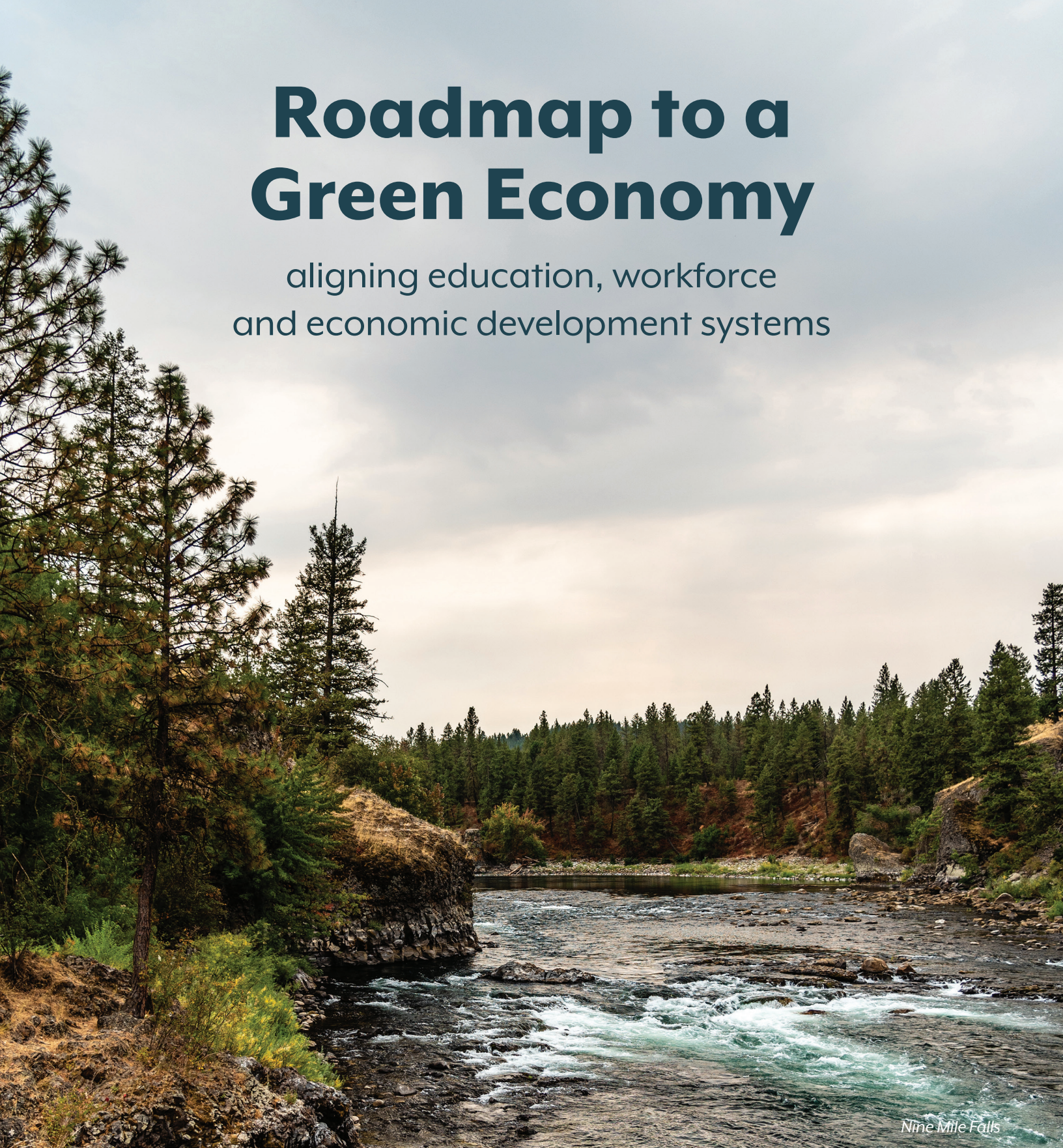# Roadmap to a Green Economy

aligning education, workforce and economic development systems

Nine Mile Falls

PEI PACIFIC EDUCATION INSTITUTE

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Educators for
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Note to readers: A limited printing of the Executive Summary is available in hardcopy.
Contact info@pacificeducationinstitute.org to request a copy.

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Executive Summary

The Educating for A Green Economy Project (EGE) set out to determine: 1) the distribution and visibility of green jobs in the statewide workforce system, 2) whether there are strategies in place to provide all youth, especially youth with barriers, access to green job pathways, and 3) the level of awareness of the green economy amongst students, educators, counselors, workforce professionals and employers across Washington. The EGE Roadmap is the culmination of environmental, economic and education research literature reviews, worksite visits, feedback from meetings and workshops with key stakeholders and feedback from the EGE Advisory Panel.

