

Oregon Community College Green Initiative

Green Framework

July 27, 2010

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Overview of the Oregon Community College Green Initiative (OCCGI)

Oregon Community Colleges are committed to meeting the current and future workforce needs in “green” industries, as well as industries that are “greening” traditional occupations. The OCCGI proposes to support Community Colleges to:

- Ensure the efficient use of state resources for green workforce development training activities and initiatives by fostering a culture of cooperation among Oregon’s community colleges
- Support the creation, sharing, and coordination of delivery of model curricula, career pathways, degree/certificate programs, industry specific skill standards, customized training, and best practices
- Foster effective networking throughout Oregon’s economic, workforce development, and education systems to better understand and respond to workforce demands

The OCCGI is governed by an executive team consisting of two college presidents, the Commissioner of the Oregon Department of Community Colleges (DCCWD) and Workforce Development, and a liaison to both. The Executive team is responsible for policy and budget decisions impacting the OCCGI effort. A staffing group consists of a project manager, several DCCWD staff, subject matter experts, and college “loaned” staff. This committee is responsible for gathering, disseminating, and utilizing the information and preferences provided by the colleges to respond to grant opportunities and build a community college “green” framework. The OCCGI Core workgroup, established by the Council of Instructional Administrators and Career and Technical Deans, is made up of college leaders who respond to OCCGI requests for information and policy input. Finally, each community college has identified a lead who convenes a group at the local level to respond to requests from the OCCGI and to communicate statewide activities related to “green.”

See Appendix 1 for a complete list of OCCGI team participants.

Community College Green Initiative Framework

The purpose of this framework is to describe the current situation with green-related instructional and workforce programs and green initiatives at Oregon community colleges and to identify the following:

- Demand-driven, new, or expanded instructional and workforce programs
- Statewide and local “green” efforts related to community college initiatives
- Current or potential opportunities for regional and statewide approaches

In the near term, this framework will provide the basis for developing federal grant proposals as well as other potential funding opportunities to serve workforce and economic development needs in green industries. For the long term, this framework is intended to help inform local, regional, and statewide community college planning and implementation of green program and proposal development. The Framework also includes Guiding Principles, Goals, and Core Elements for Green Education and Training at Oregon community colleges.

Background

Oregon has earned a reputation as a leader in the emerging green economy. The state’s first comprehensive land use law, focused on protecting the invaluable legacy of Oregon farms and forests, passed over forty years ago in 1967. The Oregon Bottle Bill, another green landmark, passed in 1971.

Oregon has sustained a focus on green practices and initiatives across many political administrations. The state’s commitment to green has endured through severe recessions. It has held through booming expansions in the economy and population. According to a recent study conducted by Pew Charitable Trusts, Oregon is one of three states with large, fast-growing sectors in the clean energy economy.

Oregon community colleges have long been recognized as innovators in workforce education. With the national focus turning to green jobs and the greening of jobs, Oregon is once again leading the way. Community colleges across Oregon are preparing workers for green (and greening) technical occupations, upgrading literacy skills of adults preparing for entry-level green jobs, providing customized training to green the current workforce, and supporting community awareness on sustainability practices.

Recognized by the National Council for Workforce Education and the Academy for Educational Development for its sustainability efforts, Lane Community College has been training students in

energy efficiency in construction and facility management disciplines for over twenty years. Columbia Gorge Community College's Renewable Energy training for wind turbine technicians is only the third program of its kind in the nation and is a model for green workforce training partnerships with public and private entities. The Sustainability Training for Technical Educators project at Portland Community College (PCC) is infusing sustainability content, practices, tools, and techniques into PCC programs that impact the built environment through professional development and training activities to faculty in Building Construction Technology, Architectural Drafting & Design/Interior Design, and Facilities Maintenance Technology. The Historic Preservation and Restoration program at Clatsop Community College provides a well-trained workforce that can preserve, restore and "recycle" historic buildings that might otherwise be lost. This program emphasizes that "being green" can mean looking to the past.

Across the state, traditional degree programs from Range Management to Automotive Technology to Manufacturing are being infused with sustainability content. Community colleges, in partnership with apprenticeship programs and businesses, are training future and current plumbers and electricians with skills they need to meet the growing demand in solar installations. Whether developing new programs to meet the growing demand of emerging renewable energy jobs or revising/redesigning traditional career technical programs, Oregon's community colleges and their local and regional partners are on the forefront of green workforce development.

Oregon's Community Colleges, in collaboration with Oregon business and industry and workforce development partners, can make the promise of Greening the Oregon Workforce a reality. The Oregon Community College Green Initiative provides a framework for achieving this vision.

Current Assessment of Green Education & Training

The staffing committee developed an assessment template to collect, identify, and leverage existing green education and training resources at Oregon community colleges. The assessment tool gathered information from all seventeen community colleges according to the following categories:

<i>Nascent Renewable Energy Jobs</i>	Jobs in the infancy stage of development such as wave, thermal, and biomass.
<i>Emerging Renewable Energy Jobs</i>	Jobs that are on the ground and increasing such as in solar, wind, and utilities.
<i>Energy Efficiency Jobs</i>	Jobs that involve increasing efficiency of the built environment such as jobs in weatherization, energy auditing, and some trade occupations.
<i>Greening of Existing Jobs</i>	Jobs where the existing workforce needs upgraded skills. Education refresher courses might train plumbers in solar hot water installation, carpenters in green building techniques and materials, and landscapers in green landscaping techniques.
<i>Curriculum infusion</i>	The modification of curriculum to reflect the “triple bottom line” of sustainability/green principles and practices, such as sustainable manufacturing or greening across the curriculum.
<i>“Other”</i>	A wide range of green activities practiced at different college campuses that help the colleges be responsible partners in greening of the community.

Oregon’s community colleges have been infusing green practices into curriculum, creating new “green” industry driven programs/degrees/certificates, providing customized training to employees to upgrade skills, and partnering with business and industry to train in green practices. Newer “green” programs are on the ground, developed in partnership with industry to meet emerging workforce needs in the green economy, including the following:

- Columbia Gorge Community College’s Renewable Energy Tech program, which trains wind turbine technicians, is only the third program of its kind in the nation. It is a model for green workforce training partnerships with public and private entities.
- The Historic Preservation and Restoration program at Clatsop Community College is providing a well trained workforce that can preserve, restore and “recycle” historic buildings that might

otherwise be lost. This program emphasizes that “being green” can mean looking to the past, as well as to what is “new.”

- The NABCEP Entry-level PV Solar Exam Preparation course for Electricians at Central Oregon Community College provides short-term training for licensed electricians preparing them for NABCEP certification. This entry-level certification is required by Oregon to do work on residential work paid for with tax credits. Central Oregon Community College contracted with Lane Community College for instruction, so the program started with well-developed instructors and curriculum.
- Lane Community College’s Water Conservation Technician Program trains individuals to design, implement, and evaluate water conservation programs and prepares them for a Professional Certification offered by the American Water Works Association.
- Blue Mountain Community College’s Small Business development center is working with local businesses to develop green technologies and marketing and has hosted OSU workshops on bio products.
- Rogue Community College’s “Green Team” sponsors renewable energy and sustainable educational events for the public. Their EcoCational House Project is a student-designed and built green residential home.
- Linn Benton Community College’s Mechatronics program, in partnership with local industry, includes energy efficiency/conservation elements. Partnership with a local Bio-fuels company is projected to incorporate bio-fuel production processes into the program.
- Portland Community College’s Solar Voltaic Career Pathways Certificate Program provides entry-level training that meets the need of local solar companies.
- Mt. Hood Community College recently opened its new biodiesel training lab. This training lab is another step in the creation of a sustainable training center at MHCC and is available for classes for students and community members who are interested in making biodiesel by converting used/fresh vegetable oil.
- Treasure Valley Community College provides weatherization training to the community.

Oregon community colleges are also focused on how their own operations reflect sustainability principles and practices. New construction is primarily LEED certified. Community college facilities managers and college sustainability teams have been active in identifying and implementing strategies to improve energy efficiency, reducing waste and water usage, and increasing “green” practices in the maintenance and operation of buildings and grounds. Community colleges are also utilizing widespread training in “Lean” practices to leverage more sustainable approaches in college operations.

See Appendix 2 for more detail of how information was collected.

See Appendix 3 for the compiled data on current green education and training offered at Oregon community colleges.

Potential New and Expanded Green Education, Training and Activities

Green “leads” at each of Oregon’s seventeen community colleges completed a template describing potential new/expanded green training and activities in the following program areas:

- 1) Nascent Renewable Energy Jobs
- 2) Emerging Renewable Energy Jobs
- 3) Energy Efficiency Jobs
- 4) Greening of Existing Jobs
- 5) Curriculum Infusion
- 6) Other Green Activities.

See Appendix 4 for data compiled from the colleges.

Community Colleges recognize that “green” is not a specific industry and there is no specific educational sector that educates for “green” jobs. The Oregon Employment Department Research Division refers to the greening of Oregon’s workforce rather than a separate green economy. In their recent publication, *The Greening of Oregon’s Workforce: Jobs, Wages, and Training*, a green job is defined as one that provides a service or produces a product in any of these categories:

- 1) Increasing energy efficiency
- 2) Producing renewable energy
- 3) Preventing, reducing, or mitigating environmental degradation
- 4) Cleaning up and restoring the natural environment
- 5) Providing education, consulting, policy promotion, accreditation, trading and offsets, or similar services supporting categories 1-4.

To view the full report, go to: <http://www.qualityinfo.org/pubs/green/greening.pdf>

Community colleges cited opportunities to train for “green jobs,” including using the train the trainer model for customized training, collaborative professional development for faculty, connecting

programs between colleges, sharing of core curriculum, online courses shared across the state, and development of statewide certificates and degrees.

Community colleges listed coordinated efforts through their Small Business Development Centers for potential training for businesses, employees, and entrepreneurs in green. Across the state, community colleges are exploring ways to develop a green workforce for the nascent renewable jobs especially in wave, biomass, and geothermal. Rural community colleges see partnering with each other as a way to maximize resources as they look to offer weatherization and energy auditor training. Automotive faculty seek resources to update programs to include alternate fuels and hybrid and electric cars while manufacturing programs want to integrate green manufacturing processes. Community colleges see opportunities to create learning laboratories on community college campuses for recycling, growing food, and living “green.”

