Charting a course towards a thriving, sustainable maritime industry
Washington Maritime BLUE Strategy

VISION:
Washington State will be home to a world-class, thriving, and sustainable maritime industry by 2050.

MISSION:
The Washington Maritime Blue Strategy will accelerate growth in the Blue Economy and establish WA State as a global leader in maritime clean tech innovation and best management practices that support a growing maritime economy in all sectors with increasing living-wage jobs, a healthy environment and resilient communities. The state will accomplish this in partnership with all stakeholders; including business, academic and research institutions, ports, labor, and community organizations.
Governor’s Maritime Innovation Council

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Vince O’Halloran, Maritime Trades / AFL-CIO
Bob Miyamoto, UW Applied Physics Lab
John Dwyer, USCG Sector Puget Sound
Bruce Anderson, Starcrest Consulting
Barbara “b.g.” Nabors-Glass, Seattle Goodwill
Planning Efforts Intertwined

• Port of Seattle kicked off efforts to investigate and plan for maritime innovation center in August 2017
  – Department of Commerce helped fund Ship Supply Design Charrette and outreach sessions with Anacortes and Port Hadlock maritime communities
  – More narrowly focused on possible innovation center development as part of Fishermen’s Terminal redevelopment

• State of Washington kicked off Maritime Blue planning efforts in December 2017
  – Port of Seattle helped provide match funds for Maritime Blue planning funds
  – More broadly focused on longer term strategies for the cluster
Create a **Strategy** for accelerating the BLUE economy, technology innovation and sustainability in Washington’s maritime industry.

Formalize the **Cluster** as a focal point for coordination, incubation, capital investment & commercialization.

Establish a **Maritime Innovation Center** for R&D and commercialization of innovation technology through public/private partnerships.
The Blue Economy and Sustainable Development

Development of maritime business, technology and practices that promote a sustainable future contributing to economic growth, ecological health, and thriving communities – the Blue Economy.

Growing Economy: building a strong business climate, investment, efficient regulation for innovation and infrastructure.

Healthy Ecosystems: committed to restoring and sustaining the health of our coastal and marine ecosystems.

Resilient Communities: consider a social justice lens to all our efforts to ensure thriving and resilient communities.
Maritime Blue Strategy Framework

**Strategic Goals**
What success will look like

- High Caliber Workforce
- Low Carbon Industry
- Global Innovation Hub
- Competitive Gateway
- Competitive Cluster

**Development Pathways**
How we will achieve the goals

- Workforce Development
- Deep Decarbonization
- Blue Innovation
- Working Waterfronts
- Cluster Coordination

**Initiatives**
Our Roadmap for Implementation

**Projects & Milestones**
In progress or to be accomplished the short (pre-2025) & medium (pre-2035) term

- R&D, Demonstration, Incubation
- Education & Training
- Best Practices, Standards & Certifications
- Policy, Regulation & Finance
- Communications, Outreach & Collaboration

**Policy Recommendations**
Regulatory and policy priorities necessary to advance the Blue strategy

**Action Areas**
What tools we will use

- Competitive BLUE Economy
- Healthy Ecosystems
- Engaged & Resilient Communities

**Values**
What will guide actions

- Competitive BLUE Economy
- Healthy Ecosystems
- Engaged & Resilient Communities

Department of Commerce
Innovation is in our nature.
**Thriving, Low Carbon Industry**

**Deep Decarbonization:** Accelerate the transition of Washington’s maritime industry to a low-carbon future.

- Initiative 1: Low-carbon maritime technologies board
- Initiative 2: Low-carbon shore side infrastructure
- Initiative 3: Strategies for emissions reductions

**Blue Innovation:** Drive the commercialization of emerging blue technologies.

- Initiative 1: Digital transformation
- Initiative 2: Modernization of fishing & seafood industries
- Initiative 3: Collaborative R&D
- Initiative 4: Maritime Innovation Center

**Global Innovation Hub**

**Growing Gateways**

**Working Waterfronts:** Lead the nation in efficient, clean and safe maritime practices across all sectors of the industry.

- Initiative 1: Smart Ports
- Initiative 2: Infrastructure & Regulatory Strategy
- Initiative 3: Green Gateway

**21st Century Workforce**

**Workforce Development:** Next generation of an inclusive and diverse maritime workforce with technological expertise and access to clean, healthy, living wage jobs.

