Decarbonization Research Consortium

WELCOME

Introductory Meeting
10 February 2023

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Net Zero Emissions by 2050

**Executive Order 14008**: includes a U.S. goal of net-zero greenhouse gas emissions by 2050 as part of the solution to the global climate crisis.

**Climate Action 2030**: sets the DON on a path to achieve net-zero emissions by 2050, while becoming a more capable, climate-resilient and lethal fighting force.
**Climate-Ready Force**

To remain the world’s dominant maritime force, the Department of the Navy must adapt to climate change. A force that is resilient to climate impacts is more capable, agile and lethal. We will enhance our operational capability, resilience, and reduce our climate impacts by aligning our climate actions to strengthen maritime dominance, empower our people, and strengthen strategic partnerships.

**Performance Goals**

**Build Climate Resilience**
Ensure that our forces, systems, and facilities can continue to operate effectively and achieve the mission in the face of changing climate conditions, and worsening climate impacts.

**Reduce Climate Threat**
We must reduce our greenhouse gas emissions and draw greenhouse gases out of the atmosphere, stabilize ecosystems, and achieve, as an enterprise, the nation’s commitment to net-zero emissions by 2050.

**Ambitious Targets**

To achieve net-zero emissions economy-wide by 2050, the Navy and Marine Corps commit to:

*Reliance on Fossil Fuels:*
  - Vulnerable Supply Lines
  - Contested Logistics
  - Danger of Fuel Transport

- 1 million cars’ worth of CO2e drawn down by 2027 through nature-based solutions

**Lines of Effort**

*LOEs adapted to FORCE:*
- Facilities & Lands
- Operations & Platforms
- Resupply & Logistics
- Community
- Energy Ashore

**Focus on Resilience**

*Nature-Based Resilience:* Mitigate shoreline erosion, protect mission-critical assets, and improve natural assets that are key to achieving resilient infrastructure and operations.

*Energy Resilience:* Install cyber-secure microgrids or comparable resilience technology that leverage carbon free power generation and long-duration battery storage.
Decarbonization Research Consortium

Mission
The Navy Decarbonization Research Consortium is a public-private collaboration that advances interdisciplinary research to help the Navy meet the complex challenges of platform decarbonization, with a focus on ships and aircraft.

The Consortium will evaluate and identify technologies that show promise for adaptation on naval platforms and accelerate adoption as appropriate.

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Decarbonization Research Consortium

Consortium Goals

1. Establish a consortium that includes individuals, institutions and companies necessary to meet platform decarbonization with structure that is adaptable over time;

2. Create a draft Decarbonization Research Roadmap for ONR by 23 June 2023
   - interdisciplinary research and analysis
   - research gaps
   - statements of work for relevant FY23 projects;

3. Finalize Decarbonization Research Roadmap for ONR by 31 August 2023; and

4. Continue the Consortium to collaborate on research to solve complex problems of platform decarbonization.
Parameters

Priority will be on shipboard decarbonization with aircraft decarbonization as a secondary priority.

The Consortium’s focus will not include efforts solely focused on sustainable aviation fuels, nuclear, or decarbonization of installations.

Ground vehicles are also a low priority unless the work directly relates to shipboard or aircraft decarbonization.

Participating in the Consortium does not guarantee future funding.
Decarbonization Research Consortium

Timeline

Dec 1-Jan 30 Identify Colleagues, Institutions, Companies

Feb 10 Introductory Meeting (virtual)

Feb 24 Launch Meeting (virtual)

March 2 Consortium Meetings (likely both Virtual)

April/May 2 Meetings per month (possibly 1 in-person/DC Area)

June 2 Meetings (possibly 1 in-person/DC Area)
Draft Research Roadmap to ONR

July/Aug 2 Meetings per month

Aug 31 Final Research Roadmap to ONR
Finalize Next Steps for Consortium
Decarbonization Research Consortium

Participants

American Bureau of Shipping
Beacon Interactive Systems
Colorado State University
Florida Atlantic University
George Washington University
MARAD Maritime Environmental & Technical Assistance
Naval Postgraduate School
Office of Naval Research
Penn State University
Purdue University
Siemens Energy (U.S. Marine Division)
Stanford University
University of Illinois
University of Maryland
University of South Carolina
U.S. Naval Academy
Decarbonization Research Consortium

Path Forward

Launch: 24 February 2023

Homework & Dialogue between meetings
Questions & Requests for Information

Identify Priority Research Areas & Gaps
Determine Roadmap Model
Research/Writing

Determine Day/Time for meetings
In-person meetings – when/where