

# Decarbonization Research Consortium

## WELCOME

*Introductory Meeting  
10 February 2023*

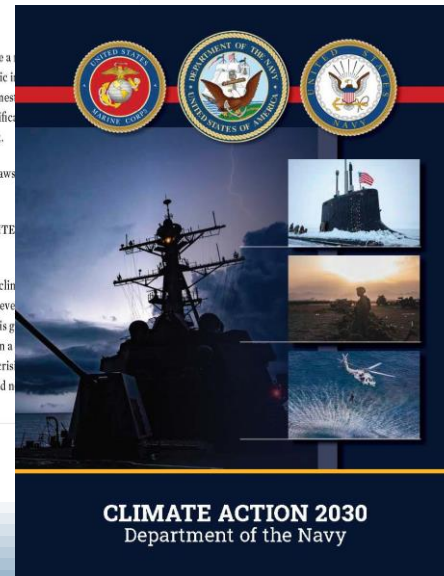
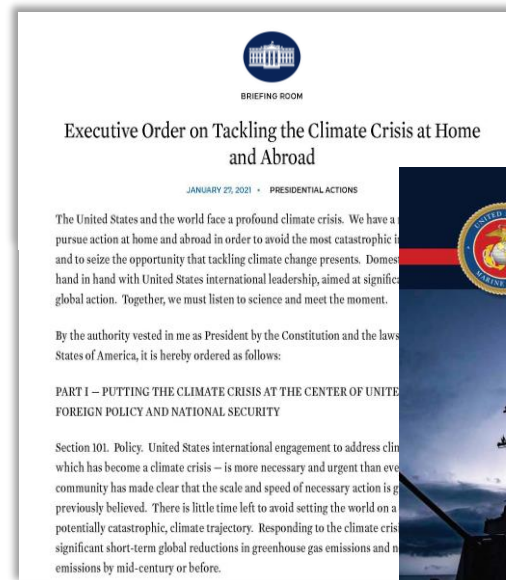
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# Net Zero Emissions by 2050

**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 ACTION 2030

Department of the Navy



## 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

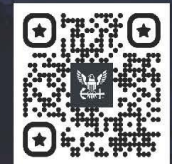
### LOEs adapted to FORCE:

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.**



# Decarbonization Research Consortium

## 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**