- Initiative 1: Career pipeline, pathways, & connections
- Initiative 2: Inclusivity, support, & outreach

**World-Class Cluster**

**Cluster Coordination:** A formal Cluster Organization will drive implementation of the Maritime Blue strategy & collaboration to ensure a strong maritime industry founded on competitive maritime companies and an attractive business environment.
<table>
<thead>
<tr>
<th>Combined Policy Recommendations for Blue Goals</th>
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<tbody>
<tr>
<td><strong>Thriving, Low Carbon Industry</strong></td>
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<tr>
<td>Secure funding to develop and support vessels &amp; shore side infrastructure for electric operations and cleaner low-carbon fuels.</td>
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<tr>
<td><strong>Global Innovation Hub</strong></td>
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<tr>
<td>Develop incentives &amp; finance mechanisms for maritime innovation in shipbuilding &amp; manufacturing, including vessel replacement for ferries, modernizing fishing fleet, noise reduction, &amp; water quality.</td>
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<tr>
<td><strong>Growing Gateways</strong></td>
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<td>Invest in critical Port and maritime infrastructure to maintain and increase modernization and competitiveness.</td>
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<td><strong>21st Century Workforce</strong></td>
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<tr>
<td>Dedicate funding for maritime specific training, education and workforce development, including expansion of registered apprenticeships and youth programs.</td>
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</tbody>
</table>
The **Strategy** was created by stakeholders to ensure that Washington State be home to world-class thriving, sustainable maritime industry through accelerating innovation for a Blue Economy.

The **Cluster** is a Strategic Alliance for Maritime Innovation and Sustainability, created to implement the Strategy through coordination, incubation, business development, and joint industry projects.
What Does a Cluster Organization do?

**General cluster development**
- Networking activities
- Facilitate collaboration
- Strengthen the knowledge base
- Improve practices and efficiency
- Attract investors and talent
- Communications and marketing
- Drive commercialization
- Connect to education and training
- Advocacy and awareness

**Innovation collaboration**
- Set research priorities
- Facilitate funding / financing
- Accelerate tech development
- Joint industry projects

**Knowledge collaboration**
- R&D and education initiatives
- Build international relationships
- Direct Advisory services
# Next Steps
January 8th, 2019
Rollout Strategy and Launch Cluster Alliance

## Short Term – Q1-Q2
- Outreach-Maritime Communities
- Board Development
- Membership Drive
- Kick-off Blue Forum Topics
- Blue Fund – Landscape Analysis
- Kick-off Marketing Campaign
- Incoming Trade Mission
- Innovation Center Planning

## Longer Term – Q3-Q4
- Kick-off Incubator/Accelerator
- Blue Fund Development
- Support Satellite Sites
- Kick-off Marketing Campaign
- Outgoing Trade Mission
- Continued...Innovation Center Planning

## Ongoing Programs
- Business Services and Consultation
- Youth Maritime Collaborative
- Joint Industry Project Planning
- B2B Intros and Connections

- Blue Forum (Topics TBD)
- Youth Maritime Collaborative
- Joint Industry Project Planning
- B2B Intros and Connections
Maritime Innovation Center Planning Study Scope of Effort

1. Work with Maritime stakeholders to establish entrepreneurial focus points for center
2. Work with architectural team to define space and equipment requirements
   - Provide Initial facility design specifications
   - Define equipment specs and space requirements
3. Develop plan and case for incubator including initial and longer term Proformas
4. Provide incubator management options and recommendations

The Port’s Historic Ship Supply Building
Maritime Innovation Initiatives

Port staff with Dr. Hans Maas at RDM Rotterdam
Maritime Community Engagement

Innovation Center outreach highlights:

• Hosted a workshop with 25 maritime stakeholders to identify the major strengths, weaknesses and trends of Puget Sound’s maritime sector
• Developed an online survey that solicited input from 150+ stakeholders
• Hosted outreach meetings with partners in Anacortes and Port Hadlock
• Interviewed 35 people (28 distinct organizations)
• Facilitated a design charrette focused on adaptive reuse of the Port’s Ship Supply building