For the purpose of EGE, "green" is defined in a literature review by Georgetown University's Center on Education and the Workforce which found that there were generally three types of green definitions: 1) a social justice/worker-centered definition, which makes green contingent on its potential to address environmental inequity; 2) a renewable energy and energy efficiency definition, which defines green as activities in the clean energy sectors; and 3) a broad environmental definition, which defines green as anything relating to environmental protection and quality.[1]

Washington economy was built on forestry, fishing, agriculture and hydroelectric power, all sectors that currently utilize renewable natural resources, and are thus part of the green economy. With increasing market demand for sustainable products and services, these industries must take into consideration environmental and societal needs to remain relevant. Green economy jobs are forecast to increase and will require new and different skill sets as identified by employers. To prepare students for careers to meet the need

of these industries and the green economy, education and workforce institutions are revising and building teaching resources and supports. Educators, workforce and economic development professionals, and industries can and should leverage sequentially connected PreK-12 and post-secondary education with workforce training at regional and local levels. Some inspiring examples of these types of partnerships are included in the case studies found in this report, and there is more work to be done.

The demand for workers with the appropriate skill sets for green jobs exceeds the supply of potential employees. Unfortunately, green jobs often are not classified as green jobs. How jobs are classified matters because job data are often used to make workforce development funding decisions at the state and local level. There are several reasons why the current job data collected in Washington is insufficient. One of the most striking is that current coding systems make it difficult to group jobs in categories that

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1. Georgetown University Center on Education and the Workforce. (2010). *State of Green: The Definition and Measurement of Green.* https://cew.georgetown.edu/wp-content/uploads/2010/08/Literature-Review_Green.pdfbeyond-plan

Spokane County

are meaningful for decision makers. In addition to coding considerations, many green jobs do not show up as "high demand," there is little accounting for emerging job trends, expected retirements, and job innovation, which would create more effective decision making. EGE is also proposing the acknowledgment of "critical demand" jobs and inclusion of this designation to help workforce development serve local employment needs.

Many traditional natural resource jobs in agriculture, clean energy and forestry increasingly require computer programming, artificial intelligence, and other technology skills. An EGE analysis of needed skills as reported by employers revealed that employees who can learn on the job, communicate well, have STEM-related technical skills, and possess an understanding of and commitment to environmental sustainability and stewardship are in demand. To optimize awareness and early development of these skills, an integrated, competency-based approach to education needs to be central in PreK-12 learning. Currently this type of learning is found in project-based programs such as PEI's FieldSTEM® learning model which helps students meet the state's integrated environmental and sustainability education standards, and in Career and Technical Education (CTE) programs.

Initial climate change studies indicate that communities furthest from environmental and educational justice are disproportionately affected and will continue to be disproportionally impacted as climate impacts increase[2]. Students in these areas experience greater barriers to employment and have fewer opportunities to access coursework, project-based learning, credentialing programs, work experiences, after-school clubs, and other extended learning opportunities. This is particularly true

in communities of color and in rural and remote parts of the state. To better reach underserved youth, we will need to take deliberate steps to increase opportunities in these communities.

Now is the time for young people, who have the largest stake in a sustainable future, to be allowed to lead. Given the anticipated needs to mitigate and adapt to climate impacts, PreK-12 students could use this opportunity to study and learn about the intersections between social, economic and environmental sustainability in their communities. Students in Washington now begin in middle school to develop High School and Beyond Plans[3] and portfolios. This is an opportunity to engage career counselors in green economy job communications and networking to ensure they are aware of green careers. By developing sequential PreK-12 to career braided pathways, young people can gain competencies to build portfolios that help them achieve their goals.

FieldSTEM type experiences at young ages, supported by education, industry and agency partnerships, may be the catalysts that help students find their pathway into a green job. We know from years of educational research that students learn best when they experience what they are learning; for many students, seeing, touching and doing make learning accessible. When combined with authentic projects that have real value to their community, learning keeps students engaged in a manner that goes beyond grades or a teacher's approval. Focusing on learning outcomes that support the student, the community and the workforce will position Washington toward better realizing community value and industry need and ultimately translate to a greener economy. Local experiences can lead to local opportunities.

2. Enterprise Community Partners, Inc. (2018) Climate Change Disproportionately affects low-income communities. https://www.enterprisecommunity.org/blog/climate-change-disproportionately-affects-low-income-communities
3. OSPI's High School and Beyond Plan Website https://www.k12.wa.us/student-success/graduation/graduation-requirements/high-school-beyond-plan

Green Economy Goals and Recommendations

GOAL 1:

Build and incentivize equitable PreK-12 and post-secondary braided pathways[4] (educational coursework, career counseling, and workforce development) for green jobs.