From the information gathered in the assessment process, the Community College Green Initiative staffing team developed/identified the following sectors for training categories to describe areas of workforce preparation related to the greening of the economy:

- **Building** (Construction and Retrofitting, Operations, and Assessment)
- **Transportation** (Infrastructure Construction and Retrofitting, Vehicle Operation and Maintenance, Alternative Fuels)
- **Manufacturing** (Assessment – Products and Processes, Production and Retrofitting – Product and Processes, Operations)
- **Sustainability**: Practices, Methods, and Principles (Assessment, Redesigning Systems, Operations)
- **Energy/Water Resources** (Assessment, Utilization, Generation)
- **Natural Resources /Agriculture** (Assessment, Utilization, Sustainability Management)

OCCGI Goals

Oregon's community colleges are committed to working together in a connected, comprehensive approach to advance the "greening" of Oregon's workforce. Measures for advancing the delivery of green training emerged from the templates. These were further clarified through a series of facilitated meetings and conference calls with staffing green team, college "leads," and the core green team. This resulted in the following overall goals for OCCGI:

- Create program alignment /partnerships across community colleges to maximize resources.
- Create and deliver new "green" programs that are demand-driven and industry-led.
- Revise and infuse curriculum for "greening" programs and courses in all areas of college instruction, including lower division transfer, career and technical areas, adult basic education, customized training, and small business development.
- Develop and deliver industry specific certification trainings. Preparation for entering occupations in construction, weatherization, energy auditing, as well as other areas. Supplementing the skills of working plumbers, electricians, and others in "green" practices. Credit and non-credit training delivered through Business Development Centers and Customized training as well as regular "for Credit" college courses.
- Develop and deliver business and community training in green and sustainable practices.
- Offer professional development opportunities for college staff and partners in sustainability practices and principles.
- Use Career Pathways expansion as an education/training strategy in Oregon.
- Leverage partnerships with business/industry/WIA/labor/high schools/apprenticeships/economic development/4 year institutions.

OCCGI Green Framework Guiding Principles

As the green teams met to create the framework for Oregon's Community College Green Initiative, substantial time was given to developing the following principles and operating assumptions behind the framework:

- Green training development is demand-driven from business/industry.
- Green training is developed and delivered based upon a career pathways approach ensuring that Oregonians, including those with low skill levels, have access.
- Workforce training gaps are identified and curriculum is developed to address industry identified needs.
- Effective collaboration will maximize resources and ensure that training is portable and replicable.
- Synergy will be created with the alignment of green or workforce training plans/frameworks/proposals with other states.
- Oregon's community colleges will have increased capacity to deliver education and training for greening Oregon's workforce.
- Community colleges will act as role models in raising awareness of sustainability.

Core Elements of the Oregon Community College Green Initiative Framework

The core elements of a green framework serve as a foundation for expanding and enhancing the greening of Oregon's workforce; these elements include the following:

- Policies
- Agreements for training/curriculum development, delivery and collaborative use
- Business and Industry Partnerships
- Collaboration and nesting
- Networking, communication, and marketing
- Continuous improvement, accountability, and sustainability
- Resources

Within each element, specific strategies have been identified to support these efforts. More detailed information on the core elements is provided below.

Policies

- Develop policies that support state and local strategic investment in “green” jobs training and “greening” of training for existing occupations.
- Encourage collaboration among education and workforce training providers to maximize resources and improve student outcomes.
- Develop policies to facilitate sharing of curriculum, resources, and best practices across the seventeen community colleges and with other key partners.
- Support policy development that drives strategic alliances among education, economic development, workforce organizations, and employers to ensure demand-driven, high-quality programs leading to student and industry success.
- Ensure that state and local policies support green-related “career pathways” as a strategic approach to accommodate frequent entry and exit points for students; labor market dynamics; and evidence related to student retention and success.

- Utilize policy to better “nest” and integrate community college “green” initiatives with economic development clusters, workforce organization strategic plans, labor market demands, and other statewide strategic efforts related to “green.”
 - Research opportunities to amend Oregon Program Approval requirements to address employer needs.
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Agreements for Training/Curriculum Development, Delivery, and Collaborative Use

- Curriculum development will be based on competencies needed and identified by high growth, high demand industries for the emerging green economy.
 - The core curriculum will be replicable, transportable, and shared across institutions; it also should be developed to fit various educational delivery systems, including degree programs, customized training, business training, and community education.
 - All refined or developed courses will include competencies, assessment tools, and career pathways/ladders.
 - Curriculum will be designed to support articulation among community colleges, high schools, and four-year institutions.
 - Delivery methods may include blended or hybrid distance learning models, other distance learning-based training, and face-to-face methods.
 - Curriculum will be designed to meet the needs of students at all skill levels and from multiple entry points, including accessible “bridge” programs for underprepared students, dual credit opportunities for high school students, integration of Basic Skills and Technical program curriculum, and fast-track options. The goal is to design scalable, accessible, sustainable and affordable training.
 - Colleges will also promote efforts to incorporate green literacy across the curriculum in all disciplines by revising/updating existing curriculum to meet the skill gaps in traditional occupations that are greening. The adaptations and refinements of career guidance tools must be done simultaneously.
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Business and Industry Partnership

- View green job training as critical to Oregon’s economic development.
- Convene sector partners in determining relevant skills/knowledge and abilities and developing both industry and occupational specific competencies.

- Involve business and industry partners in the development of curriculum to align it with industry standards and certificates.
 - Work with employers to customize green career pathways to meet their specific needs both for emerging and concurrent workforce.
 - Create green internships, green learning labs, and green service learning opportunities providing structure for applied learning and supporting local businesses and community efforts.
 - Leverage existing relationships with green industry partners, employer apprenticeship committees, and local businesses that work with Small Business Development Centers and Customized Training areas of the colleges.
 - Help facilitate the alignment of local, regional, and statewide business development strategies to connect providers of parts and repair services with new, emerging industries.
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Collaborative and Nested

- Foster knowledge exchange networks between industry and Oregon community colleges for development and affirmation of “green” workforce development and success.
- Align Oregon Green Community College Initiative with other Oregon statewide, regional, and local planning efforts focused on state economic recovery and growth including those of Oregon Workforce Investment Board, Workforce Integration, and Oregon Business Development Department to ensure collaboration and nested efforts in “greening” Oregon’s economy.
- Use LMI and industry data, including *The Greening of Oregon’s Workforce* report from WorkSource Oregon, to project workforce needs and prioritize program/training development.
- Collaborate to develop and leverage new and existing data/information sources.
- Integrate Career Pathways model including Programs of Study, bridge courses, articulation agreements, roadmaps and certificates, alternative delivery methods, career planning, developing and delivering “green jobs” training and education
- Incorporate Student Success Indicators and “momentum points” into green program development
- Incorporate the use of Career Readiness Certificate and Work Keys into green program development
- Develop industry-education regional partnerships

- Align planning efforts for green community college initiatives with state strategic plans including those of OWIB, Workforce Integration, and Oregon Business Development Department to ensure collaborative and nested efforts in developing a “greening” economy
 - Support and collaborate with other efforts to secure resources for the statewide advance of green jobs and to advance state and federal policy that supports those efforts
 - Participate in collaborative projects and activities to support the greening of Oregon’s economy
 - Work with apprenticeship programs to refine and develop “green apprenticeship” models
 - Collaborate across the economic, workforce, and education systems to build and nurture a “green jobs” community of practice and foster creative synergistic potentials
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Networking/Communications/Marketing

- Develop multiple methods of communicating and marketing green job training – match the communication to the targeted audience.
 - Ensure that workforce system partners are informed through websites, newsletters, and statewide summits.
 - Create “green” learning opportunities for community college staff and partners which include workshops and webinar.
 - Leverage the knowledge of community colleges in Oregon and nationally in developing and delivering “green jobs training.”
 - Promote access to green training and green skills development that lead to green jobs.
 - Promote non-traditional employment opportunities to encourage diversity.
 - Promote the “greening of Oregon’s workforce” locally and statewide.
 - Facilitate the development of seamless educational articulations that support green jobs training across community colleges, K-12 districts, and four-year institutions.
 - Establish the means to encourage transitions between education and employment systems, programs, and services allowing for local/regional flexibility.
 - Develop strategies for the marketing of green career and training opportunities with high school students, dislocated workers, adult education students, and current workers (and their employers).
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Continuous Improvement/Accountability/and Sustainability

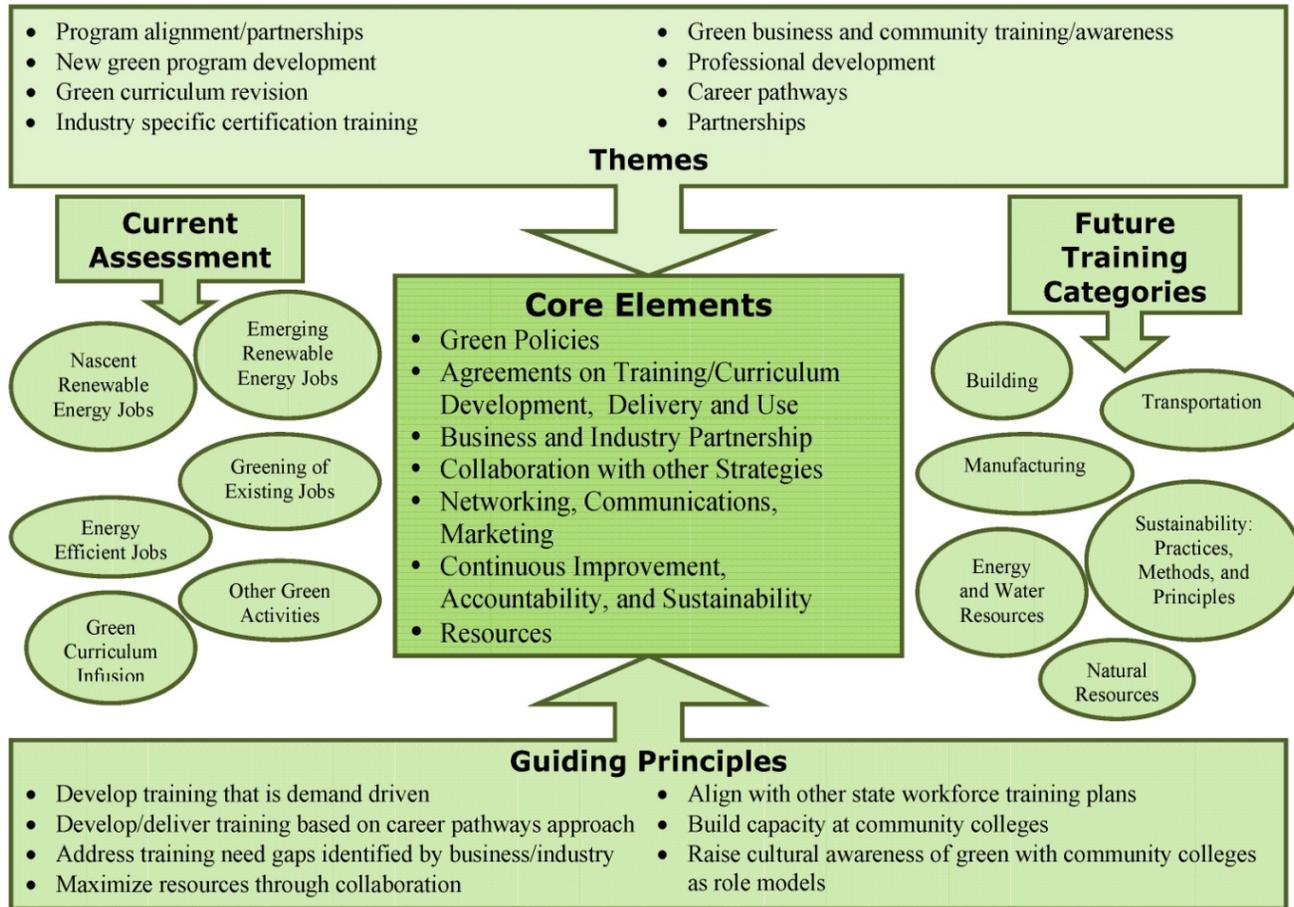
- Establish a means to encourage and facilitate the use of data to strengthen connections to business, inform green program development, and measure success.
 - In collaboration with business and industry, develop outcomes specific to
 - 1) Green job training,
 - 2) Articulation of green education
 - 3) Programs/degrees/trainings that include sustainability concepts. Analyze and report on outcomes.
 - Use data-driven decision making in creating green education and training opportunities.
 - Develop networks of green knowledge/green expertise within community colleges to facilitate the sharing of best practices, curriculum, and delivery.
 - Develop agreements to promote transparency, accountability, and alignment.
 - Collaborate with education, workforce, sector partners, and economic development partners to disseminate data.
 - Develop statewide consortium between community colleges to deliver training and opportunities for student flexibility and success.
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Resources

- Identify actions and resources to support Oregon community colleges' ability to "green" the workforce and economy.
- Actions are:
 - 1) Seek "green" industry partners who will assist colleges in developing non-proprietary, industry based, and cross-industry skill training and education for current and future employees.
 - 2) Use best practices of knowledge transfer to update understanding of benefits of "greening" Oregon's workforce and economy for college faculty and staff, business owners, workforce partners, and governmental agency personnel.
 - 3) Use data and statistics to show state economic benefit, gain in livability in Oregon's communities' skill portability across industry and reduction of waste stream.
 - 4) Visit demonstration programs and sites.
 - 5) Host webinars and workshops.
 - 6) Seek/promote externships for CTE faculty with business and industry.