The Port received significant input that helped focus the Port’s innovation initiative and drive Maritime Blue
Stakeholder Input: Room and Opportunity for Improvement

1. The Maritime industry does not enjoy the visibility or reputation that other industries enjoy in Seattle (ex. Aerospace and IT)
2. Washington’s Maritime industry is not particularly innovative
3. The top three trends/opportunities for the Washington maritime sector include:
   • Electrification
   • Ship and vessel design innovation
   • Marine renewables

Q3 Compared to other industries, how would you assess the “innovation” performance within the maritime sector? Innovation can be defined as either new business starts or development of commercially viable new products or services.
Top Priority Incubation Services

1. Shared resources with research centers, testing facilities, universities and private companies
2. Guidance and mentorship from business leaders/investors
3. Business support service provider assistance (e.g. HR, legal, marketing)
4. Access to general equipment for testing or fabrication of prototypes
5. Classes/training for workforce and skills development
Maritime Innovation Initiatives @ the World

- **AltaSea** is working with the Port of Los Angeles to repurpose a 35-acre pier into a Science Hub and Business incubator.

- **COVE** in Halifax is an old Coast Guard facility that has been converted into a hub for scientific research, events, incubator space, ocean technology tenants, and workforce programming.

- **RDM Rotterdam** in Rotterdam is a defunct shipyard that has been converted into a technical training academy and incubator.

- **Port XL** “World’s first Port Accelerator,” spun out of the Port of Rotterdam, runs as an independent accelerator.
Next Steps – Maritime Innovation Initiative

1. **Develop MOU:** Formalize implementation responsibilities with Washington State

2. **Update Business Plan:** Develop more detailed business plan to drive future innovation center operations and funding sustainability

3. **Complete design work:** Determine cost of redeveloping historic ship supply building
   - Evaluate other location options for center concurrently

4. **Form advisory group:** Tab into expertise from education, government and private industry to guide future efforts

5. **Develop virtual incubator:** Spur innovation and entrepreneurship within Maritime sector during time it takes to develop permanent facility (3 years)
APPENDIX
Phase 1: Project Launch
- Project kick-off
- Stakeholder identification

Phase 2: Design Strategy Framework
- Cluster mapping, comparison & baseline
- Drafting of strategy
- Advisory Council & Task Force
- Prioritize strategy areas and pathways
- Approve draft strategy

Phase 3: Pathway Evaluation
- Establish Pathway charters
- Policy framework development
- Prepare detailed roadmap

Phase 4: Implement Roadmap
- Advisory Council & Task Force
- Approve roadmap
- Roll-out event

Monitoring and Evaluation of Implementation
- Evaluate progress, continued alignment with vision

Project Schedule

- December 2017: Public Kick-off
  - Governor’s launch of Vision process, Advisory Council

- January 2017: Phase 1 (cont.)
  - Task Force Meeting
  - Stakeholder communications

  - Cluster mapping, comparison & baseline
  - Drafting of strategy

- April 2018: Advisory Council & Task Force
  - Prioritize strategy areas and pathways
  - Approve draft strategy

- May – Aug. 2018: Work Groups

- Sep. – Nov. 2018: Advisory Council & Task Force
  - Approve roadmap

- January 2019:
- Strategy Review
  - Evaluate progress, continued alignment with vision

- Jan. 2019 - May 2019: Project activities
- Project activities
- Stakeholder workshops and marketing events

- May 2019: Revised Final Report
  - to be aligned with updated 2019 policies as adopted by the legislature: submitted on June 1, 2019

- Final Report: submitted on January 8, 2018

- Stakeholder workshops and marketing events
Strategic Goal: A Thriving, Low-Carbon Industry
Establish a decarbonized maritime industry that continues to grow and maintain resiliency by taking advantage of an ecosystem of innovations for cleaner air and efficient, cost-saving operations.

Pathway: Deep Decarbonization
Accelerate the transition of Washington’s maritime industry to a low-carbon future pursuing technological innovations, infrastructure, and incentives to enable the transition of local, coastal and international maritime activity.

Initiative 1: Low-carbon maritime technologies board.

Electrification of State & regional ferries.

Initiative 2: Low carbon shore side infrastructure.

