Build Back Blue: Green Energy to Charge the Blue Economy
EDA-HDQ-ARPBBB-2021-2006976 Concept Proposal

1.0 Regional Growth Cluster Vision
The Pacific Northwest Regional Growth Cluster (Growth Cluster, Cluster)—led by Washington Maritime Blue (Maritime Blue), a consortium of 14 Coalition Partners (Coalition), and 44 Public, Industry, and NGO Support Partners (Partners)—seeks to equitably re-align and transform the region’s blue economy supply chain to advance, commercialize, expand, and incorporate new green and clean technologies and programs. When deployed, Build Back Blue: Green Energy to Charge the Blue Economy (Proposal) will transform Washington and northern Oregon into a resilient national/global hub for green technology development in the blue economy and beyond.

![Figure 1. Regional Growth Cluster: Coalition, Key Partners, and Projects (1-6).](image)

Uniquely, the Proposal will integrate and significantly expand multiple existing, geographically isolated cluster organizations to pool resources, connect innovators and developers to end users across the region (Figure 1), greatly improve access to capital and funding, and leverage initial demonstrations and capital investments to drive dozens of blue economy focused clean technology joint innovation projects (JIPs). These capital investments, combined with strategic roadmapping, market and industry analysis, comprehensive incubation and acceleration, and an expansive, equitable workforce and jobs development program, will form the basis of an invigorated and resilient regional blue economy.

From bp to Microsoft, Seattle Goodwill to Community College Centers of Excellence, this powerful Growth Cluster aligns and assembles 58 partners into an ecosystem of innovation clusters, accelerators and incubators, state and local governments, ports, cities, counties, research institutions, Tribal representatives, labor unions, community groups, entrepreneurs and innovators, developers, utilities, and investors, plus an extended network of 3,000+ industry partners and partner organizations. The Cluster will deploy three strategic project development / geographic nodes and three programmatic nodes (Figure 1, Section 4), each composed of multiple elements, to demonstrate and rapidly accelerate / commercialize new technologies (Figure 2). Upon full implementation, the Proposal will advance 5+ large-scale / late stage technologies to in-region manufacturing, commercialize 30-50+ new mid-stage innovations, accelerate 200+ entrepreneurs and innovators, test/validate multiple new clean energy production and storage technologies, drive economic and social benefits to opportunity zones, generate 10,000+ new jobs, and develop $5.1 billion in sustainable, direct and...
indirect economic activity by 2025. Moreover, based on reviews by regional economic development partners, the Proposal will implement and be consistent with important innovation and green economy strategies in the region’s adopted CEDS, economically transform a stagnating coal community, support equitable economic development including on Tribal lands, address critical regional equity concerns, reduce economic disruption from COVID-19, and provide a sustainable, replicable template for other regions to emulate.

2.0 Economic Opportunity
The Pacific Northwest Region (PNW Region) targeted by the Cluster is home to approximately 8.75 million people, a 12.3% poverty rate, a median income of $34,400, and a total workforce of 4.8 million. Large urban areas of the region—Seattle and Portland—have experienced moderate to strong economic growth in recent years, with especially strong growth in property values. Outlying areas, including neighboring communities of Tacoma and rural areas, have been less fortunate. Within this overall economy, recent best estimates identify a Blue Economy segment with a total output of approximately $45 billion in 2020, or roughly 8.6% of the region’s total economic output. The regional blue economy is poised for exceptional growth.\(^1\) Nationwide, the blue economy exceeded growth in the overall US economy by a factor of 1.9 in 2019 (e.g., 4.2% annual growth rate)\(^2\). Preliminary estimates indicate that the PNW Region, heavily influenced by the blue economy, could significantly exceed this rate. With carefully targeted EDA and Coalition investments, the PNW blue economy could grow at rates of 8.5% to nearly 11% per year during 2025 to 2030. Thus, driven by high demand for new technology, strong potential to locate manufacturing of new / high demand technologies in the PNW region, and strategic local, state, and EDA investments, the PNW Region’s blue economy has the potential to add $5.1 billion in resilient new revenue by 2025, and up to $31 billion versus business as usual by 2031. Economic opportunities hydrogen economy in the PNW and economic benefits of a West Coast zero-carbon shipping corridor are also relevant and are further detailed in recent studies.\(^3\)

