



MARINE ENERGY CURRICULA ASSESSMENT

PURPOSE

Develop an understanding of existing educational programs and curricula available for marine energy at U.S. postsecondary schools to support workforce growth, attract students to work in this sector, support industry needs, and spur innovation.

Marine energy refers to power generated by waves, tides, river or ocean currents.

MARINE ENERGY



Contacted **41 individuals representing 27 U.S. schools** engaged in marine energy.



Schools were asked to discuss current course programming, research, and partnerships.



Received **26 responses from 21 schools**.

FINDINGS

- 4 schools offer marine energy as an undergraduate or graduate major.
- 8 offer a concentration or specialization, 11 have no marine energy degree programs.
- 12 schools have dedicated marine energy courses, marine energy is included as a topic area at 10 schools.
- 12 schools are observing an increased student interest in renewable energy and marine energy topics.
- Most students who study marine energy are not pursuing careers in this area because career paths are not established and few jobs exist.
- 18 schools identified research funding as a primary challenge.

MARITIME ACADEMIES



Contacted **7 individuals representing 7 different U.S. maritime academies**.



Schools were asked to discuss current course programming, research, and partnerships.



Received **responses from 4 schools**.

FINDINGS

- Academies do not have marine energy degree programs, but have growing interest through university partnerships.
- 2 academies cover hydrokinetics in a renewable energy course; 3 have interest in developing new marine energy courses.
- Maritime academies have unique resources like research vessels and shore access that can be used for marine energy research.
- Academies are seeing increased demand from other universities to use their facilities for marine energy research.
- Wind or conventional energy are of greater interest to their students due to better job prospects.

RECOMMENDATIONS



INCENTIVIZE marine energy market growth through technology incubators and partnerships between educators and private sector **to support development of new companies, investments, and jobs.**



LEVERAGE funding resources to bring the cost of marine energy down through fundamental research, joint industry-university projects, internships, grants and fellowships.



CREATE shared curriculum, making marine energy topics more financially viable for a broader audience through a **resource hub including educational materials, current events, news, research and jobs.**



ESTABLISH online certificate program for marine energy as a concentration within engineering or related discipline to benefit academia more cost effectively, making curricula more widely available.



ANALYZE future marine energy market and workforce needs in the U.S. **to inform curricula and education programs** that help students, educators, and workers **prepare for a future Blue Economy.**