



WASHINGTON
MARITIME

blue

EXECUTIVE SUMMARY

Washington State's Strategy for the Blue Economy

January 2019

WASHINGTON MARITIME BLUE: AN INTRODUCTION

From innovative ship design to clean technology, sustainable fishing practices to leading-edge workforce development, Washington State's maritime sector is a model for environmental performance and best practices.

Leveraging these strengths, the Maritime Innovation Advisory Council was formed by Gov. Jay Inslee in December 2017 to ensure Washington State will be home to a world-class, thriving and sustainable maritime industry through 2050 and beyond. The result is much more than just a list of recommendations to the Governor and State Legislature. The pathways and projects outlined in the following pages were developed by and for Washington's maritime stakeholders – industry, government, Tribes, research universities, and NGOs. These are strategies **by maritime, for maritime.**

None of these goals can be accomplished in a vacuum. That's why we have created Washington Maritime Blue – a cluster organization built on broad participation and strong new partnerships -- to transform these strategies from vision to reality.



“Washington State is a place where nature and humans are inextricably linked; a place where the lifecycle of salmon can indicate the health of an industry; a place where ingenuity is measured not only by its success, but also by its impact in a changing world.”

—Governor's Maritime Sector Lead

AN OCEAN OF OPPORTUNITIES

Economic growth and ocean health are not just compatible, they are mutually dependent for long-term sustainability. This “Blue Economy” is built on a three-legged platform: economic growth, healthy ecosystems and thriving communities, creating opportunities for all.

From small island nations to high-tech industrial countries, the world is embracing this approach:

- International maritime companies are shifting mission and focus – for example, changing from “propulsion company” to “energy and technology company.”
- Industry is investing in technology for efficiency gains, lower operational costs, and to comply with and exceed new regulatory standards.
- Entrepreneurs are addressing global challenges like energy production, desalinization, data solutions, cybersecurity, sustainable aquaculture, and underwater noise.
- Private capital, impact investments, and public dollars are funding Blue Cluster organizations, which in turn inform best practices and investment principles.

“The Blue Economy is sustainable use of ocean resources for economic growth, improved livelihoods and jobs, and ocean ecosystem health.”

—World Bank

What is the Opportunity?



Ocean economy is expected to double by 2030 to \$3 trillion



Infinite clean tidal, wave, and wind energy



97% of Earth's water is in the ocean



80% of people live near the shore



98% of habitable Earth is underwater



9 billion people will need protein in 2030



90% of the ocean is unexplored



90% of goods are transported by ocean



WASHINGTON STATE'S BLUE ECONOMY

Washington's maritime economy boasts a culture of competitive advantage through innovation and sustainability.

Our Assets:

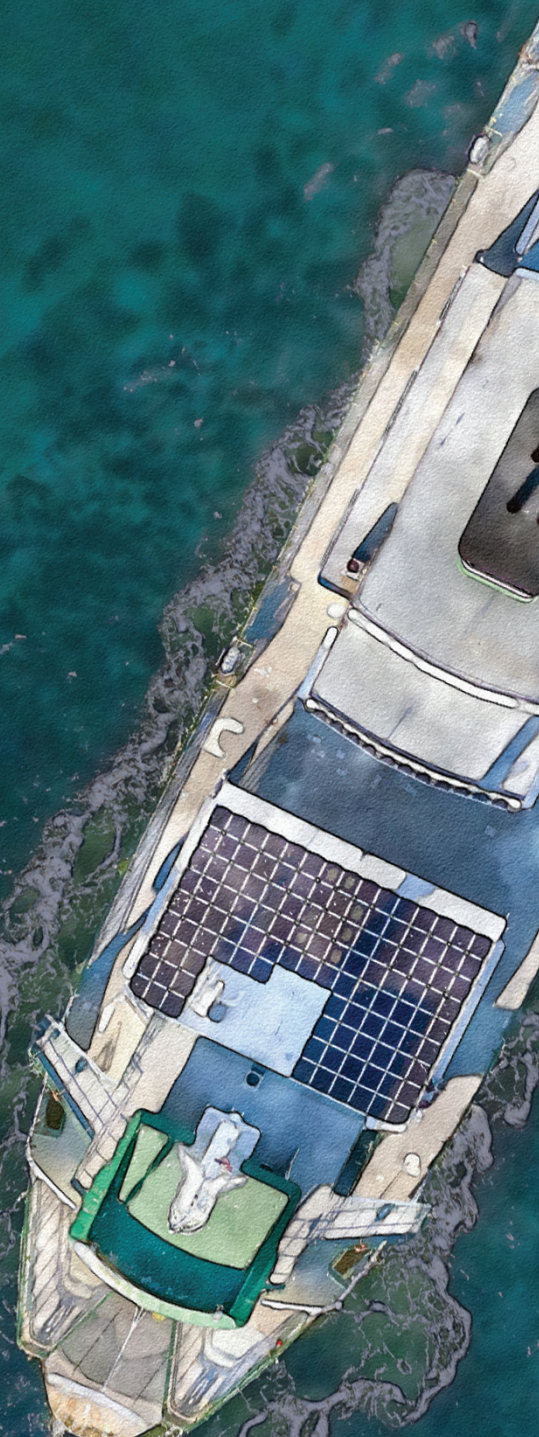
- A diverse and interdependent maritime industry with strong leadership in environmental best practices and technology investment.
- World-class research institutions and capabilities in ocean science and marine energy.
- One of the nation's strongest tech sectors.
- A fishing and seafood sector that manages the most productive and sustainable wild fishing grounds in the world.
- Cross-sector leadership and support for advanced manufacturing, including aerospace, military and defense, clean technology, and shipbuilding.
- World-class naval architects, marine engineers, and service providers.
- Ports, shipping and logistics sector that exceeds environmental impact goals.
- A vibrant recreational boating community connected to a strong maritime supply chain.
- A top-notch network of formal, informal, and youth education and training institutions.
- A strong environmental ethic, that when focused towards creative and pragmatic solutions, will support our state's growing blue investments and economy.

Our Sectors & Stakeholders:

Washington's Blue Economy is comprised of many interconnected sectors:

- Commercial Fishing and Seafood Products
- Maritime Logistics and Shipping
- Passenger Water Transportation
- Ship & Boat Building, Repair & Maintenance
- Maritime Support Services
- Ocean Science Technology

Underpinning each sector is a robust partnership of stakeholders, including maritime businesses, public agencies, research institutions, education and training organizations, finance and funders, and community and labor organizations.





BLUE VALUES: SUSTAINABILITY DEFINED

Washington Maritime Blue is committed to the development of maritime business, technology, and practices that promote a sustainable future, contributing to economic growth, ecological health, and thriving communities.

Sustainability means different things to different people. For Washington Maritime Blue, the definition is threefold: a growing economy, healthy ecosystems, and resilient communities. This trifecta is the foundation on which our strategy is built.

Growing Economy: We will build a strong business climate, attract talent and investment, and develop an efficient regulatory structure that supports innovation and infrastructure.

- We collaborate for growth to drive operational efficiency in our maritime companies.
- We use strategic partnerships to develop resources and infrastructure.
- We promote an efficient and goal-based approach to regulation.

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

- We drive the adoption of best management practices or standards.
- We leverage the knowledge of our research institutions in renewable energy and ocean research.
- We apply an environmental ethic to development and seek to minimize impact.

Resilient Communities: We will apply a social justice lens to all our efforts, to ensure thriving and resilient communities across the maritime sector.

- We proactively engage with our stakeholders to gain trust and anticipate and address unintended consequences of development and sustainability initiatives.
- We reduce adverse impacts of economic development on vulnerable communities while supporting climate change and natural-disaster resiliency.
- We are committed to a diverse, inclusive, and representative maritime industry with abundant living-wage jobs.