- Resources needed for colleges to drive expansion of Oregon’s “green” workforce include support funds for the following:
 - 1) Knowledge transfer activities as mentioned above.
 - 2) Development of accelerated, customized bridge and business training as well as new, revised, infused, or hybrid programs/courses.
 - 3) Expansion of course, certificate, and degree articulation agreements between colleges to ensure portability of student achievement.
 - 4) Purchase of equipment, materials and supplies.
 - 5) Hiring of additional faculty and staff.
 - 6) Improving data system to track results for outcome achievement and reporting purposes.
 - 7) Activities/events to share expertise, analyze return on investment of state and federal funds, and plan for improvement and sustainability.
 - 8) Expansion of distance education tools and methodologies.
 - 9) Student support for success and retention in green programs and trainings.
 - 10) Expansion of support services including advising and coaching to increase retention and completion rates.
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Oregon's Community Colleges Green Initiative



Oregon Community College Green Initiative: The Future is Now.

The emerging transition to a green economy holds great promise for Oregon's economic growth and job creation. Oregon's community colleges are on the forefront of this growing momentum by preparing workers for emerging and reoriented jobs in the green economy, infusing sustainability principles and practices into curricula, introducing communities to green concepts and action, and creating learning laboratories on campuses. This framework serves as a foundation for developing federal, state, and foundation grant proposals to advance Oregon's community colleges' green initiative. It is intended to help inform local, regional, and statewide community college planning and implementation of green strategies and activities.

Oregon Community College Green Initiative

Green Framework

Appendix 1

Methodology

July 27, 2010

Appendix 1: Methodology

In early 2009 Oregon's Community College Presidents advocated for the development of an assessment, analysis, and planning process on "Green" education and training at community colleges across the state. Dr. Mary Spilde, President, Lane Community College, and Nan Poppe, President, Portland Community College Extended Learning Campus, were appointed liaisons to the colleges and CCWD in developing the Initiative. Drs. Spilde and Poppe attended a joint meeting of CIA-CTE Deans on Friday, May 8, 2009. The CIA-CTE Dean members voiced their support and a "core" team was identified. Subsequently, each college appointed a "green" team lead. Brenda Brecke from Coos Bay, Oregon, was hired as project manager for the initiative which was funded through the CCWD Strategic Fund.

Working with the college "green team" leads, core team, and staffing team, the project manager developed templates for gathering current "green" education and training offerings at the 17 colleges and potential future "green" education and training strategies and ideas. A "Green" literature review was conducted by Cylvia Hayes, 3E Strategies, Bend, Oregon.

Working with the various teams the project manager developed the Green Framework including guiding principles, goals, policies, resources, etc. The team met from May through August 2009 through conference calls and in person meetings on June 10 -11, July 14, and August 4. The content of the Green Framework were review and vetted by the teams identified in Appendix 1. College leads provided information for the green templates that were compiled. Templates (Appendix 3 and Appendix 4) were reviewed and updated by 15 colleges in May 2010.

Oregon Community College Green Initiative

Green Framework

Appendix 2

Oregon CCGI Governance Teams

July 27, 2010

**Oregon Community College Green Initiative
Governance and Staffing Directory**

Appendix 2

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Governance and Staffing Directory**

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**Oregon Community College Green Initiative
Governance and Staffing Directory**

Appendix 2

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**Oregon Community College Green Initiative
Governance and Staffing Directory**

Appendix 2

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**Oregon Community College Green Initiative
Governance and Staffing Directory**

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Oregon Community College Green Initiative

Green Framework

Appendix 3

Current Green Training at Oregon's Community Colleges

May 10, 2010

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/Audience¹	Partners and their contributions and commitments.	Additional information in targeted areas.
<p>1) Nascent Renewable Energy Jobs</p> <p>These include those jobs in the infancy stage of development such as in wave, geothermal, and biomass</p>	<p>Clackamas Renewable Energy Tech AAS in approval (45 s/y)</p>	<p>CC/ DL/ HS/ CW</p>	<p>NW Biofuels Assoc, PGE, American Hydrogen Association NW, OIT, UM, OSU, Clackamas County Sustainability Office, Perkins funds and Pathways to Sustainability funds</p>	<p><u>X</u> Career Pathways (Clackamas)</p> <p>___ Bridge Programs for ABS</p> <p><u>X</u> Career Pathways Certificates (Clackamas will evolve)</p> <p><u>X</u> Career Pathways Roadmaps (Clackamas Under development), LBCC,LCC</p> <p><u>X</u> Other K-12 connections (Clackamas –dual credits to manufacturing), LBCC</p> <p><u>X</u> Program of Study(Clackamas,LBCC,LCC)</p> <p><u>X</u> Short term trainings (TVCC,BMCC)</p> <p>___ Apprenticeships</p> <p>___ Career Readiness Certificate</p> <p><u>X</u> Distributed Education (Clackamas, BMCC)</p> <p><u>X</u> Small Business Development (BMCC)</p> <p>_____ Contracted Training</p>
	<p>TVCC -Adobe Brick Recycling- Noncredit 40 students</p>	<p>CE</p>	<p>None</p>	
	<p>COCC- None at this time. Task force evaluating “green” jobs in the area. Conversations still very informal—no info available to list in last column.</p>	<p>DL/CW</p>	<p>COIC, Workforce OR, 3E Strategies</p>	
	<p>LBCC- Automotive Technology AAS, 2yr Certificate, Alternate Fuels class-Hydrogen fuel cells and electric vehicles. 36 enrolled 2008-2009</p>	<p>CC/DL</p>	<p>Toyota, Honda</p>	
	<p>LCC- Water Conservation Technician Program: Two-Year AAS Degree (credit) with ability to seek professional certificate. Training to work as water efficiency technicians and workers, coordinators, specialists</p>	<p>Those seeking AAS to become technicians</p>	<p>Eugene Water and Electric Board</p>	

¹ Targeted Audience Key to Acronyms: **CC** = Community College Students; **DL** = Dislocated Worker; **ABS**= Adult Basic Skills students, **ESL** = English as Second Language students, **HS** = High School Students, **CW**= Current Worker, **CE**-Community/continuing education, **BA**= Business Owners, **PA**=Public Agencies, **A**=Apprentices

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience ¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	<p>or managers or as water management specialists and technicians. The program prepares students to design, implement and evaluate water conservation programs.30 students / year</p>			
	<p>BMCC-Small Business Development Center (SBDC) counselors are working with entrepreneurial companies to develop green technologies and markets. One-on-one counseling, non-credit, 5-10 companies currently, Hosting workshops by OSU Extension on bio products including biomass for energy generation. Total approx 80 attendees at two workshops so far.</p>	BA/PA	OSBDCN, OSU Extension	
	<p>PCC – Climate Action Plan: Sustainability Mgmt – Business (future degree option)</p>			

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience¹	Partners and their contributions and commitments.	Additional information in targeted areas.	
<p>2) Emerging Renewable Energy Jobs</p> <p>These include the jobs that are on the ground and increasing such as in solar, wind, utilities</p>	Clackamas- Wind turbine tech articulated with CGCC 20 students	CC/ DL/ CW	Same companies/CGCC	<input checked="" type="checkbox"/> Career Pathways (Clackamas, PCC,LCC, Chemeketa) <input type="checkbox"/> Bridge Programs for ABS <input checked="" type="checkbox"/> Career Pathways Certificates (Clackamas will evolve) <input checked="" type="checkbox"/> Career Pathways Roadmaps (Clackamas Under development)CGCC,LBCC,LCC,P CC) <input checked="" type="checkbox"/> Other K-12 connections (Clackamas,LBCC,LCC) <input checked="" type="checkbox"/> Program of Study (Clackamas, TVCC, CGCC,LBCC,LCC, Chemeketa) <input checked="" type="checkbox"/> Short term trainings – TBCC,LBCC <input checked="" type="checkbox"/> Apprenticeships LCC <input type="checkbox"/> Career Readiness Certificate	
	TVCC- Waste/water recycling and wetlands preservation. Credit classes in Nat Resources and Agriculture degree program in green landscaping, pesticides, irrigation, watershed management and noxious weed 30 students a year	C/ CL/ CW	Private citizen with recycling pond, college and armory share wetland area working on dev gr laboratories BLM		<input checked="" type="checkbox"/> Distributed Education (Clackamas , CGCC (in development), LCC, LBCC) <input type="checkbox"/> Small Business Development <input checked="" type="checkbox"/> Contracted Training (CGCC in discussion with 1 company right now, LBCC)
	PCC- Electronic Engineering Technology AAS Degree and 1-year certificate -- Renewable Energy Systems Option --Micro Electronics Technology AAS Degree and 1-year certificate – Options in Solar Manufacturing	CC/ DL/ CW	Vistas, Wide variety of other RE Energy Companies WIA Solar World Wide variety of manufacturing related companies WIA		
	TBCC- Building a solar water heater course non-credit 12 students	CE			
	Clatsop- Living Machine (Low Energy Waste treatment); Environmental Science 202 credit 20 students	CC/ CW	CH2M Hill, City of Astoria, Pacific U, US Parks, Oregon Garden OSU		
	CGCC- 9-month Career & Technical Education Certificate, Renewable Energy Technology; 2-year AAS,	CC Some with	1.4 million in contributions in the form of scholarships, equipment, and cash		

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience ¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	Renewable Energy Technology. We have two entry and exit points and admit up to 40 students in each cohort. Articulation agreements with Clackamas , Linn-Benton, Chemeketa, and OIT.	BS and higher	donations from industry partners. \$1.67M & \$350K from DOL; \$235K from DOE; \$500K from CCWD and Governor’s Strategic Workforce Fund. Perkinsfunds. Needs assessment funds received from Tides Foundation and the State of Washington to update workforce and industry needs.	
	LBCC Offer substantial Mechatronics program AAS connected with articulation agreement to CGCC Wind Energy program. Connected to HS recruitment/scholarship program. Program focuses on high tech cross training and troubleshooting for highly automated efficient systems. ²⁴ first yr. enrolled 2008-2009 Received funding from USDA to develop Biofuels I and II courses, develop capstone projects in conjunction with industry, and to deliver some mechatronics courses at a distance. Additionally, the grant	CC/ DL/ HS/ CW	Northwest Food Processors Assn. scholarships, recruitment with HS, internships, funding. Pacific Corp funding. Viper NW funding. Concept Systems donated and uses contracted training. Trillium Fiberfuels partnered with LBCC on \$115k USDA grant – Developing novel instrumentation and Capstone learning projects.	