3.0 Coalition Members
The Cluster includes the following Coalition Members; refer to attached letters for commitments.

**Maritime Blue** will serve as lead institution for the proposal and will designate Jennifer States, current Vice President of Projects and Strategy, to serve as the Cluster’s FTE Regional Economic Competitiveness Officer, then hire new staff to backfill her current position. Maritime Blue is a nonprofit cluster committed to development of Blue Economy business, technology, and equity practices to promote a sustainable future, economic growth, and thriving communities. With 120+ industry, public sector, research/training institutions, and community organization members, Maritime Blue leads collaborations that provide knowledge sharing, joint innovation, entrepreneurship, commercialization, business, and workforce development.

**Washington State Department of Commerce** (WA Commerce) is the state government entity that originally developed Maritime Blue and is currently leading the Innovation Cluster Accelerator Program (ICAP; see Section 7/Cluster to Cluster Engagement)—both with EDA

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\(^1\) The WA State Strategy for the Blue Economy envisions Washington State as home to a world-class, thriving, and sustainable maritime industry by 2050; [https://maritimeblue.org/strategy/](https://maritimeblue.org/strategy/)


funding support (non-duplicate to the Proposal). WA Commerce will leverage ICAP and facilitate state level match fund development to support the Proposal through Phase 2.

**Aerospace Futures Alliance (AFA)** is WA State’s trade association for aerospace companies and communities, with 1,400 aerospace supplier and supporter members. AFA advocates for aerospace industry members to connect and grow. AFA will support the Proposal by helping to initiate Node 0 due diligence and Phase 2 studies (see below), and providing Phase 2 match.

**City of Tacoma** is a progressive, international first-class city that includes the Port of Tacoma—one of the world’s largest container ports. Tacoma is known for diversity, entrepreneurial spirit, and industry focus. To support the Proposal, Tacoma has pledged to participate in a funding partnership to complete a Feasibility Study for the 5G-enabled, Edge computing network for the Port area under Phase 1, and anticipates additional Phase 2 commitments.

**CleanTech Alliance (CTA)** represents 1100+ member organizations and facilitates generation and growth of cleantech companies and jobs through educational programs, research, and products; CTA will provide jobs training and workforce development under the Proposal.

**CH2ARGE** (Consortium for H2 and Renewable Generated E-fuels, affiliated with JCDREAM/WSU) is a new consortium of 60 members for research and pilot demonstration, advancing cutting edge renewable fuels tech from lab to early commercial development. Under the Proposal, CHARGE will align researchers/other players for tech demonstration programs.

**Coyote Steals Fire (CSF) Energy Group/Confederated Tribes of the Umatilla Indian Reservation** encompasses 3,100+ tribal members, and seeks to site a hydrogen technology hub on its lands under the Proposal. CSF is working with the CTUIR to become a certified Tribal Energy Development Organization, wholly owned and organized for the benefit of the Tribe (proposed coalition member for Phase 2, pending EDA eligibility approval).

**Douglas PUD** is a local municipal corporation in Washington providing power and fiber to 17,000 customers. Under the Proposal, PUD seeks to expand a 5MW H2 electrolyzer to better manage resource challenges and provide renewable energy needed for local economic growth.

**Impact Washington** creates value and strengthens manufacturers’ competitiveness by boosting growth, improving productivity, reducing costs, and increasing capacity, and will support manufacturers and manufacturing development efforts anticipated under the Proposal.

**Kitsap Transit** is a public transit agency serving Kitsap County, WA, operating 40 fixed routes, a foot ferry, and a vanpool system. Kitsap is managing FTA grant funding to develop a Foil Ferry, and will further sponsor this effort under the Proposal with cost share, with the end goal of spurring regional manufacturing of this locally-born technology.