BLUE VALUES: GROWTH, SUSTAINABILITY AND INCLUSION

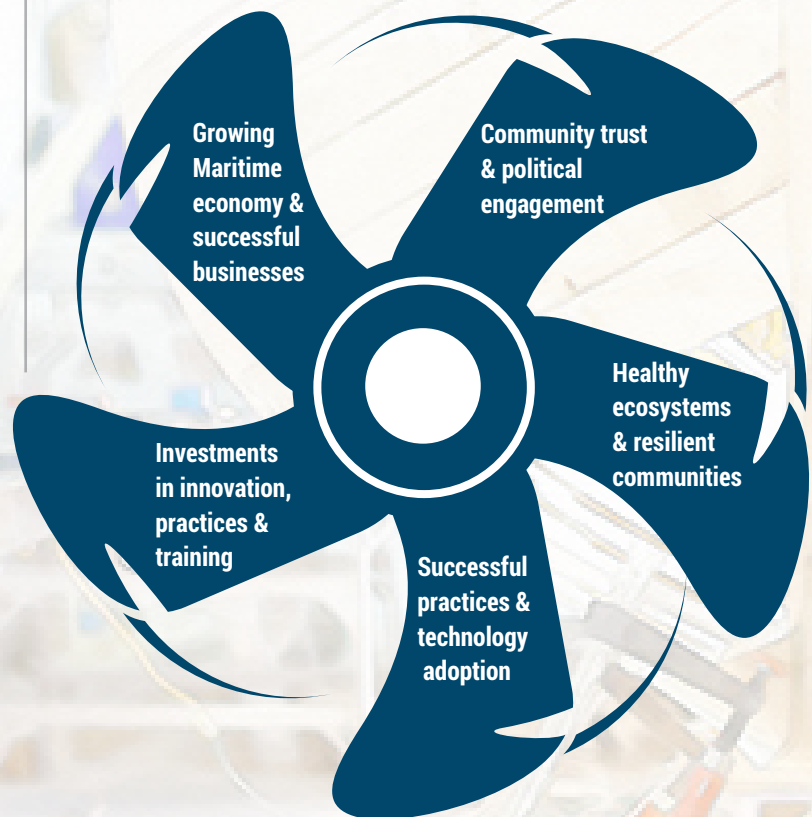
During the strategy development process, two key issues quickly emerged: how to address bias in the maritime workplace and work toward inclusion, and how to support maritime companies so they can more easily adopt sustainable practices and technology.

Growth in a Sustainable Blue Economy

Around the world, the drive toward sustainability is rewriting the rules for all industries – Maritime is no exception. This new emphasis brings with it unwelcome disruptions, yes, AND new business opportunities. Both large multinationals in thriving commercial centers and small entrepreneurs in developing economies can attest that reducing and eliminating waste, providing meaningful work and wages, cooperating with competitors, aligning with community values, and investing in innovation can be very profitable.

It can be risky to be a trailblazer. It can require significant capital investment, and it can prove challenging to build trust with community stakeholders. This either becomes a cycle of doubt that slows the velocity of change, or – when collaboration, regulation and action are embraced – becomes the sustaining energy that accelerates a cycle of progress. It is a fact that when maritime companies are supported in their innovation-based business plan they can and will make investments geared toward community empowerment and sustainable returns. The Maritime Blue Strategy embraces this cycle to propel the industry and communities forward.

Including pathways, policy recommendations and demonstration projects, the Maritime Blue Strategy leverages the exceptionality of our ecosystem to achieve this vision. Just as important, it lays out a collaborative process to bring together businesses, public agencies, research, and training institutions to identify opportunities, direct funding and build social license and trust. The result will be a cycle of progress that attracts top talent, brings more investment, allows businesses to expand and creates jobs that are meaningful, place-based, and provide a high quality of life.



Addressing Bias, Working Toward Inclusion

Economic development strategies often don't address gender, racial, and socio-economic inequalities as a core objective and value. In contrast, Washington Maritime Blue seeks to accelerate a "Blue Economy for All " by providing support and developing programs that address bias in the maritime workplace and support workforce training opportunities for youth of color, low-income white youth, women, and girls.