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience ¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	provided funding for the development of a non-credit course for agricultural producers to become familiar with the economic opportunities available for biofuel production. Ultimately, the grant will result in a Sustainable Agriculture track for Mechatronics and Agriculture/Horticulture students.			
	LCC- Licensed Renewable Technician—state-licensed position works under electrician for PV installation.28 non-credit students.	CC/ HS	State JATC Industry training agent fee OSEIA, ODOE,Or Energy Trust	
	BMCC- Refer students, wind project developers, and power companies to Columbia Gorge Community College (CGCC) wind tech program. Wind turbine tech.			
	Chemeketa EET credit courses in renewable energy including solar and 74% match with CGCC wind program.	CC	CGCC, PGE,Pacific Power, WIAB, Intel, Cisco, Micron, Tek scholarships and equipment	
	COCC - None at this time. Task force evaluating “green” jobs in the area. Conversations still very informal—no info available to list in last column.	DL/ CW	COIC, Workforce Oregon and 3E Strategies	

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience¹	Partners and their contributions and commitments.	Additional information in targeted areas.
<p>3) Energy Efficiency Jobs</p> <p>These include jobs that involve increasing efficiency of the built environment such as jobs in weatherization, energy auditors, and some trades</p>	OCCC -Trainings for bus owners on tax credits for energy efficiencies	CE		<u>X</u> Career Pathways: (PCC/RCC/LCC, LBCC) <u> </u> Bridge Programs for ABS
	TVCC -Weatherization Training noncredit CE	CC/ DL/ CW	Working on partnership with Harney-Malheur Community Action	<u>X</u> Career Pathways Certificates (RCC, Clatsop) <u>X</u> Career Pathways Roadmaps (RCC, LCC, LBCC,PCC)
	PCC - Architecture -- two year degree AAS. Sustainable design and construction concepts are embedded in all applicable courses and a certificate has been created.	CC/ DL/ CW	NSF, Earth Advantage, City of Portland, wide variety of architectural firms and public agencies related to sustainable design and development.	<u>X</u> Other K-12 connections (RCC,LCC, LBCC) <u>X</u> Program of Study (Clatsop,RCC,LCC) <u>X</u> Short term trainings(TVCC, Clatsop (Weatherization), MHCC, COCC,LCC, LBCC)
	Sustainable Building (1-year) Certificate -- builds on the Architectural program by combining additional coursework in sustainable design, products, materials, and construction with Environmental science, sociology and ethics.	CC/ DL/ CW	NSF, Earth Advantage, City of Portland, wide variety of architectural firms and public agencies related to sustainable design and development.	<u>X</u> Apprenticeships (Chemeketa) <u>X</u> Career Readiness Certificate (RCC,LCC) <u>X</u> Distributed Education (BMCC, LBCC) <u>X</u> Small Business Development (OCCC, BMCC) <u> </u> Contracted Training
	Building Construction – two year AAS and one year certificate. In the process of integrating sustainability practices throughout the curricula.	CC/ DL/ CW	NSF, Earth Advantage, City of Portland, wide variety of construction firms involved with sustainable building practices.	

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience ¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	<p>Building Inspection Program: Green Building Inspection- Residential only.</p>	CC/ DL/ CW		
	<p>Facilities Maintenance Technology (FMT) and Industrial Technology (IT), two year AAS and one year HVAC certificate. In the process of integrating sustainability practices throughout the curricula. The new course we've developed in Building Commissioning (Facilities Maintenance AAS program) can be found http://www.pcc.edu/ccog/default.cfm?fa=ccog&subject=FMT&course=265 Career Pathway Certificate of Completion for HVAC at: http://www.pcc.edu/career/pathways/professional-technical/hvacr-installation/</p>	CC/ CW/ DL		
	<p>Interior Design two year AAS Degree. In the process of integrating sustainability practices throughout the curricula.</p>	CC/ CW	NSF, Earth Advantage, City of Portland, wide variety of architectural firms and public agencies related to sustainable design and	

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience¹	Partners and their contributions and commitments.	Additional information in targeted areas.
			development.	
	Chemeketa- Apprenticeships (Electrician, HVAC) renewable energy activities credit	CW/ A	Community Business	
	Clatsop- Weatherization and Lead Removal non credit; Historic Preservation and Restoration credit 15 students per year	CC/ CW/ DL	Area small business, Community Action Team, Advisory Board & local businesses	
	MHCC- Sustainable Building Advisor National Certification non credit; Building Analyst and Envelope Prof non-credit (prepares students for the Building Performance Institute cert testing); Weatherization Tech/Installer	CW	Business and Industry Incumbent Workers skill upgrade Partner with WIA	
	COCC- Sustainable Building Advisor 9-month course (1 wkend/month) Noncredit – students who qualify can take industry certification exam to become a ‘Certified Sustainable Building Advisor’	CC/ CW/ DL	SBA: Some industry partners donate instructional expertise (value varies).Energy Trust of OR provides scholarships for ETO Trade Ally Network members (~\$3000/year). COCC Foundation Turner Fund provided scholarships in 07/08 and 08/09 (~\$5000/year). BetterBricks provided advertising	

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience ¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	<p>Home Energy Analyst Trainings Three separate trainings 2009 (Oct-Dec) including 5-day core training, 3-day building envelope training and 3-day heating/cooling training. Course content covers knowledge needed for certification as Home Energy Analyst through Building Performance Institute (BPI). Additional hands-on training and testing outside this class is required to become BPI-certified.</p> <p>Performance Tested Comfort System (PTCS) Duct Sealing Training 3-days. Upon completion, students can test to become PTCS certified (industry certification).</p> <p>Performance Air Testing & Sealing (PATS) Upon completion, students can test to become PATS certified (industry certification)</p>	CC/ DL	<p>Home Energy Analyst Trainings</p> <p>Currently in the process of working with Conservation Services Group (CSG) and ETO to provide partial reimbursement to students who are trade allies who complete the Home Energy Analyst training and fulfill additional requirements to become BPI certified.</p>	
	<p>RCC- Construction Tech AAS and CP cert (dev retrofit program for energy efficiency) Incorporate green and sustainability in all programs /courses. LEED cert, New products seminar –SIPS</p>	CC	Energy Star, Earth Advantage, Energy Trust	
	<p>LBCC- Mechatronics program(AAS) is implementing energy efficiency</p>	CC/ DL/ HS, CW	NWFPA, Pacific Corp, Viper NW, Concept Systems	

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience ¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	<p>training in automated systems. Pursuing offering a certification in efficiency and in Mechatronics. Includes coursework in Computerized Maintenance Management which focuses on efficiency. Has a Industrial Refrigeration component. Effective maintenance and troubleshooting</p> <ul style="list-style-type: none"> • Operating a computerized maintenance system for maximum energy efficiency • Preventing defects in production • Preventing energy wasting operations or breakdowns <p>Green repair options in maintenance, troubleshooting and repair</p> <ul style="list-style-type: none"> • Motor replacement and sizing • Selecting energy efficient control options <p>24 first yr. enrolled 2008-2009</p>			
	<p>LCC - Energy Management Technician (credit) AAS, Thirty Students / year Renewable Energy technician (credit)</p>		<p>EWEB \$136,000 Fees from Custom trainings.</p>	

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience ¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	<p>AAS, Thirty students / year Resource Conservation Management Technician (credit) AAS Thirty Students / year Energy Management /Renewable Energy Technician 18-month Accelerated Program (Credit) Leading Alternatives in National Energy Solutions (Lanes) (credit) Summer Youth Career Academy . Students will be introduced to the industry, learn entry-level skills in weatherization, develop strong employability skills, and be set up with a paid work experience. The academy will serve 20-25 at-risk youth. Students will earn college credits. Residential Weatherization Auditor 1 and Residential Weatherization Technician 1 training (non-credit)</p>	<p>DL</p> <p>At risk youth between the ages of 16 and 24</p> <p>Low income DL</p>	<p>SESP grant of \$423,536</p> <p>NSF grant of \$810,000</p> <p>Lane Workforce Partnership. Source of funding: American Recovery and Reinvestment Act (ARRA)</p> <p>Lane Workforce Partnership is providing \$180,000 for the training and an additional \$450,000 for paid work experiences that would include other career technical areas as well.</p>	
	<p>BMCC- SBDC referring contractors</p>	<p>Contractors</p>	<p>Oregon Energy Trust</p>	

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	to Oregon Energy Trust Programs Non-Credit 5-10 initially; growing			
<p>4) Greening of existing jobs</p> <p>These include jobs where workforce need skills upgraded such as plumbers trained in solar hot water installation, carpenters trained in green building techniques and materials, landscapers trained in green landscaping techniques and plants.</p>	<p>Clackamas-Horticulture AAS and one year cert, Irrigation Tech CP cert, Landscape AAS, Landscape Practices one year certificate, Plant Healthcare CP cert 200 students</p>	CC/ DL/ CW		<p><input checked="" type="checkbox"/> Career Pathways (PCC, Clatsop (Auto), RCC, Clackamas)</p> <p>___ Bridge Programs for ABS</p> <p>___ Career Pathways Certificates</p> <p>___ Career Pathways Roadmaps</p> <p><input checked="" type="checkbox"/> Other K-12 connections (Clatsop RCC)</p> <p><input checked="" type="checkbox"/> Program of Study(TVCC, Clatsop (auto), LBCC)</p> <p><input checked="" type="checkbox"/> Short term trainings Clatsop (leadership)</p> <p>___ Apprenticeships</p> <p>___ Career Readiness Certificate</p> <p>___ Distributed Education</p> <p>___ Small Business Development</p> <p>___ Contracted Training</p>
	<p>TVCC- Pesticide workshop CE 40 students a yr, Intro to Lean Manuf non credit Biz C -9 students, Wildland Fire Training CE 750 students per year</p>	BA	BLM,USFS, Or/Id State Dept of Lands, local structure fire agencies	
	<p>PCC- Automotive AAS Degree, Alternative Fuels Option.</p> <p>Integrating focus on hybrid automobiles and light trucks and offering as CEUs</p> <p>Civil/Mechanical Engineering Technology AAS Degree– Sustainability and Green Technology Option.</p>	CW		
	<p>Building construction, 2 yr AAS and 1 yr Certificate</p>		Oregon Home Builders Association	