Strategic infrastructure planning to support investments in low-carbon energy and fuel infrastructure.

Initiative 3: Strategies for emissions reductions

Leverage real time emissions tracking tools to ID opportunities to improve performance.

Demonstration Projects:

Establish case studies to demonstrate return on investment & reduction in emissions for transition to electrification, LNG, renewable fuels, & fuel cells.

Leverage existing collaborations to establish regional agreements for common emissions targets on the West Coast and beyond.
Strategic Goal: Global Innovation Hub
Establish Washington State as a global maritime technology innovation hub

Pathway: Blue Innovation
Drive the commercialization of emerging blue technologies in Washington State by through strategic partnerships.

Initiative 1: Digital Transformation
1.1 Digitally assisted operations
1.2 Digitally assisted operations

Initiative 2: Vessel Design & Advanced Manufacturing

Initiative 4: Modernized Fishing, Seafood & Ocean Industries

Initiative 5: Collaborative R&D Commercialization

Demonstration Projects:
- Establish shared data platform and standardized model to enable pilot for blue-ware and blockchain applications.
- Joint Industry Project to implement low impact vessel design for NOAA Marine Sanctuary Program.
- Create model for advanced manufacturing techniques and materials in shipbuilding while increasing jobs and training programs.
- Increase in-state seafood processing with full utilization technology.
- Development of new gear and marketing strategies for harvest of hatchery salmon in the lower Columbia for harvest of hatchery fish and release of wild fish.
- Design & build a Maritime Innovation Center to house cluster programming, co-working space and support commercialization of technology.
Strategic Goal: Competitive Gateway
Washington will be a premier region for imports, exports and maritime industrial activity with a reputation for safety, transparency, efficiency and sustainability.

Pathway: Working Waterfronts
Washington will lead the nation in efficient, clean and safe maritime practices across all maritime communities and sectors of the industry.

**Initiative 1: Smart Ports**

- 1.1 Digitalized processes
- 1.2 Clean & efficient operations
- 1.3 Managing the future of maritime workforce

Support development of common platform, standards for data sharing across terminals & provide incentives to encourage participation.

**Initiative 2: Infrastructure and Regulatory Strategy**

- 2.1 Long-term maritime infrastructure & transportation strategy
- 2.2 Regulatory predictability & land use

Host future of maritime workforce summit to address technology innovation alongside job growth.

Create holistic long-term infrastructure and transportation strategy to plan for future needs and technology developments for freight mobility.

Work with regulatory agencies to create pilot permitting process for innovation that meets sustainable economic development criteria.

Regulatory bodies to leverage agreed upon certifications, best practices and standards to create incentive-based regulatory scheme.

**Initiative 3: Blue Gateway**

- 3.1 Attracting business activity through sustainability
- 3.2 Maritime Sector Stewardship & CSR
- 3.3 Increase eco-tourism & recreational boating

Develop an optimization tool for maritime applications to gauge sustainability indicators like ROI, jobs & emissions impacts (for vessels, infrastructure, operations).

Maritime NGO CBO partnerships for conservation supporting Corporate Social Responsibly and social licence.

Build up shore power/wastewater infrastructure to reduce emissions and impact.
Strategic Goal: High-Caliber Workforce
A technologically adaptable and inclusive workforce with a sustained stream of high-caliber entrants will be developed

Pathway: Workforce Development
Next generation of an inclusive and diverse maritime workforce with technological expertise and access to clean, healthy, living wage jobs.

<table>
<thead>
<tr>
<th>Initiative 1: Career pipeline, pathways &amp; connections</th>
<th>Initiative 2: Inclusivity, support &amp; outreach</th>
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<tbody>
<tr>
<td>1.1 Skill demand forecasting &amp; strategy for workforce pipeline</td>
<td>2.1 Create broader opportunities for equitable &amp; inclusive participation</td>
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<tr>
<td>1.2 Mapping career pathways in &amp; through the industry</td>
<td>2.2 Outreach and engagement</td>
</tr>
<tr>
<td>1.3 Career-connected learning</td>
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Demonstration Projects:
- **Skill demand forecasting and creation of a forward-looking strategy framework that consolidates efforts to date.**
- **Launch marketing campaign for maritime careers leveraging integrated website with mapped pathways & forecasts.**
- **Leverage existing registered apprenticeship programs to increase training across the maritime supply chain.**
- **Youth Maritime Collaborative housed within Maritime Blue Cluster & sustained with funding to expand opportunities.**
- **Develop an equity framework for maritime employers & training providers with Community Based Organizations.**
- **Host a Maritime Blue Forum between workforce organizations, industry & ambassadors for under-represented communities.**
**Strategic Goal: Competitive Cluster**

An organized cluster of competitive companies and partners will continuously drive sustainable economic development for the maritime industry.