Sustainability strategies will "provide equal opportunities for different demographic groups in Washington to build careers in the maritime sector. The creation and retention of a diverse workforce are critical to the sector's long-term sustainability. Research has demonstrated that diverse workforces are not only more profitable but are also more productive and satisfying places to work.

"However, attempts to make the workforce look more diverse without addressing the reasons it isn't will not be enough.

*Telling a maritime story that is recognizable and representative, removing barriers to entry, and increasing retention are parallel imperatives that will require dedicated leadership, funding, and the endorsement and commitment of Washington decision-makers. Furthermore, efforts to expand current initiatives or embark on new ones should include input from a wide range of perspectives, including women, people of color, tribal entities, managers, community members from throughout the state, and workers from various stages of maritime career trajectories." **

Addressing Bias and Working Toward Inclusion

“A maritime story and symbol that genuinely and respectfully acknowledge the history of tribal entities and contributions of women, people of color, and other groups may give more Washingtonians a sense of pride in the maritime sector.”

– Tressa Arbow

*University of Washington School of Marine and Environmental Affairs
Workforce Sustainability in the Washington Maritime Industry, 2018

WASHINGTON MARITIME BLUE STRATEGY: STRATEGIC FRAMEWORK

The framework for this strategy was built from the ground up, leveraging direct stakeholder input and stewardship from the Governor's Maritime Innovation Advisory Council.

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 the Blue Economy as a leader in maritime clean tech innovation and best management practices that will support a growing maritime economy in all sectors with increasing living-wage jobs, a healthy environment, and resilient communities. This will be accomplished through a partnership with all stakeholders, including: public entities, maritime business, academic and research institutions, ports, labor groups, and community organizations.

Strategic Goals:

What success will look like

Development Pathways:

How we will achieve the goals

Initiatives:

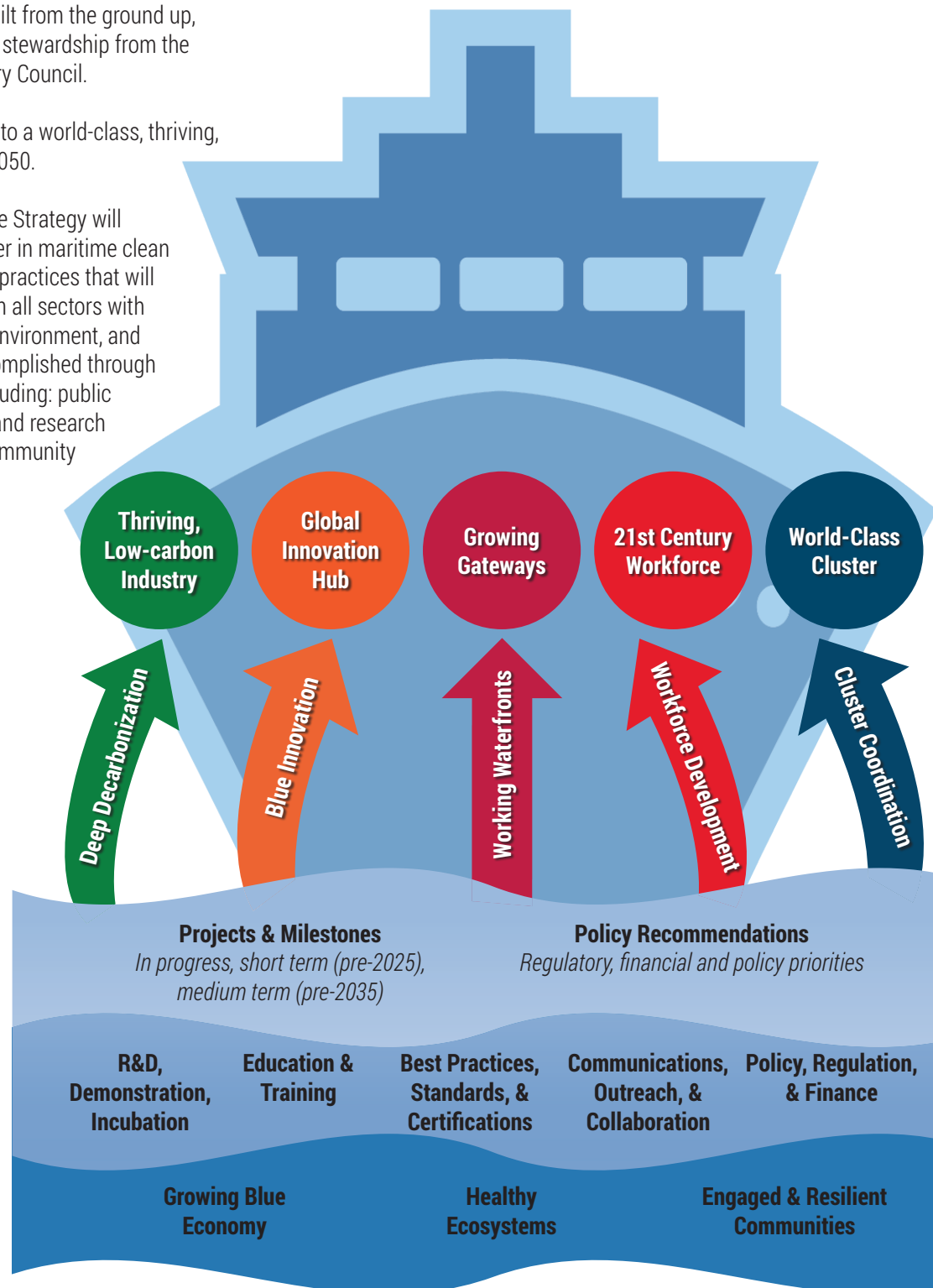
Course setting for implementation

Action Areas:

What tools we use

Values:

What guides our actions



WASHINGTON MARITIME BLUE STRATEGY: PATHWAYS & INITIATIVES

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
on board

Initiative 2:
Low-carbon shore side
infrastructure

Initiative 3:
Strategies for emissions
reductions

Global Innovation Hub

Blue Innovation: Drive the commercialization of emerging blue technologies.

Initiative 1:
Digital transformation

Initiative 2:
Modernization of
fishing and seafood
industries

Initiative 3:
Collaborative R&D

Initiative 4:
Maritime Innovation
Center

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 Washington Maritime Blue to ensure a strong maritime industry founded on competitive companies and an attractive business environment.