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Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	Building Performance Institute Certification in Partnership with Conservation Service Group		Building Performance Institute	
	Advanced Framing and Building Envelope Training – modifications to existing curriculum on going		iLevel	
	Landscape Technology – 2 yr AAS degree & 2 yr certificates – sustainability design, construction and maintenance concepts and practices embedded in all applicable courses			
	Clatsop -Meteorology 40 students	CC	Advisory Committee	
	MHCC - Green Building Principles non credit	CC		
	COCC - NABCEP Entry Level PV Solar Exam Prep course for Electricians. 16 hour class covering information to prepare licensed electricians to sit for the North American Board of Certified Energy Practitioners (NABCEP) Entry Level exam. Noncredit Plans to offer this 2 times per year.	CW	COCC contracted with Lane Community College for instruction, which assisted us in getting started with well-developed instructors and curriculum.	
	LBCC – Mechatronics/RHVAC: Effective maintenance and	CC/ DL/ CW/ HS		

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience ¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	troubleshooting <ul style="list-style-type: none"> • Operating a computerized maintenance system for maximum energy efficiency • Preventing defects in production • Preventing energy wasting operations or breakdowns Green repair options in maintenance, troubleshooting and repair <ul style="list-style-type: none"> • Motor replacement and sizing • Selecting energy efficient control options • 24 first yr. 2008-2009 			
	LCC-Energy Management Certification Program (certificate) (non-credit)18 students	BA		
	Building Operator Certification (non-credit) 40 students	CW		
	Bonneville Power Administration Residential Energy Auditor and Inspector Certification (non-credit) 27 students	BPA and utility CW	Northwest Public Power Association Bonneville Power Admin. \$1200 for teachers	
	Sustainable Building Advisor Program (certificate) (non-credit) 20	CC/ DL/ CW/ HS		

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/Audience¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	students			
	State apprenticeship Program for PV and solar water heater installation (non-credit/credit) 18 active apprentices.	A/ AB		
	Sustainability Coordinator AAS degree program	CC		
	Statewide Basic Manufacturing Technician Certificate Program with Solar Emphasis	CW		
	Sustainable Building Practices Course with LEEDS option (credit)	Low-income adults and DL	Lane Workforce Partnership is providing \$180,000 for the training and an additional \$450,000 for paid work experiences that would include other career technical areas as well.	
	Culinary Arts and Food Service Management AAS has a strong focus on sustainability. 50 students /credit Hospitality Management AAS and 1 yr cert have strong focus on sustainability. 35 students/credit	Industry		
	11 BOLI Registered Apprenticeship programs	A		

**Appendix 3 Oregon Community College Green Framework
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Program Area	Description of current program, Courses, activities.	Students/ Audience ¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	<p>Approximately 300 students, 60 are in Limited energy technician on line course.</p> <p>Climate Masters at Work – Non-Credit Course included 10 Week class sessions focused on assisting businesses and organizations with lessening their carbon footprint and saving money; followed by 6 monthly seminars and one-on-one business evaluations and process advising with a sustainable environmentalist. Businesses were given assistance during their one-on-one advising sessions to carry out their plan to reduce emissions.</p> <p>Purpose of the program is to grow participants’ knowledge base and provide an avenue of practical application within the business.</p>	<p>BA/ and non-profit managers.</p>	<p>University of Oregon – Climate Leadership Initiative – collaborated on curriculum, marketed program, facilitated some of the classes.</p> <p>Business Development Center contracted with Good Company – a privately held company that assesses businesses sustainability efforts and develops renewal energy to provide two associates to facilitate classes and seminars as well as perform one-on-one advising sessions with participants. Good Company underwrote a portion of their time.</p> <p>Eugene Water and Electric Board provided sustainable energy and wastes water information and guidance.</p> <p>Eugene Chamber of Commerce provided classroom space and</p>	

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience ¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	<p>BMCC- Credit. Lead college with Chemeketa in statewide curriculum development for apprenticeship training. Apprenticeship program partners are infusing curriculum with green processes and systems, not stand-alone courses. Instructors modify courses to include latest green technology as it evolves. Specific Trades have made progress using green technologies – plumbers using green materials, energy modalities, water delivery systems, waste water systems, passive and active water systems. Electricians are incorporating photovoltaic, heating, energy efficient lighting, passive and active heating systems, and energy conservation automation. HVAC/R is teaching elements of convection air movement, innovative design for structure to heat and cool, conduit and pipe modifications for efficiency. Sheet metal focuses on structural design, ambient air movement, appliance placement, and</p>	A/ BA/ Contractors	<p>marketing. Springfield Chamber of Commerce provided marketing.</p> <p>Oregon Community College Apprenticeship Network (OCCAN)</p> <p>Oregon Bureau of Labor and Industries (BOLI) Apprenticeship and Training Division (ATD)</p> <p>Contractors</p> <p>Trade Unions</p> <p>Apprenticeship Committees</p> <p>Trade Materials and Services Suppliers</p>	

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/Audience¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	conservation of materials. Students are 4-year apprentice students – approximately 160 inside electrician apprentices, 95 plumber apprentices, 50 HVAC/R apprentices, and 40 sheet metal apprentices.			
5) Curriculum Infusion Modification of curriculum to reflect triple bottom line of sustainability/green principles and practices (i.e., construction, sustainable manufacturing, ‘green’ apprenticeship models)	Clackamas -Credit transfer classes: Pathways to Sustainability, Sustainability & Ethics, Sustainable Cities 75 students Sustainability HS Pathways to Postsecondary	CC/ DL/ CW	OUS System, CCWD strategic fund Pathways to Sustainability	<input checked="" type="checkbox"/> Career Pathways (PCC, Clatsop (Auto), RCC, Clackamas) <input type="checkbox"/> Bridge Programs for ABS <input type="checkbox"/> Career Pathways Certificates <input type="checkbox"/> Career Pathways Roadmaps <input checked="" type="checkbox"/> Other K-12 connections (Clatsop RCC) <input checked="" type="checkbox"/> Program of Study(TVCC, Clatsop (auto), LBCC) <input checked="" type="checkbox"/> Short term trainings Clatsop (leadership) <input type="checkbox"/> Apprenticeships <input type="checkbox"/> Career Readiness Certificate <input type="checkbox"/> Distributed Education <input type="checkbox"/> Small Business Development <input type="checkbox"/> Contracted Training
	TVCC - Credit classes in: Biology several hundred students Physical Science Energy 30 students, Range Management and other Ag certificates and degrees(Soils, crop prod, pesticides, Coop Work Exp) 50 students, Nat Res cert and degrees including Wildfire (GIS, Noxious Weed, Forest Practices, Watershed Management, Fire Effects, Nat Resource Ecology, Coop Work Exp) 20 students	CC	Faculty on sabbatical did research in hydrology/geothermal w Boise S U Soil and water conservation potential partners BLM provides outdoor lab opportunities	
	PCC - Biology, Environmental Studies, Chemistry, Engineering, Sociology, Philosophy, Writing, Building Construction, Construction	CC/ CL/ CW/ CC (for all areas)	Individual courses in all these disciplines have integrated sustainability/green	

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience ¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	Management, Building Construction Technology, Design/Build, Economics – Mindful Economics, Geography: GIS Certificate includes environmental science focus		principles and practices in the curricula. In many cases these courses are either elective courses or required courses included several of the current and future Green Technology Degree options.	
	UCC -Environmental Lit Course	CC	Advisory board	
	Clatsop - Clatsop Leadership Forum non credit 20 students per yr	CW	Chamber of Commerce, Sunset Empire Transportation District, Western Or Waste	
	SOCC -Instructors embedded sustainability assignments CS120, ENG111; Phyto remediation as part of the Chemistry lab curriculum.	CC		
	COCC - GS 105, CH 105, and CH223 content related to alternative energy , all organic Chemistry labs are “green” and use Roto-evaporator to recycle solvents	CC	Rich Gurney, Simmons College (Boston) Greener Education Materials For Chemists website	
	RCC -Ecoeducational House Project student designed and built house; Construction Tech –greened, Electronics Program –embedded in EET240/241 (use solar panels)		Home Builders Eagle Point HS	

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience ¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	Sustainability HS Pathways to Postsecondary			
	<p>LBCC-Composting area constructed with (3) separate bays within Horticulture programs</p> <p>Emphasizing biofuel production, genetic crop enhancement, and organic production in horticulture programs</p> <p>New Science building will be LEED Silver Certification</p>			
	<p>LCC- Sustainability course of study for transfer degree to be printed in the 2010 course catalogue.</p> <p>Lane is currently administering an EPA grant funded Sustainability Infusion Project in which 20 faculty trainers are training a total of 200 faculty to infuse triple bottom line sustainability into courses.</p> <p>Sustainability infused throughout many classes at Lane including General Chemistry, Organic Chemistry, Biology, Automotive Technology, Diesel Technology, Health, Culinary Arts, Hospitality Management, Religious Studies, Economics, Philosophy, Political</p>	20 New students in this year		

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience ¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	<p>Science, ESL, and GED.</p> <p>Lane has an application for sustainability course status which faculty may use to have their classes officially considered a “Sustainability” class. This application was based on the application used to determine whether a class can be considered a class that fulfills the “Ethnic/Gender/Cultural Diversity” requirement. Approved classes will have a sustainability designation in the course catalogue and the class schedule.</p>			
	<p>BMCC- ENG 269 Nature Lit, Ag infused sustainability courses credit and non credit 100 students, Diesel Tech includes env sound practices 50 students; Civil Eng includes sustainability standards and codes 80 students</p>	<p>HS CC Contractors /material suppliers /designers</p>		

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/Audience¹	Partners and their contributions and commitments.	Additional information in targeted areas.
6) Other Green activities	Clackamas CCC Sustainability Series 1500 students/year , Green industry mini summits 50 students/year	CC/ DL/ ABS/ESL/ HS/ CW		<input checked="" type="checkbox"/> Career Pathways-(Chemeketa, RCC, CGCC) <input type="checkbox"/> Bridge Programs for ABS <input type="checkbox"/> Career Pathways Certificates <input type="checkbox"/> Career Pathways Roadmaps <input checked="" type="checkbox"/> Other K-12 connections (Chemeketa,, SOCC) <input checked="" type="checkbox"/> Program of Study (Chemeketa,Clatsop,MHCC,RCC,LCC) <input checked="" type="checkbox"/> Short term trainings (TVCC, UCC, Clatsop, SOCC,COCC,RCC,LBCC,LCC, BMCC) <input checked="" type="checkbox"/> Apprenticeships (LCC) <input type="checkbox"/> Career Readiness Certificate <input checked="" type="checkbox"/> Distributed Education (RCC) <input checked="" type="checkbox"/> Small Business Development (UCC, COCC,LCC,BMCC) <input checked="" type="checkbox"/> Contracted Training (LCC)
	KCC -Working w/ Local Green Building Cluster	CW/ DW		
	TVCC-CE noncredit –organic gardening, family recycling 20 members, climatology for viticulture 132 participants	CE/ DW		
	PCC – Community Education Program Planning Biology, Environmental Studies & Resources & Landscape Technology Resource Management AAS 2 yr transferrable degree to 4yr institution, Includes Certificate in Wetlands Restoration, Mitigation and Management. PCC’s sustainability website includes a partial list of "green" training courses: http://www.pcc.edu/about/sustainability/	E/ CW/ CC/ DL	A wide array of non-credit Green Living courses are offered to help community members save money, conserve resources and build skills while enhancing environmental awareness.	
	Chemeketa -Hort program and courses w/sustainability. Practices	CC/ Bus Owners		

