

Research vessel Resilience charts course to the future of marine research

September 6 2024, by Alexandra Freibott



PNNL Laboratory Director Steve Ashby speaks at the dedication ceremony for the RV Resilience Sept. 5 in Sequim, Wash. Credit: Andrea Starr | Pacific Northwest National Laboratory

Officials gathered at the Sequim campus of the Department of Energy's

Pacific Northwest National Laboratory to dedicate DOE's first hybrid-electric research vessel, RV Resilience.

The event marks the start of a new era of marine energy research at [PNNL-Sequim](#), part of DOE's Office of Science national laboratory system and Resilience's new home port. Speakers at the dedication included U.S. Sen. Maria Cantwell, U.S. Rep. Derek Kilmer, Washington State Rep. Steve Tharinger and representatives from DOE and PNNL.

"DOE is focused on [clean energy](#) solutions. The RV Resilience enables us to accelerate the development and deployment of novel marine energy technologies from testing at the bench scale to early demonstration under real ocean operating conditions," said Geri Richmond, DOE's undersecretary for science and innovation.

"Demand for these technologies is likely to increase in the coming years, unlocking opportunities for ocean science and maritime industries equipped to explore new applications for marine energy research that will help power the blue economy."

Richmond's chief of staff, Ariel Marshall, spoke on her behalf at the dedication ceremony.

The 50-foot research vessel will allow researchers to transport and install large equipment in Sequim Bay, such as demonstration-scale marine energy devices. These devices will help accelerate marine energy testing and support new partnerships with industry developers.

In addition to reducing [carbon emissions](#), the hybrid-electric vessel is nearly silent when operated in fully electric mode. This minimizes [noise pollution](#) for marine wildlife and enables more sensitive acoustic measurements during research operations.

"RV Resilience represents DOE's and PNNL's commitment to demonstrating how innovative approaches, like the design and construction of this unique hybrid vessel, can advance the nation's quest for clean energy," said Laboratory Director Steve Ashby.

The RV Resilience can operate on diesel engines or in a completely electric mode using onboard battery banks. These batteries can be charged with the [diesel engines](#), at any marina or through a rapid charging station at the PNNL-Sequim dock.

The RV Resilience was made possible with support from DOE's Office of Energy Efficiency and Renewable Energy and its Water Power Technologies Office. It will be managed and operated by researchers at PNNL-Sequim—a regional hub for marine energy research, development and testing—and enables research operations in nearby Sequim Bay.

"We're exploring the potential of marine energy by conducting world-leading coastal and oceanographic science and research," said Alejandro Moreno, associate principal deputy assistant secretary for EERE. "This new hybrid research vessel enables that work with fewer emissions and less impact on the ocean's wildlife."

The RV Resilience is the latest in a series of investments that will grow PNNL's capabilities in marine technology research to continue advancing [renewable energy](#), climate [resilience](#) and national security. These planned investments include a pre-permitted marine testing site, an underwater cabled array connecting at-sea devices to shore facilities and an onshore microgrid and battery storage system.

Combined with the RV Resilience and a host of new onshore laboratory facilities, these capabilities will enable PNNL-Sequim to support DOE's marine energy mission, including supporting the development of

offshore wind and tidal energy, as well as marine carbon dioxide removal.

RV Resilience was built by Snow & Company in Seattle, Wash.

More information: To learn more about vessel specifications, visit PNNL's [website](#).

Provided by Pacific Northwest National Laboratory

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