Recommendations:

Fund the OSPI FieldSTEM proviso with an additional $250,000 per year to connect traditional courses and Career and Technical Education (CTE) frameworks, to Career and Technical College guided pathways, and green career launch opportunities with Career Connect Washington. Add language to the proviso to:

- Develop frameworks and teaching materials for braided pathways from PreK-12 to career for green economy sectors utilizing competency-based models for learning.

- Create a statewide forum for student directed projects that contribute to the green economy and local stewardship.

Fund Centers of Excellence to facilitate and support equitable CTE Dual Credit agreements and matriculation for consistent secondary to postsecondary green career pathways across Washington.

GOAL 2:

Strengthen criteria for workforce development projects to diversify the workforce, reach communities furthest from environmental and educational justice, serve remote and rural community needs, and engage the next generation of natural resource stewards.

Recommendations:

Fund a green jobs grant program through OSPI's Environment and Sustainability Program or Career Connect Washington to increase opportunities for youth age 15-17 to participate in environmental sustainability education and stewardship projects that provide work integrated and career launch opportunities:

- Set minimum requirements to include "critical demand," jobs and communicate living wage information that reflects regional cost of living in addition to salary for remote and small rural (communities under 10,000 residents).

- Set minimum participation rates for Black, Indigenous, People of Color (BIPOC) youth and others furthest from educational justice.

- Encourage collaborations with programs such as Open Doors Youth Reengagement and alternative 9-12 secondary programs.

Incentivize community-based workforce and economic development projects that lead to green jobs across the state.

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4. Braided pathways are the intertwining paths with opportunities for educational coursework, career counseling, and workforce development offered to learners with explicit connections to the multitude of pathways one can take to develop their skills building on the experiences they have had to head in a particular direction. Braided pathways demonstrate the multiple pathways to a particular job and highlight the key skills needed.

Crescent Lake

GOAL 3:

Provide green economy professional learning through project-based CTE and FieldSTEM type workshops using resources for educators available in the OSPI Open Education Resources (OER) portal.

Recommendations:
Engage industry and agencies in supporting teacher education for exposure to industry trends and best practices, and to inform development of guided pathways into green jobs and industries.

Continue funding outreach and engagement with STEM clock hours for CTE Directors and faculty in partnership with Washington Association for Career and Technical Education (WA-ACTE),

Continue legislative proviso funding for equitable climate science education for PreK-12 educators at current amount of $3 million annually.

- Set a requirement that projects demonstrate how learning will help individuals and communities mitigate and adapt to climate impacts,

- Set minimum participation rates for educators serving communities furthest from environmental justice.

Encourage professional learning for counselors to include green jobs in their High School and Beyond Planning with youth, including examples of pathways to green jobs, with CTE sequencing.

GOAL 4:

Increase "green economy" visibility

Recommendations:
Develop standard criteria for "green job" designation at the occupation level.

- Market a standard icon to use for course listings, interactive career and job websites, job applications, and other outreach media.

- Support a re-work of the Workforce Training and Education Coordinating Board's Career Bridge website to include searchable green economy jobs.

- Support a re-work of career interest assessments adding in a value for sustainable green jobs.

GOAL 5:

Collect and disseminate job information based on data that reflects current and future green jobs.

Recommendations:
Support Employment Security Department and the Workforce Training and Education Coordinating Board (WTECB) to work with Workforce Development Councils and green economy sector employers to provide cross-sector occupational demand numbers for green jobs that include local job openings predicted due to emerging trends, retirements and potential for green innovation.

Identify currently unaccounted and under-accounted occupations for inclusion in workforce data.

COVID-19:

This EGE Project began in November 2018 and writing about our findings and developing recommendations began in March 2020, just as the virus began to curtail our nation's activities. The implications of the COVID-19 pandemic for education and workforce are profound, and its course is yet unknown. We worry especially about the inequities in education and the impact on students furthest from educational justice. Educators who felt overloaded prior to COVID-19 may now be feeling overwhelmed. Rather than asking for additional workload, this EGE project recommends leveraging strategic opportunities to safely deliver green curriculum to PreK-12 through focused and deliberate pathways by:

- Identifying gaps and strengthening alignment in education, workforce and economic development systems to increase presence of green economy pathways

- Leveraging existing pathways by inviting industry and agency stakeholders to partner in FieldSTEM type opportunities, High School and Beyond Planning, and competency-based education systems

- Funding public/private partnerships to develop "green job" teaching resources, and work-integrated projects for teachers, available to all school districts through the user-friendly OSPI Open Educational Resources (OER) portal

- Increasing field-based projects and activities during COVID-19, as a safer option for proper physical distancing for students than in-classroom studies.

Wild Horse Wind and Solar Facility