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	30-40 students credit and non credit			
	UCC- Earth Day Celebration 100-150 students; Workshops on Energy Tax Credits	CE/ CC		
	Clatsop- CE “Green Makes Cents”; Campus recycling (Student driven)	CC		
	MHCC- Sustainability Health and Safety AAS or 1yr cert.; Natural resource Tech AAS or 1yr cert; Introduction to Solar Power; Urban Farming Fundamentals; Sustainable Landscaping and Design	HS/ CW		
	SOCC- CBJT Grant includes lab run on biodiesel. Green awareness and Green Jobs Career Info will be conducted within each community in college district	CC/ CW/ DW/ CE		
	COCC- Personal enrichment classes for living green are offered as part of our Community Learning program. These classes vary each term and usually run 3-8 hours and range from \$29-\$89. Current offerings include: Building Green, Green Remodeling, Sustainable gardening, Xeroscaping, Understanding solar energy, Straw Bale construction, Making Biodiesel	BA		

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience ¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	<p>Business classes for incorporating green are offered through our Business Development Cent and Community Learning. These classes vary each term and usually run 3-8 hours and range from \$29-\$89. Current offerings include: Greening Your Business, One-on-one Business Sustainability advising</p> <p>COCC also models for students sustainable operating and building practices including:</p> <ul style="list-style-type: none"> Purchase renewable power Storm water kept on site Shuttle bus with bike racks Covered and uncovered bike parking Organic fertilizers Earth friendly cleaning supplies High efficiency HVAC controls Insulated buildings. Decreased water usage for landscaping 	CC		
	<p>RCC-member of AASHE and formed a green team who sponsor green events to public, Summer Institute for Green</p>	CC, Faculty, CE	Area Sanitation Co, SOU, County Gov, OSU	
	<p>LBCC-Water/Wastewater Technology AAS, One year</p>	CC/ DL/ CW		

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience ¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	<p>Certificate in W/W Plant Operations. Aquatic Chemistry and Microbiology, Water Purification Systems, Treatment.</p> <p>-Facility transition to better practices(utilizing BETC credits): lighting, recycling, construction management, low-flow plumbing fixtures, chemicals, HVAC, transportation</p> <p>-Clean Cities Program Grant for electrical vehicle charging stations, purchasing of hybrid vehicles, and conversion to plug-in hybrid vehicles</p> <p>-National Teach-in on global warming</p> <p>-Sustainability Committee formed</p>			
	<p>LCC-Opportunities for students to gain experience with green projects outside of the classroom include a Green Chemistry Club, an active Oregon Student Public Interest Group chapter, and a Learning Garden Club. The Learning Garden Club grow food that is sold to the campus cafeteria and Culinary Program. LCC provides an opportunity for students in the Renewable Energy Technology</p>	CC	Solar Oregon PaciCorp Regional Governments	

**Appendix 3 Oregon Community College Green Framework
Current Green Activities & Programs**

Program Area	Description of current program, Courses, activities.	Students/ Audience ¹	Partners and their contributions and commitments.	Additional information in targeted areas.
	<p>program to do a solar installation each year. Students in Lane’s Water Conservation program have worked closely with college operations to install a rainwater harvesting system and to retrofit bathroom faucets and showerheads. LCC recently received a grant for solar covered parking connected to electric vehicle charging stations. Lane is a signatory of the American College and University Presidents Climate Commitment. The college has completed a comprehensive greenhouse gas emissions inventory. http://www.lanec.edu/sustainability/susprog.html for more information on green activities at Lane.</p>			
	<p>BMCC Workshops in solar energy principles using internet video; Led PacifiCorp “Blue Sky” initiative; Hosted sustainable materials use conference w/ city of Pendleton</p>	<p>Home Owners, Property Owners</p>		
	<p>CGCC: LBCC, TBCC, BMCC, SOCC, RCC, COCC, UCC, TVCC Participating college in SESP grant through TOC/OWA.</p>	<p>DW/ Low income adults</p>	<p>The Oregon Consortium & 9 colleges</p>	

Oregon Community College Green Initiative

Green Framework

Appendix 4

**Potential New and Expanded Green Training at
Oregon's Community Colleges**

May 10, 2010

Appendix 4 Oregon Community College Green Framework
Potential New/Expanded Green Training and Activities for Community Colleges

Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience¹	Type of Program/ Curriculum Activity²
1) Nascent Renewable Energy Jobs These include those jobs in the infancy stage of development such as in wave, geothermal, and biomass	KCC -new programs/classes that would transfer into existing cc Green Programs	KCC -Would like to align with existing cc Green Program	KCC-CC, DL, HS, CW	H
	OCCC -would like to be part of a Wave Energy Tech program with other cc		CC, CW, DL	C,F,H, (TBCC and Clatsop have expressed interest) I, J, L
	TVCC - Biomass Tech Low		CC, DL	Comment: If/when employer moves in this direction as second phase of planned development it would rise in priority C, E, J, L
	TBCC - Interested in partnering on wave energy development \$290,000 Low Biomass Conversion Cert and AAS \$180,000 Med		CC, DL, HS, CW	H – Possibly with OSU wave energy research project and/or OCCC and Clatsop H-with OCCC and

¹ Targeted Audience Key to Acronyms: **CC** = Community College Students; **DL** = Dislocated Worker; **ABS**= Adult Basic Skills students, **ESL** = English as Second Language students, **HS** = High School Students, **CW**= Current Worker, **CE**-Community/continuing education, **BA**= Business Owners, **PA**=Public Agencies, **A**=Apprentices

² Categories include **(A)** Career Pathways Bridge Programs for ABS **(B)** Connections with K-12, **(C)** Career Pathways Certificate **(D)** National Career Readiness Certificate, **(E)** short term trainings; **(F)** Program of Study **(G)** Distributed Education; **(H)** Partnerships with other Colleges; **(I)** Partnerships with WIA; **(J)** Partnerships with businesses/industry; **(K)** Green Literacy (Greening curriculum across disciplines) **(L)** Small Business Development.

Appendix 4 Oregon Community College Green Framework
Potential New/Expanded Green Training and Activities for Community Colleges

Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
	<p>SOCC- Wave Energy AAS Career Pathways Low Priority Credit \$130,000 Start up \$80,000 Ongoing</p>		<p>CC, DL, HS, CW</p>	<p>Clatsop, J-local bio gas methane digester facility in Advisory Group, internships/cwe</p> <p>(B) Offer career exploration courses and tours for middle and high school students in the College service district</p> <p>(F) Develop and implement an AAS degree and program of study for wave energy technician training</p> <p>(J) Enhance partnerships with manufacturers who have expressed interest in developing wave energy generation stations on the south coast of Oregon.</p> <p>(H) Partner with Oregon State University, University of Oregon and Oregon Institute of Marine Biology to create a pathway to 4-year and graduate degrees.</p>

Appendix 4 Oregon Community College Green Framework
Potential New/Expanded Green Training and Activities for Community Colleges

Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
	<p>Clatsop- Sustainable Energy Technician Certificate, AAS, Career Pathways, Biomass Technology and Wave Technology, in partnership with Tillamook Bay & Oregon Coast CC, high, \$250,000.</p>	<p>Clatsop Ocean Wind Tech High \$1million</p>	<p>CW, CC, DL</p>	<p>C, E, F, G, H, J, L</p>
	<p>TBCC –Ocean Wind Tech High</p>		<p>CC, HS, CW</p>	<p>F –add to current automotive E-add for SHS E,H,J</p>
	<p>MHCC-Hybrid &Electric Car Tech AAS Startup \$250,000 Med</p>	<p>MHCC Bio-diesel Fuel technology addition to Sustainability Health and Safety \$50,000 Med</p>	<p>CW, DL, CC, HS</p>	<p>B, C, H, J</p>
	<p>COCC - Geothermal Installer Certification –IGSHPA 3-day certification is already developed and could be hosted at COCC. Costs, \$10,000? As Renewable Energy Engineering (high priority); ? cost \$5000</p>	<p>COCC-Expansion on articulations with OSU, OIT. Expansion on focused articulations with institutions having a Bachelor’s degree in sustainable energy (OSU, OIT)</p>	<p>CW, DL</p>	<p>E, H, J</p>

Appendix 4 Oregon Community College Green Framework
Potential New/Expanded Green Training and Activities for Community Colleges

Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
		<p>LBCC-Expand Mechatronics offerings in Wind and Solar Voltaic w cert and hands on training/add 24 student section \$350,00 equip,\$60,000 startup salary and \$35,000 ongoing</p>	<p>CC, DL, HS, CW</p>	<p>A, B, C, E, G, H, partnering with CGCC, Chemeketa, and LCC</p>
	<p>LCC-Wind Turbine Manufacturing PV Manufacturing LCC- New program Cost: TBD</p>		<p>CC, DL, ABS, ESL, HS, CW</p>	<p>A—entry-level position giving ABS skills in manufacturing and green areas. B—can be articulated with K-12 to provide entry into two pathways E—short-term training for CW and DL to build this piece of economic development F—can align with current manufacturing program of study and new program for green G—unsure H—excellent opportunity for partnership to develop</p>

Appendix 4 Oregon Community College Green Framework
Potential New/Expanded Green Training and Activities for Community Colleges

Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
				<p>this as a statewide manufacturing focus. I—funds for DL would work well in this area J—LCC has relationship with Siemens AG, which builds wind turbines. Also, there is excess manufacturing capacity with respect to workforce and appropriate facilities.</p>
	<p>BMCC- Biomass Energy Generation. Medium priority (based on federal and regional forest and ag biomass supplies).</p>		<p>CC, DL, CW</p>	<p>B,E,G,H,J, K,L</p>
	<p>RCC-1) Renewable Energy Technician Degree, focusing on the many knowledge areas necessary to implement a facility to create the energy from Bio fuels. High \$150,000 2) Eco-Farming, Small farm management utilizing renewable practices High \$150,000</p>		<p>CC, DL, CW</p>	<p>C) Pathway with other RCC Departments E) Short-term Training and Degree Program J) Partner with agencies that include BLM, Forest Service, County Government F) Program of study</p>

Appendix 4 Oregon Community College Green Framework
Potential New/Expanded Green Training and Activities for Community Colleges

Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
	<p>Chemeketa - Process Control Tech. AAS:and Certificate. Develop new degree and certificates to support cross industry skills training in process technology Equipment, \$400,000, program development, \$250,000 M/S, \$200,000. Multiple cohorts annually.</p> <p>150 immediate new jobs 300 Long term jobs 1548 replacement jobs projected for process operations next ten years</p>		CC, DL, ABS, ESL, HS, CW	B,C,E,H,I,J,K,L Process technology is a foundation of learned skill sets that supports many industry sectors. (Food Processing, Advanced, manufacturing, Advanced Woods, Agri-business, Beverage Distilling, Composite)
<p>2) Emerging Renewable Energy Jobs</p> <p>These include the jobs that are on the ground and increasing such as in solar, wind, utilities</p>	<p>Clackamas- Solar Thermal 1yr cert \$385,000(3 yr)High; Solar PV 1year cert \$385,000 (3year)High; Wind/Utilities 1 yr cert \$265,000 (3yr)High</p>		Clack-CC, CW, DL, HS	Clackamas- B- dual enrollment, C, F,I,J adv com., Utility Training Alliance
		<p>UCC-Solar Manufacturing 1yr cert (redesign project of Digital Systems Tech prog) 15 students initially, \$75,000 Med; Green Construction Certs pathways cert</p>	CC, DL , CW, HS	UCC-B,J,F,I