**Pathway: Cluster Coordination**

Drive implementation of the WA Maritime Blue strategy & collaboration to ensure a strong maritime cluster founded on competitive maritime companies & an attractive business environment.

<table>
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<tr>
<th>Blue Focus</th>
<th>Blue Forum</th>
<th>Blue Forward</th>
<th>Blue Force</th>
<th>Blue Finance</th>
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<tr>
<td>Development of Communications Plan, in conjunction with partner organizations, to raise visibility &amp; connect with opportunities.</td>
<td>Networking and strengthening of the knowledge base: Host workshops, provide market data,</td>
<td>Platform for collaborative R&amp;D projects, Joint Industry Projects (JIP,) teaming for grant opportunities.</td>
<td>Cooperation to enable the workforce of the future through coordination, funding &amp; public forums.</td>
<td>Conduit for public and private funding opportunities. Attract investors and connect the dots on the value proposition for innovators.</td>
</tr>
<tr>
<td>Establish website to serve as a focal point for information about &amp; for WA's Blue Economy.</td>
<td>Cooperation with authorities to create a better framework to develop new technology.</td>
<td>Incubation to drive early stage innovation to commercialization. Guidance and mentoring for start-ups &amp; businesses looking to expand into the BLUE economy.</td>
<td>Scholarships for workforce development. Job board. Fostering internship &amp; apprenticeships. Mentor-mentee relationships. Hands on learning for K-12.</td>
<td>Establish Maritime Innovation Fund for capital investment in innovation-based startups with a potential for high growth and job creation</td>
</tr>
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Department of Commerce

Innovation is in our nature.
**Strategic Goal: Competitive Cluster**

*An organized cluster of competitive companies and partners will continuously drive sustainable economic development for the maritime industry*

**Pathway: Cluster Coordination**

Drive implementation of the WA Maritime Blue strategy & collaboration to ensure a strong maritime cluster founded on competitive maritime companies & an attractive business environment.

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**Blue Facility**

The Maritime Innovation Center will house incubation, acceleration, co-working and public meeting space. It will act as a hub to the many spokes in rural maritime communities across the state.

**Blue Federation**

Partner with Washington Maritime Federation to ensure continued support and coordination of industry priorities.
Global Network of Blue Maritime and Ocean Clusters

Formal and organized Ocean/Maritime Clusters have emerged as organizational entities that enhance competitiveness and collaboration among industry participants, institutions, and other stakeholders.
Center Will Be Built on Partnership
Maritime Innovation Initiatives – RDM Rotterdam

• Converted from a defunct shipyard into a new interdisciplinary space that supports events, technical training academy, an incubator, storage space with a wave tank, and other testing facilities
• Co-located with a senior secondary vocational school and a higher professional educational program
• Supported with funding from the European Commission, the Port of Rotterdam, and other sponsors
• Focused on maritime technologies and other ocean related verticals including innovative housing concepts over water and design
Maritime Innovation Initiatives - COVE

- Converted an old Coast Guard facility into a hub for scientific research, events, incubator space, ocean technology tenants, and workforce programming
- Significant government funding and support
- Focused on ocean technologies
- Governed by a nonprofit organization that is similar to a cluster, and its incubator is contracted out to another company that specializes in running incubators.
Maritime Innovation Initiatives – Port XL

• “World’s first Port Accelerator,” spun out of the Port of Rotterdam, runs as an independent accelerator
• General co-working office space with fast-paced programming for startups that are selected through a competitive process in cohorts
  • Two Seattle based companies have participated in the accelerator
• Value proposition is the connection to the port and a growing number of end-users at one of the largest ports in the world
• XL wants to open US office