper manufacturing. The mill's closure in 2008 and

the demolition of the site's boiler complex eliminated heat to these buildings. The pilot CHP facility will provide renewable bio-mass power and a district heat source to buildings in the planned Innovation Hub.

"We believe that PTT's technologies will be transformational in bringing a flexible, clean energy solution to our location, powered by local and sustainable biomass fuels. We are pleased to have the opportunity to showcase this technology at the Innovation Hub on the One North campus," said Sean DeWitt, President of Our Katahdin. "We look forward to partnering with Peregrine on this project and other commercial relationships. We are also grateful for the continued support from our congressional delegation as our redevelopment efforts progress."

ABOUT PEREGRINE TURBINE TECHNOLOGIES:

PTT is a Maine limited liability company formed in April 2012 focused on the development and deployment of advanced sCO₂ (supercritical carbon dioxide) turbine power generation, energy storage and propulsion systems in line with the State of Maine's mission to "Innovate Here, Make Here, Deploy Everywhere".

The company has received awards from the Air Force Research Lab (AFRL), the Office of Naval Research (ONR), and the Maine Technology Institute (MTI) in support of its leading development of Brayton cycle sCO₂ gas turbine development for energy conversion. PTT also holds a long-term Combined Research and Development Agreement (CRADA) with Sandia National Laboratories for support in the development, testing, and de-risking of its sCO₂ turbomachinery.

PTT's senior leadership team collectively has over 250 years of successful, demonstrated management of complex technologies, systems, products and operations with Companies ranging from GE, Rolls Royce, Pratt and Whitney, Sundstrand, and Solar Turbines to Allied Signal, General Signal, Great Northern Paper Company and American Capital.

The company is built on the principles of fact-based decision making and collective best thinking, providing it with a strong capacity and experience base to lead this emerging technology from concept through market penetration.

Additional company information can be found at peregrineturbine.com.

ABOUT OUR KATAHDIN

Our Katahdin is a volunteer-driven 501(c)(3) nonprofit organization founded in December 2014 to support community and economic development in the Katahdin region of Maine. Our Katahdin focuses on four key priorities to help move the Katahdin region forward: (a) partnering with citizen leaders to implement "small win" community projects, (b) revitalization of the downtown corridor of the Katahdin region, (c) improving broadband access and infrastructure

and (d) industrial site redevelopment. For more information, please visit ourkatahdin.com.

One North, managed by Our Katahdin, is a 1,400 acre, mixed-use industrial site in Millinocket, Maine, formerly known as the Great Northern Paper mill site. The vision for the site is to be a center for developing and manufacturing sustainable products to meet the world's growing demand. One North is interested in attracting tenants in the following industries: Sustainable forest products, including saw and pellet mills and mass timber; bio-based manufacturing; renewable energy, including biofuels, solar and hydro; aquaculture; and data storage. For more information, please visit onenorth.net.

Robert Brooks, Chief Business Development Officer

Peregrine Turbine Technologies

rbrooks@peregrineturbine.com

Visit us on social media:

[LinkedIn](#)

This press release can be viewed online at: <https://www.einpresswire.com/article/631594809>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2023 Newsmatics Inc. All Right Reserved.