Appendix 4 Oregon Community College Green Framework
Potential New/Expanded Green Training and Activities for Community Colleges

Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
		into Green Construction Specialist or AAS, 15 students initially,\$95,000 High		
	KCC-Construction Management Degree \$177,000startup/46,500 on going costs High		KCC-CC, DL, HS, CW	A-incorporate Intro to Trades curriculum B,I,J Home Builders Association
	OCCC-Small wind generators installation training		CC, DL, CW Business & land owners	C, E, I, J, H
	TVCC-Solar Voltaic Tech and Basic Manufacturing Cert, \$250,000 start up and \$150,000 per year for 4 years HIGH (TOP PRIORITY)	TVCC-Water/Wastewater Tech \$100,000 start up and \$70,000 for 4 yrs Med	CC, DL, ABS, ESL	E,I,L Comment: This is a natural program for TVCC based on 300 days sun and planned location of renewable energy company specializing in solar as well as growth solar in Caldwell Potential partner with Idaho Power and allow us to articulate with CGCC Wind Energy

Appendix 4 Oregon Community College Green Framework
Potential New/Expanded Green Training and Activities for Community Colleges

Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
				Tech Program A,C,D,F,P,J Partner with Malheur Water District, OSU Extension Comment: Local processing co planning expansion estimates of 100 new jobs and 100 retraining jobs – this priority would raise when/if happens
	TBCC - Alternative Energy Cert \$80,000 High Interested in partnering on wind energy tech(cert /AAS) \$220,000 High		CC, DL, HS, CW	H- Possible w/OCCC and Clatsop, J
	Chemeketa - Wind Technology AAS degree. Redesign existing electronics courses and add additional courses to align with other CCs. Create stand alone AAS and Pathways Certificate and One year certificate. \$115,000 equipment. \$2,700 curriculum development. \$3,000 M/S.		CC, DL, CW	B, C, E, H, I, J, K

Appendix 4 Oregon Community College Green Framework
Potential New/Expanded Green Training and Activities for Community Colleges

Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
	<p>15 students first year, 20 second year and 25 third year. 25-50 current workforce annually. Photovoltaic Technician AAS degree – courses and potential certificate and degrees \$73,000 equipment \$23,000 curriculum development \$25,000 M/S. Serve 15-25 AAS students annually. Plus 25-35 current workforce.</p>			
		<p>Clatsop - Living Machine (Water Treatment) 2.5 m Med</p>	<p>CC, CW</p>	<p>C, E, F, J, L</p>
	<p>SOCC-1)Short term training designed for local energy auditors – non-credit High Priority \$10,000 Start up \$2,500 per class offered 3 times a year 2)Short term training for electrical journeyman and apprentices for photovoltaic panel installation High Priority</p>		<p>DL, CW</p>	<p>(J) Expand the partnership that exists with Oregon Coast Community Action (ORCCA) with the goal of providing energy auditor training Expand the partnership with Apprenticeship Trusts to provide continuing education instruction on solar panel</p>

Appendix 4 Oregon Community College Green Framework
Potential New/Expanded Green Training and Activities for Community Colleges

Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
	<p>\$10,000 start up \$2,500 per class offered 1 time per year for non-credit</p>			<p>installation, repair and maintenance</p>
	<p>CGCC –Develop Renewable energy business management strand High</p> <p>Mechanical Energy Engineering Tech AAS 18 Students start up, 34 following yrs start up/1st yr \$135,000 Med</p>	<p>CGCC -Develop high voltage & Safety module High; Secure commercial sized nacelle High</p> <p>Purchase residential scale wind turbine and ground mounted solar system Med</p>	<p>A</p> <p>CC CW</p> <p>CC,DL,HS</p>	<p>G, H, J, L</p> <p>F,H,I,J</p> <p>J,C</p>
	<p>COCC- Develop NABCEP exam prep courses for solar PV and solar thermal installers who want to study for the certification exam. Target students would be licensed electricians and plumbers who want have been doing installs and want to become certified by NABCEP. Aprox. \$4000 each</p> <p>AAS Solar Energy Technician, med priority \$600,000 start up and approx. \$520,000 to maintain</p>	<p>COCC- Expand NABCEP instruction to NABCEP PV Solar Entry Level course for non-electricians (40 hour course). For those who want to enter solar in a support role, not install, to gain PV knowledge. Noncredit-\$6500</p> <p>Low priority.</p>	<p>DL, CW</p>	<p>E, I, J</p>

Appendix 4 Oregon Community College Green Framework
Potential New/Expanded Green Training and Activities for Community Colleges

Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
	<p>RCC- Energy Technician as a certificate or degree within the Construction Technology Dept. and the Electronics Dept. High \$150,000</p> <p>Combine with the Renewable Energy emphasis. High \$150,000</p>		CC, DL, HS, CW	<p>C) Pathway with other RCC Departments</p> <p>E) Short-term Training/program with Degree</p> <p>F) Program of Study leading to a certificate and degree</p>
		<p>LCC- Distance learning based PV and solar thermal training. Expand program to include PV 2 and solar thermal fundamentals. High Priority \$220,000</p>	CC, DL, CW, ESL, HS, ABSE	E, F, G, H, I, J, L
	<p>BMCC-Wind tech prep program for early steps in wind tech career pathway.</p> <p>Medium priority. Costs are being identified.</p> <p>Solar tech prep program for solar tech career pathway. Medium priority. Costs are being identified.</p>		CC, DL, CW	A ,C, D, E, H, I, J, L
	<p>LBCC- NSF grant Pending for “The Technician of the Future”</p>	<p>LBCC - Expand Mechatronics offering in Wind, and Solar Voltaic with</p>	CC, DL, HS, CW	We will add equipment and appropriate coursework in collaboration with CGCC,

Appendix 4 Oregon Community College Green Framework
Potential New/Expanded Green Training and Activities for Community Colleges

Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
		certificates and hands on training. Add 24 student section focus of additional 45 credits options over 2 year development cycle. \$350,000 equipment costs; Salary costs startup \$60,000 startup and \$35,000 following.		Chemeketa, and Lane. Expand enrollment in current Mechatronics, and add focus certificates. Expand on-line capabilities and short-term training options.(A), (B), (C), (E), (G), (H)
3) Energy Efficiency Jobs These include jobs that involve increasing efficiency of the built environment such as jobs in weatherization, energy auditors, and some trades	Clackamas- Weatherization short term training \$150,000 (2 yr)Med		CC, DL, ABS, HS, CW	Clackamas A maybe, I, J partner w/local bus and county, L lends itself to start up business
	KCC- Seminars and cert that would help drive demand for weatherization, energy auditors		CC, DL, HS, CW	(KCC)A Pathways to other colleges C, E, H, I, J
	OCCC- Weatherization training for contractors; train energy auditors		SBDC clients, CW	L, E, J
	TVCC- Energy Auditor non credit clinics \$5000 start up, Med		CE, CC, DL, CW	Comment: May lead to certificate or degree program E, I, L
	TBCC Homeowners and Small Business Energy Efficiency training		CC, CE	E, L

Appendix 4 Oregon Community College Green Framework
Potential New/Expanded Green Training and Activities for Community Colleges

Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
	program \$30,000 start up/then \$2000 @class High			
		LBCC –Add energy efficient and gr energy options for incumbent Mechtronics workers \$50.000 in start up and curriculum dev	CC, DL, HS, CW	LBCC-Develop materials and equipment for current Mech /RHVAC offerings and add (E) short term options for incumbent worker K
	<p>PCC Both expansion and enhancement High</p> <p>PCC Program Expansion</p> <p>PCC Expansion and enhancement High</p>	<p>PCC- Facilities Maintenance AAS Degree -- Building Commissioner Training option</p> <p>Electrical Trades – NABCEP Certification Prep</p> <p>Landscape Technology AAS Degree and 1-year certificate option - - Green Roof and Wall Option</p>	<p>CC ,DL, CW</p> <p>CW</p> <p>CC, DL, CW</p>	
		Clatsop – Automotive Fuel \$100,000 High	CW	E ,J, L
	COCC - AAS Energy Management Start up \$200,000 High		CC, DL, CW	H, J

Appendix 4 Oregon Community College Green Framework
Potential New/Expanded Green Training and Activities for Community Colleges

Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
	<p>RCC- Residential Energy Analyst Program (REAP) certification courses Low Costs: \$25,000</p>	New Project	CC, DL, CW	<p>J) Partnership with agencies and businesses H) Partner with other Oregon Community Colleges to coordinate “train the trainer” and grant funded training for certification. E) Short-term professional certification</p>
		<p>LCC-1. Residential Weatherization and Auditing Certificate of Completion. Highest Priority. \$250,000. In progress 2. Commercial Energy Auditing Certificate of Competition. High Priority \$250,000</p>	<p>CC, DL, CW, ESL, HS, ABE</p> <p>CW</p>	<p>E, F, G, H, I, J, L</p> <p>E, I, J, L</p>
	<p>BMCC-Green Contractor Skill and License Program Cluster. Medium priority. Costs are being identified</p>	<p>BMCC-Diesel Tech Program module re. advanced emissions testing. High priority</p>	<p>CC, DL, CW & CW</p>	<p>F,I,J,K,L & E, I, J, L</p>

Appendix 4 Oregon Community College Green Framework
Potential New/Expanded Green Training and Activities for Community Colleges

Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
	<p>LBCC- Energy efficiency and green energy options for incumbent Mechatronics technicians</p> <p>Upgrade program emphasis on the efficient operation of heating and cooling equipment, both commercial and residential:</p> <p>Identifying and utilizing “waste” heat sources</p> <p>\$50,000 in startup for curriculum development</p>		CC, DL, HS, CW	Develop materials and equipment for current Mechatronics/RHVAC offerings and add (E)short term options for incumbent workers or DL workers. (K) Green literacy

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Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
				Hybrid/Electric vehicles. This specialized training could be expanded to train industry technicians in both automotive repair and auto body technicians. There is also a great need for training fire, emergency and rescue personnel in safety considerations in cases of motor vehicle accidents.
	<p>TVCC-Train the trainer in varied renewable energy applications to common existing jobs \$1200 to send two people for training and \$2500 per class including material-2 classes High; Energy Consultant to Biz Center \$18,000 per 5 yrs High</p>		CE, B	L
	<p>TBCC- Summer organic farming-business and production series \$30,000 start up/curriculum 20 students per session Med</p>		CC, HS, DL, CW	
		<p>SOCC- High Priority \$130,000 Startup \$80,000 ongoing Program of study with</p>	CC, HS, DL, CW	J, E, B, F