Blue Focus:
Communications &
Marketing

Blue Forum:
Knowledge Sharing

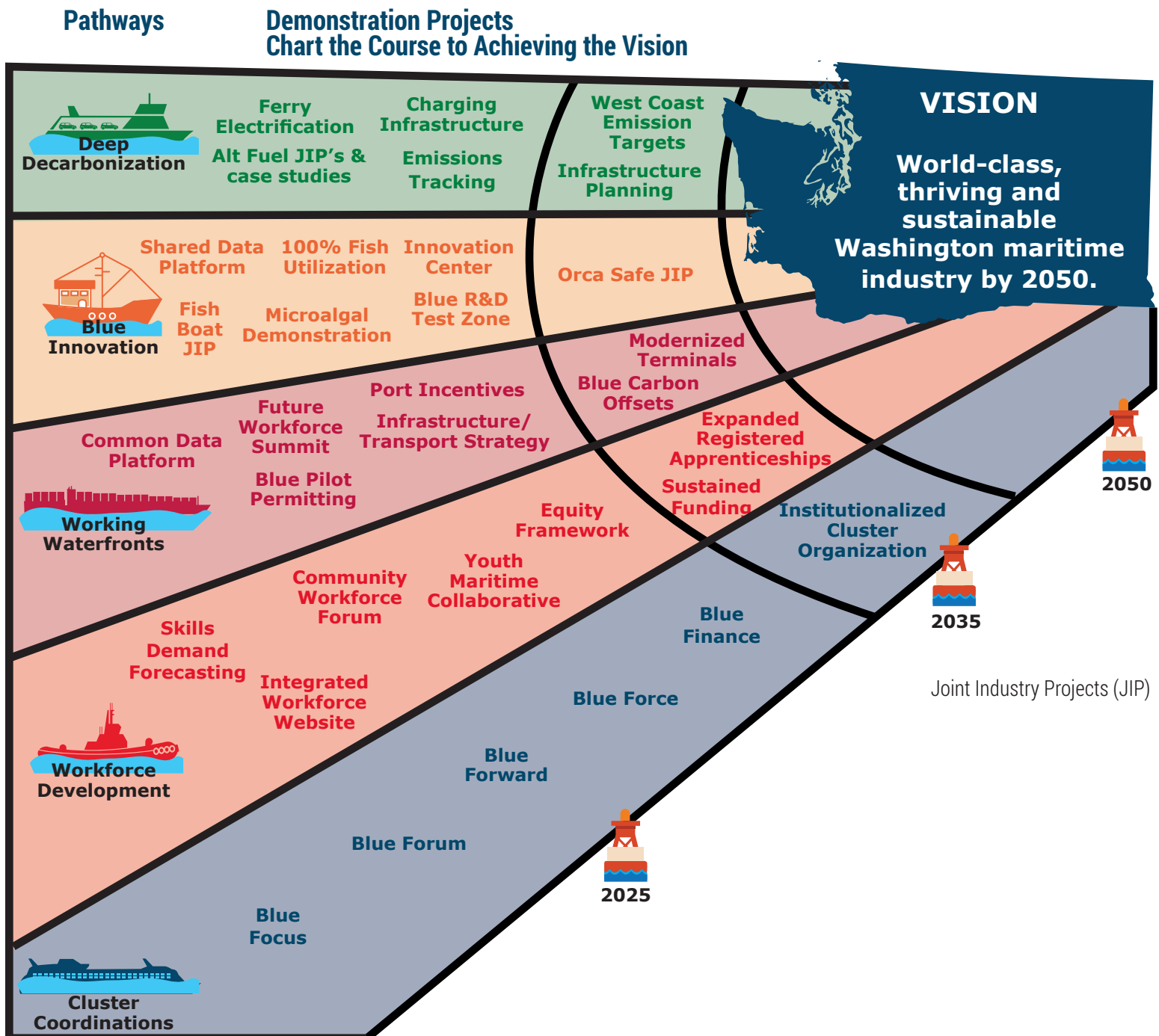
Blue Forward:
JIP* & Business
Services

Blue Force:
Training &
Education

Blue Finance:
Funding &
Investment

*Joint Industry Projects (JIP)

WASHINGTON MARITIME BLUE STRATEGY: CHARTING A COURSE FOR 2050



WASHINGTON MARITIME BLUE STRATEGY: KEY DEMONSTRATION PROJECTS

Maritime Blue is an action-oriented plan with demonstration projects and an organization charged with implementation. Key pilot projects include the following:

Thriving, Low-carbon Industry

Electrification of state and regional ferries to reduce air and noise emissions and establish a competitive edge in sustainable vessel design and manufacturing:

- Conversion of 2 existing state ferries
- WSF to construct two new electric ferries
- Planned Skagit County all-electric ferry
- High-speed passenger ferries across the region

Global Innovation Hub

Design and build a Maritime Innovation Center to house cluster programming, co-working space, incubation and support commercialization of technology. The center will serve as a focal point for the blue economy and support early-stage companies through hub-and-spoke model of collaboration across the entire maritime sector in the state.

Growing Gateways

Grow and Sustain the Youth Maritime Collaborative, guiding Washington youths toward maritime-related careers. With a focus on reaching underrepresented communities through experiential events and high school internships, the collaborative works to connect companies with the next generation of workers.

21st Century Workforce

Remove Barriers to Innovation by working with regulatory agencies to create an approval process for projects meeting sustainable economic development criteria. This body of work could include the establishment of a maritime innovation validation zone and a designated in-water location with streamlined permitting to allow for research, demonstration, testing, and evaluation of new technologies.