**Lewis County** is located midway between Seattle and Portland, with a population of 80,700 and the region’s only coal fired power plant, scheduled for closure in 2025. Under the Proposal, the County will support industrial development and workforce training at the Industrial Park at TransAlta (IPAT) on the site of a recently closed coal mine, and explore coal to H2 conversion.

**Port of Benton** is developing an advanced energy innovation and commercialization (AEICC) facility as a cornerstone of the Tri-Cities Research District (District). Under the Proposal, the District seeks to construct the AEICC to support regional entrepreneurship/commercialization.

**Tacoma Power** is the City of Tacoma’s municipally-owned utility providing electricity services to Tacoma and surrounding areas. Tacoma Power is innovating in the areas of electrification and clean hydrogen, working on clean shore-power and electric-powered ferries. To support the Proposal, it will commit 400 hours (~$60,000) of staff time under Phase 1, lead the Green Hydrogen for Mobile Shore Power and PORTable power generation demonstration projects under Phase 2, and will also make additional Phase 2 commitments subject to board approval.

**Vertue Lab** is a nonprofit fighting climate change by providing funding and holistic entrepreneurial support to cleantech startups. Vertue Lab will expand these programs and provide equity focused support and training under Node 6 of the Proposal (see below).
In addition to these core members, Maritime Blue and its coalition members represent a collective Cluster of 3,000+ regional and national industry leaders, entrepreneurs and innovators. Refer to Appendix B for more information on industry partners.

4.0 Priority Projects

The Consortium will deliver a Phase 1 application with up to 8 projects to be deployed through the following approach, which will support economic recovery, resilience, expansion, and equity: Accelerate Demonstration Projects (Node 0). During Phase I, the Consortium will complete due diligence for Phase 2 preparation/planning to confirm final projects, validate feasibility, complete groundwork level planning, and develop actionable implementation strategies.

- **Ports of the Future: Puget Sound Gateway** (Node 1, Geographic). This node funds $48 million (with match) in projects to attract new business to the ports, create 2,500+ new equitable and disruption-resilient jobs, seed advanced new clean technologies, and spur in-region manufacturing / development of target technologies. Node 1 includes a) enterprise scale 5G networking for port operations and innovation development, b) a zero-emission fast ferry system, and c) pilot H₂ infrastructure for terminal operations.

- **Columbia Region Tribal and Clean Energy Hub** (Node 2, Geographic). Strongly interwoven with the Umatilla Tribe, Port of Benton, and Douglas PUD, this Node integrates a H₂ technology development, advanced fuel production, an acceleration hub, and lab to launch innovation + acceleration in collaboration with PNNL, WSU, and OSU.

- **Lewis County Coal to Cleantech Hub** (Node 3, Geographic). After losing its coal mine, Lewis County will lose the region’s last coal power plant in 2025, further straining this rural economy. EDA investments will transform the mine and coal plant into a cleantech industrial development hub for H₂ development, heavy manufacturing and other growth industries plus massive / equitable jobs development, training, and retraining programs.

Progress Blue-Green Analysis for Growth and Long-Term Sustainability (Node 4, Programmatic). Focused on roadmapping, economic impact analysis, and market analysis, this Node will help target Cluster investments, justify and validate private investments, and quantify growth potential in targeted blue economy regional segments. It will verify, guide, and drive Cluster implementation, and develop a roadmap of Cluster projects for future support and sustainability, and study growth potential today and tomorrow to create regional market pull.

Accelerate Venture Programs (Node 5, Programmatic). Node 5 will integrate and expand operations of 8 existing incubator, accelerator, and venture hubs in the PNW region, and initiate 100% new programming on the Olympic Peninsula, Everett and Bellingham, and two new Hubs under Nodes 2 and 3. The Proposal will uniquely cross-pollinate and share resources to deploy a macro-scale hub-and-spoke system with Maritime Blue at the helm for coordination / expertise.