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Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
		"Eco Tourism"		
	PCC- Business Management AAS degree– sustainability business course development High Priority.		CC, DL, CW	
	Clatsop- Green Garden (student Driven), Medium, \$200,000		CC, ABS, CE	A, B, E, K
		UCC –Training apprentices electricians fir installation, maint, repair of green related equipment	A, CW	J – Electrical Businesses
	COCC- Solar Thermal for Plumbers – short term training to prepare for the Dept of Energy Solar Thermal TCCT exam. Noncredit- \$6000 (high priority)		CW, DL	E, H, I, J
		MHCC- Expanded Green Building training	CC, DL, HS	C, F
	RCC - Grant funding for 12 CCs in Oregon was not successful. The training will continue if individual CCs choose to offer NABCEP cost recovery course. At this time training available for certification is		CC, DL, HS	

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	<p>sufficient for need.</p> <p>LBCC- Currently the LBCC Automotive Technology program offers the course of AU 3.312 Alternate Fuels. Grant money will modify and enhance this course with the addition of fully functional scan tools, vehicle emission analyzers and advanced faculty training in existing and emerging green vehicle technologies.</p> <p>\$125,000 to expand curriculum, add tooling and alternative vehicles.</p>	<p>LBCC has begun raising funds for an advanced Transportation Technology Center to be located in Lebanon, Oregon. This center will train students in the automotive/diesel industries in the maintenance and repair of alternatively fueled vehicles and vehicular hybrids.</p> <p>Alternative Sustainable/Green Vehicle Fuel Technology</p> <p>Building on existing Horticulture, Culinary Arts and Animal Science programs, LBCC will create both degree and certificate programs in “Sustainable Food</p>	<p>CC, DL, CW, with opportunity for HS and ESL students</p> <p>CC, CW, ESL</p>	<p>B, E, F, J, K</p>

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		Systems.” Cost = \$225,000 over a two year period.		
		LBCC will model a compost production process for use by agri-businesses Cost = \$150,513.20 over a one year period.	CC	
		LCC-1. Green Certification for Incumbent trade workers in solar thermal, solar PV, Water Conservation. “Green Plumbers”. Medium Priority \$150,000 / certificate 2. AAS degrees where green curriculum could be developed for use by other colleges: Admin. Asst., Accounting AAS, Automotive Technology AAS,	CW CC, CW, HS	E, I, J, L B, H, I, K

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Program Area	Potential New Program Development	Expansion or Enhancement of Existing Program	Target Audience ¹	Type of Program/ Curriculum Activity ²
		Construction Technology AAS, Diesel Tech AAS, Apprenticeship Culinary Arts/Hospitality AAS areas. Medium priority Curriculum funding and online development: \$300,000		
		BMCC- Continued enhancement of apprenticeship programs (see Template #1). High priority because unions already requiring and implementing green training elements across apprenticeship programs. Costs being identified.	CC, CW	F, I, J

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<p>5) Curriculum Infusion Modification of curriculum to reflect triple bottom line of sustainability/green principles and practices (i.e., construction, sustainable manufacturing, ‘green’ apprenticeship models)</p>		<p>KCC- Expand some classes to “green” apprenticeship models</p>	<p>CC, HS</p>	<p>J, K</p>
	<p>TVCC-Faculty Stipends for welding, natural res, ag, sciences, social sciences \$250-\$1500 stipends –total \$3-5000 per year for 5 years High</p>		<p>CC</p>	<p>A, D, F</p>
		<p>OCCC-Adding energy efficiency and audits to Aquarium Science</p>	<p>CC, CW</p>	<p>F, G</p>
		<p>SOCC- 1) High Priority \$478,000 Credit courses: Regional and state to develop an educational career pathway to natural resources. The project would include curricular revision and development and natural resources lab refurbishment. The Program would include watershed/habitat restoration, fish and wildlife population</p>	<p>CC, HS, CW, CE</p>	<p>(F) In natural resources and chemistry, create a program of study with an emphasis on scientific investigation in conservation, restoration and propagation G, H, E, J</p>

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		enhancement and environmental resource management support. 2)High Priority \$403,000Credit courses: Expansion and improvement of the chemistry lab facility 3)Priority \$0Revise existing AAS Welding and metals manufacturing curriculum to reflect green principles, materials and methods. 4)High Priority \$50,000 College Credit Enhancement of existing AAS in Small Business Management and Entrepreneurship.	CC CW, CC, HS CC	
		Clatsop -Automotive Alternative fuel, High, \$100,000	CC, HS	B, C, F, J
	MHCC Certificate of Sustainable Engineering Practices (curriculum in process) \$42,000 1 st yr	MHCC Include sustainability modules in office and healthcare office curriculum	CC, CW	J

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		\$11,000 Med Adapt modules for customized business training \$5000		
	<p>COCC- Develop new courses such as Introduction to Renewable Energy Technology (high priority); \$7000</p>	<p>COCC- Modification of contracted training management and manufacturing curriculum in credit and non credit areas (medium priority)</p> <p>Purchase of additional high temperature units (high) and installation of central vacuum unit in labs rather than individual aspirators (low; will add to new building design); cost not known at this time</p>	CC, DL, CW, HS	L
		<p>RCC- Modify Apprenticeship programs including Electricians (all trades), plumbers, HVAC, Sheet metal. High, \$25,000</p>	CC, DL, HS, CW	H) Partner with other CCs offering like Apprenticeship programs C, E, J, L, G, K

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	<p>LCC – Lane would like to see most of its classes (greater than 50%) infused with sustainability principles and have started down this path with an EPA grant funded sustainability infusion project (see Document #1). LCC develop a training manual for sustainability curriculum infusion</p> <p>Develop credit courses in permaculture and organic horticulture.</p> <p>Infuse RTEC with green principles and practices.</p>		<p>CC, DL, HS, CW</p> <p>CC, DL</p>	<p>C, E, J, L, G, H, K</p> <p>C, F, K</p> <p>C, E, J, L, G, K</p>
		<p>BMCC–Continued enhancement of apprenticeship programs (see Template #1). Construction of labs for training in insulation, window and door installation, building retrofit, energy auditing. Costs are being identified.</p>	<p>A, CC, CW</p>	

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	<p>Chemeketa – Green Efficiency/Sustainability Coordinators within existing businesses</p> <p>Options added on to existing curriculum containing new courses</p> <p>100 to 150 students/yr.</p> <p>\$75,000 curriculum development and materials dissemination</p>	<p>Components include construction of building wall and roof mock-ups, installation of energy control systems.</p> <p>Chemeketa- Revise current Management, Horticulture, Political Science, Science, Health Sciences, Hospitality and Tourism Management, Business Administration and Career Guidance programs to reflect green principles, practices, materials and methods.</p>	<p>CW, CE, CC, DL, ESL</p>	<p>B, G, K</p>

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6) Other “Green” proposals not covered in above categories (sustainability practices on your campus, etc)	Clackamas: Sustainability Series \$60,000 1500 students \$60,000High ; Green industry miniseries \$46,000 (3yr) 75 employee High;Lean Training Institute \$120,000; Bridge Programs for Green: Plumbers, electricians, carpenters, contractors, \$100,000 each(2yr)			
	OCCC- Workshops on Self Sufficiency and lowering carbon footprint for businesses and indiv		CE	
	TVCC- Survey of new energy tech in bus and ag \$5000 onetime cost High	TVCC- Green learning labs, models in viticulture program, eg drip technology \$15,000 per yr 5 yrs High	CC, DL, CW	J
		TBCC- Revise three Industrial Maint Tech courses \$30,000 High Create Intro to Gr Jobs during ABE \$3000start up 20 students per term Med Create lang specific tech and industry in	CC, ABS	

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		Amer Speech Sounds \$5000 curr deve 10 students per term Med		
	PCC-WorkKeys and Job Profiling	PCC - Can be high Priority depending on the needs of industry. Exp and Enhance work keys and job profiling	CC, DL, CW	J
		MHCC Environmental Mitigation Certificate – Start up \$9,000 Ongoing \$26,400 Med		
	SOCC - High Priority \$100,000 Development of new Processes and Practices in waste and energy management based on audit of sustainability.			B, J, Oregon Trust
	CGCC - Develop sustainability practices for campus			E, F, G, H, I, J, L
		COCC -Expansion of current Personal enrichment classes for living green are offered as part of our	CE	E, L

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		<p>Community Learning program.</p> <p>Expansion of current business classes for incorporating green</p> <p>On campus, plan to pursue LEED certification for new buildings (about \$100,000 per building x 3); high priority</p> <p>Install PV on future (and perhaps some existing) buildings; unknown cost; high priority</p> <p>Domestic hot water generated from solar; unknown cost; medium priority</p>		
	<p>RCC- Master Recyclers courses</p>	<p>RCC – Master’s Recyclers for consumer and business</p> <p>High \$10,000</p>		<p>G) Distributed Education for communities supporting carbon reduction and limiting waste</p> <p>J) Partnering with</p>

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				businesses and university
		<p>LBCC- Water/wastewater expansion upgrade in applications of water reuse tech in:high tech methods: wetlands treatment \$300,000 for lab curriculum dev and instruction</p>		
	<p>LCC Resource Conservation Management on Oregon Community College Campuses. High Priority \$500,000</p> <p>Develop more co-curricular activities including an ecology club</p>	<p>Improve and expand an existing biodiesel production lab so that Green Chemistry Club students can make biodiesel from the college's waste kitchen grease to use in our diesel technology program and to burn in our campus boilers for heat.</p> <p>Develop a state of the art recycling and waste reduction education center</p> <p>Operate on 100%</p>	CC, CW, DL, ESL, HS, ABSE	I, E, F, G, H, I, J, L

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		renewable energy. Grow Food for Cafeteria		
		<p>LCC –1) Appropriate- and/or low- technology water supply, pumping and purification methods for potable and/or non potable uses. Two-credit elective class for WCT, Energy and Sustainability Coordinator programs as well as community members.</p> <p>Integrate projects into degree programs as elective classes and open classes to community members to enhance local water security and thus sustainability.</p> <p>Demonstration projects Medium priority; moderately challenging to implement.</p>	CC, DL, HS, CW	1) This course could provide a bridge/link between the water, energy, and sustainability programs on campus and thus bolster career pathways A, E, J, K

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		<p>Projected cost = \$10,000.</p> <p>2) A “Water Energy Nexus” class focusing on the ways water and energy are required for all production methods and how both can be used more efficiently. Medium-low priority; moderately challenging to implement. Projected cost = \$5,000.</p> <p>3) Rain Garden Installation Workshop. Medium priority; easy to implement. Projected cost = \$4,000.</p>		
	<p>BMCC-Infusion of green components into new Hermiston campus facility including LEED construction, virtual classrooms and labs, specialized curriculum, specialized building and program design expertise, green chemistry demonstrations, biosciences.</p>		<p>CC, DL, ABS, ESL, HS, CW</p>	<p>A, B, C, D, E, F, G, H, I, J, K, L</p>

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	<p>Chemeketa- NON-Credit Industrial Maintenance, Operator, and Mechanics, “Innovation in Workplace Green Technology”</p> <p>These Industry partners through the Strategic Economic Development Corporation (SEDCOR) will award industry recognized Certificate for Green Innovation and Creativity at the workplace. Modules will be designed in 3or 6 hour learning sessions. On- line equipment \$260,000, Green Processing Simulators equipment \$350,000, program development, \$250,000, M/S 125,000</p> <p>100 Students 1st year, 200 Students 2nd year, 300 Students 3rd year.</p>		DL, ABS, ESL, HS, CW	B, E, H, I, J, K, L