World-Class Cluster

Launch an independent Washington Maritime Blue Cluster organization to implement this strategy. This alliance is composed of maritime businesses, public entities, community organizations, research and training institutions that are ready to proactively accelerate innovation and growth.

WASHINGTON MARITIME BLUE STRATEGY: POLICY RECOMMENDATIONS

Support from local, state, and federal governments will be key to the success of the Maritime Blue strategy, particularly in their roles as stakeholder convener and as creators of policies and regulations. They can impact the rate at which industry can accelerate innovation and living-wage job creation.

These recommendations are intended to be complementary and aligned to parallel or connect policy initiatives when they support the Blue Strategy Goals. (While a particular policy or aspect of a recommendation may be highlighted in the Blue Strategy, it is not necessarily an endorsement of an entire initiative.)

Other initiatives that share at least some alignment include:

- Governor Inslee's Clean Energy Future for Washington State
- Washington Maritime Federation 2019 Legislative Priorities
- Washington State Ferries 2019 Long Range Plan
- Puget Sound Partnership Agenda
- Northwest Ports Clean Air Strategy
- Southern Resident Killer Whale Task Force Recommendations
- Career Connect Washington Policy Agenda
- Other State Agency policy and funding requests
- Local municipality and ports policy agendas

Combined Policy Recommendations for Blue Goals

Thriving, Low-carbon Industry

Secure funding to develop and support vessels and shore side infrastructure for electric operations and cleaner low-carbon fuels.

Adopt policies and incentives to create market conditions that reduce carbon (and other) emissions from maritime applications.

Ensure public funds for clean energy and carbon mitigation are directed towards maritime, clean technology applications.

Global Innovation Hub

Develop incentives and finance mechanisms for maritime innovation in shipbuilding and manufacturing, including vessel replacement for ferries, modernizing fishing fleet, noise reduction, and water quality.

Designate a maritime innovation validation zone to perform R&D, testing and evaluation of safety and operational performance for digitally assisted operations.

Fund and develop incubation, R&D and commercialization platforms for maritime innovation facilities and research centers.

Growing Gateways

Invest in critical port and maritime infrastructure to maintain and increase modernization and competitiveness.

Align and simplify the regulatory and permitting process to improve, speed, efficiency, and predictability in maritime infrastructure projects.

Develop regional collaborations and partnerships that promote competitiveness and reduce ecological impact.

21st Century Workforce

Dedicate funding for maritime specific training, education and workforce development, including expansion of registered apprenticeships and youth programs.

Support initiatives for statewide workforce development that encourage alignment and efficiency of programs according to community and industry sector-based priorities.






Adopt recommendations of Career Connect Washington and regional efforts to define and support maritime career pipeline development.

ACHIEVING BALANCE & ALIGNMENT

Avoiding Unintended Consequences: The policy statements and recommendations in this strategy are intended to enhance the three-legged framework of sustainability: economic growth, healthy ecosystems, and thriving communities. This means that policy, incentives, or regulatory regimes in this strategy should provide balanced impacts on the other legs of the framework, or address those intended or unintended consequences to create balance.

An example of the trilemma involved in balancing this three-legged framework may be found in the growth of innovation in digital processes and autonomous systems. While digitalized and automated processes can deliver benefits to efficiency and safety, their implementation may lead to overall adverse reductions in living-wage, trade-based jobs. Fair and just management of the social impact of innovation and transformation required by economic and environmental imperatives must be a test of any sustainable strategy. The key to successfully striking this balance is in open, honest dialogue between all parties to find creative and pragmatic solutions that can secure good jobs, economic growth, and environmental protection.