Equitably Develop Workforce (Node 6, Programmatic). Cluster partners will create cutting edge, inclusive workforce and jobs pathway development: K12 STEM education enhancement; paid underserved youth internships; employer connectivity programs; BIPOC engineer, finance, environmental students support; BIPOC+womxn MBA program; awareness development for underserved communities; and Tribal and coal communities jobs transition and development.

5.0 Success Metrics

To evaluate and track progress and success, the Proposal will track and report: Jobs Creation: New Jobs Created (Number [No.]), Equity Workforce (No.), Reduced Unemployment (%); Job Quality: Median Wages for Created Jobs ($/yr), Industry Where Job Created, Wage growth ($, %), Blue Economy Sector (%); Economic Benefits: Increase in Regional GDP growth ($/yr and % increase), Investments by Location ($ Invested by Cluster per Location), Demographic Breakdown of Populations Benefitting from Investments ($ Economic Activity Improvements by Demographic Category); DEI: New Jobs Demographics (No. / Demographic Category), Wage
Demographics (Median Wage Increase/Demographic Category); **Worker Training/Placement:** Workers Placed in Jobs (No.), Job Quality ($ histogram by salary range, benefits value, % PT vs FT), Placed Worker Demographics (No. per Demographic Category), Workers Trained or Retrained (No. and Location), Demographic Trends Trained Workers (No./Demographic Category)

### 6.0 Matching Funds and Complementary Investments

The Cluster partners are already developing match and complementary investments for Phase 2. If selected for EPA funding, these will include but not be limited to: 1) $4.8 million in private match from OCOchem and $60,000 in kind from Tacoma Power for development work (OCOchem & Tacoma Power letters); 2) $4.2 million match funding by Kitsap Transit from Transportation Development Credits for Foil Ferry development; 3) $640,000 in match for Tacoma infrastructure development (City of Tacoma letter); 4) $500,000 in match funding by Port of Benton (Port of Benton letter) for the Columbia River region; 5) Preliminary match funding commitments (TBD) from AFA members, PACCAR, CH2ARGE, and other Consortium members; 6) investments through WA Commerce’s state-led ICAP, plus 7) non-match funds from US DOT and FTA.

### 7.0 Implementation Barriers and Mitigation

**Equitable, Diverse, and Just Workforce Development.** Ongoing, systemic and sometimes systematic biases during hiring, workforce development, and education have limited the access of individuals from certain underserved demographic groups and communities to training and employment. **Mitigation:** Equitable workforce development and hiring (Node 6) and strict adherence to the proposed Equity Plan (Appendix D), to grow a diverse workforce.

**Effective Ecosystem / Industry Engagement.** The industry, jobs, workforce, and equity development elements (Nodes 5 and 6) will require concerted, coordinated work among Cluster participants and communities—a challenging task given the siloed nature of many partners. **Mitigation:** Maritime Blue has been extremely successful in engaging industry and community to form a high-functioning, equitable ecosystem and will expand these successes per the Private Sector Engagement Strategy (Appendix B), the Equity Plan (Appendix D), and Node 6.

**Project Readiness and Due Diligence.** Coordinating and prioritizing the efforts of multiple players and projects could present challenges and cause delays. **Mitigation:** Use Phase 1 resources for project due diligence and Phase 2 planning (Node 0) for effective implementation.

### Cluster to Cluster Engagement

Commonly, Clusters cross pollinate intermittently and infrequently, with siloed day to day operations, resulting in duplicated efforts and inefficient use of funding. **Mitigation:** Building on WA Commerce’s first-in-the-nation, EDA/state-funded ICAP, the Proposal includes ICAP industry-led coalitions. ICAP competitively selected these coalitions to receive two years’ strategic guidance and tech assistance. The Proposal leverages ICAP as a foundation and greatly expands the scope/reach of ICAP awardees (CH2ARGE, CleanTech Alliance, WTIA, 5G Open Innovation Lab). As Cluster lead, Maritime Blue will facilitate Cluster to Cluster engagement, institute sharing mechanisms, and drive coordination/collaboration.

### 8.0 Timeline

![Proposal Element Timeline](image-url)