Aligning with Global Sustainable Development Goals: This strategy was designed to align with the United Nations' Sustainable Development Goals, which recognizes that ending poverty must go hand-in-hand with strategies that build economic growth and address a range of social needs that include education, health, social protection, and job opportunities, while tackling climate change and environmental

Thriving, Low-carbon Industry	An energy transition to a Thriving, Low Carbon Industry will deliver real climate action .	13 CLIMATE ACTION 
Global Innovation Hub	Creating a Global Innovation Hub will bring benefits to industry, innovation, and infrastructure .	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 
Growing Gateways	Growing Gateways and industrial activity will secure decent work and economic growth .	8 DECENT WORK AND ECONOMIC GROWTH 
21st Century Workforce	Developing a 21st Century Workforce will create a demand for quality education .	4 QUALITY EDUCATION 
World-Class Cluster	The goals will be steered by a World-Class Cluster in partnership to achieve the goals .	17 PARTNERSHIPS FOR THE GOALS 

SUSTAINABLE DEVELOPMENT GOALS

IMPLEMENTING A LIVING STRATEGY:

A Living Document

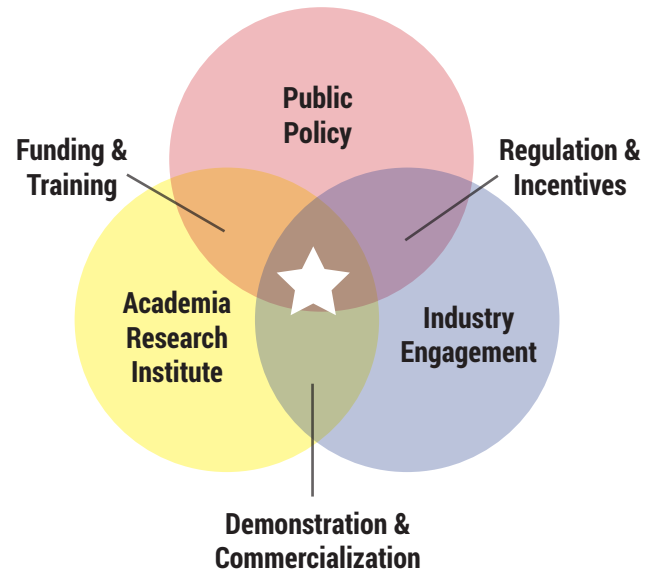
The Washington Maritime Blue Strategy is intended to be a living document with projects, initiatives, pathways, and even the goals themselves to be measurable over time with key milestones. As new projects, funding opportunities, or policy paths take shape, they can be incorporated and become additional “waypoints” along this plotted course. The real strength of this strategy is not the aspirational Goal Statements – instead it’s in the actionable projects themselves that define the Pathways towards the Goals and, ultimately, the Vision.

Implementation and Accountability

Our independent cluster organization – Washington Maritime Blue – has been created to implement the Blue Strategy through the strategic alliance of maritime businesses, public entities, community organizations, research, and training institutions ready to proactively accelerate innovation and growth.

Washington Maritime Blue will have global reach as part of a group of formal and organized Ocean/Maritime Clusters around the world that have been formed to enhance industry competitiveness in a transforming industry. As a focal point for business-to-business engagement, incubation, capital investment, and commercialization, Washington Maritime Blue will provide the platform to support the strategy’s goals for growth and innovation, tech transfer and investment, skills development, and a diverse pipeline of workers.

The Components of a Cluster



The Role of a Cluster

- Communications & marketing
- Funding & investment
- Knowledge & innovation collaboration
- Incubation and commercialization
- Joint industry projects (JIP)
- Cross-cluster collaboration
- Strategy Review

The Washington Maritime Blue Strategy provides a robust and effective framework charting out the role of Washington State’s Blue Economy in addressing global issues and securing sustainable development opportunities.

By an inclusive and iterative execution of this strategy, Washington Maritime Blue will be able to deliver the vision of a world-class, thriving, and sustainable maritime industry by 2050.

ACKNOWLEDGMENTS

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The full report is divided into four sections that can be downloaded individually:

- Strategy Summary Brochure
- Executive Summary
- Main Report Body
- Appendices

The entire report with all sections can be read and downloaded from:

www.commerce.wa.gov/growing-the-economy/key-sectors/maritime

www.maritimeblue.org

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