Sustainability and Postsecondary Education in Washington State

Briefing Paper

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The Washington State University (WSU) Energy Program is a recognized leader in energy research, development and technology transfer. The WSU Energy Program works with government agencies, power marketers, utility consortiums, educational institutions, private businesses and industries on projects that promote energy conservation, research, development of renewable energy sources, and economic and workforce development.

Acknowledgements

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Introduction

This briefing paper summarizes the evolution and proliferation of sustainability concepts and their application among colleges and universities in Washington state. The paper is part of a broader project funded through a National Science Foundation (NSF) grant, which seeks to support the development and improvement of energy management programs at Washington's community and technical colleges. The NSF project applied a structured process to collect and incorporate feedback directly from industry partners, which was subsequently used to analyze and enhance energy management program curricula.[1]

Curricula that incorporate sustainability principles and practices are becoming more widespread in college and university programs to prepare students and employees for related careers in the private and public sectors. What is less well-known is that an increasing number of colleges and universities are also incorporating sustainability into their mission statements and policies, adopting and applying these concepts and practices internally in an effort to make sustainability the norm within higher education.

The Context for Sustainability

Conceptually, the term "sustainable" seems straightforward. In practice, however, the term is enormously complex and many different definitions are in use today. While the term has ancient historical roots in many cultures, customs and practices, publication of *Our Common Future* (aka The Brundtland Report) by the United Nations in 1987 garnered broad attention that propelled the public's awareness of the sustainability movement.[2] The general definition of sustainable development described in the Brundtland report is:

> Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

An extension of this definition later appeared in the 2000 Earth Charter report, which describes three pillars of sustainability.[3] Collectively, the pillars are often described as the core targets of sustainability needed to achieve a "Triple Bottom Line."

> The three pillars of sustainability include the environment, social equity, and the economy. A strong resilient economy depends upon a vibrant and equitable society which in turn relies on a vigorous flourishing environment. The balance of the three pillars leads to prosperity and peace for future generations.

While there are overt and sometimes subtle differences between these definitions, the common and prevailing theme is the shift toward more efficient, fair and conscientious use of resources.

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[1] *Meeting the challenge of energy management in a carbon-constrained world*, NSF-ATE: 1002931. Project details can be found at: http://cleanenergyexcellence.org/about/nsf-grant

[2] See: Bruntland, G. (ed.), (1987), *Our common future: The world commission on environment and development*, Oxford: Oxford University Press.

[3] For more information about the Earth Charter, see: http://www.earthcharterinaction.org/content/

The Business Case for Sustainability

Beyond the environmental benefits tied to more sustainable use of resources and the technologies, policies and practices that reduce pollution, there is a compelling business case for sustainability. Research shows a strong correlation between businesses that exercise sustainability leadership and positive financial indicators, such as cost savings, return-on-investment and earnings per share. Indeed, a growing body of research suggests that corporate commitment to sustainability is having a positive impact on business success.[4]

Virtually all businesses have taken at least some action to improve sustainability. These actions may be as simple as implementing a recycling program, promoting employee ride-sharing programs, or conserving energy and reducing environmental impacts via new production processes. Some companies have developed "Corporate Sustainability Plans"[5] (an evolution of the ethics-focused term, Corporate Social Responsibility), established new departments and added staff in an attempt to implement organizational improvements and manage the social, environmental and economic risks associated with pursuit of the triple bottom line.

An Evolutionary Process

A global analysis of sustainability and eco-innovation by the Organization for Economic Cooperation and Development (OECD) concluded that while many companies are engaged in sustainability activities, most corporate sustainability efforts fall far short of addressing concerns such as global shortages of natural resources, climate change or energy security.[6] Other industry observers assert that only companies that make sustainability a priority will achieve a competitive advantage, and that means re-thinking business models as well as changes to products, technologies and processes.[7]

The OECD report describes how three main facets of eco-innovation (targets, mechanisms and impacts) together form the basis for a model that describes the levels and ways in which organizations can pursue goals that result in increasingly beneficial outcomes for the environment (see Figure 1).

The model is instructive because the same factors can logically be applied to all organizations – including higher education institutions – that are intent on pursuing any combination of environmental, social and economic goals. It also recognizes that technological changes are

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[4] See: *2012 Sustainability Report*, Bloomberg, L.P. (2012): http://www.bloomberg.com/bsustainable/content/themes/sustainability/report/BloombergSustReport2012.pdf; Nidumolu, R., Prahalad, C, & Rangaswami, M. (2009). *Why sustainability is now the key driver of innovation*. Harvard Business Review (September). See also: *The ROI of Sustainability: Making the Business Case.* The Aberdeen Group (2009): http://www.intelex.com/download/documentation/2009-09-8_ROI_of_Sustainability_Report.pdf; *Sustainability and Business Success*, Oekom Research (2005): http://www.oekom-research.com/index_en.php?content=studien. See also: *Measuring Business Success from Sustainability Certification*. United Nations-Global Impact and Rainforest Alliance (2007): http://www.unglobalcompact.org/docs/news_events/8.1/UN_Rainforest_alliance.pdf

[5] Examples of Corporate Sustainability Plans: http://www.greenbiz.com/news/2010/06/28/deloitte-creates-six-step-plan-corporate-sustainability

[6] OECD Policy Brief (June 2009). "Sustainable Manufacturing and Eco-innovation: Towards a Green Economy": http://www.oecd.org/dataoecd/34/27/42944011.pdf

[7] See: Nidumolu, R., Prahalad, C, & Rangaswami, M. (September 2009). *Why Sustainability is Now the Key Driver of Innovation*. Harvard Business Review.

associated with most sustainability initiatives which, in the case of college programs, are usually tied to specific student outcomes or improvements to institutional processes. Building momentum and moving an organization toward higher levels of sustainability is a process, an evolution that takes time.

Figure 1. OECD "Eco-innovation Mechanisms"
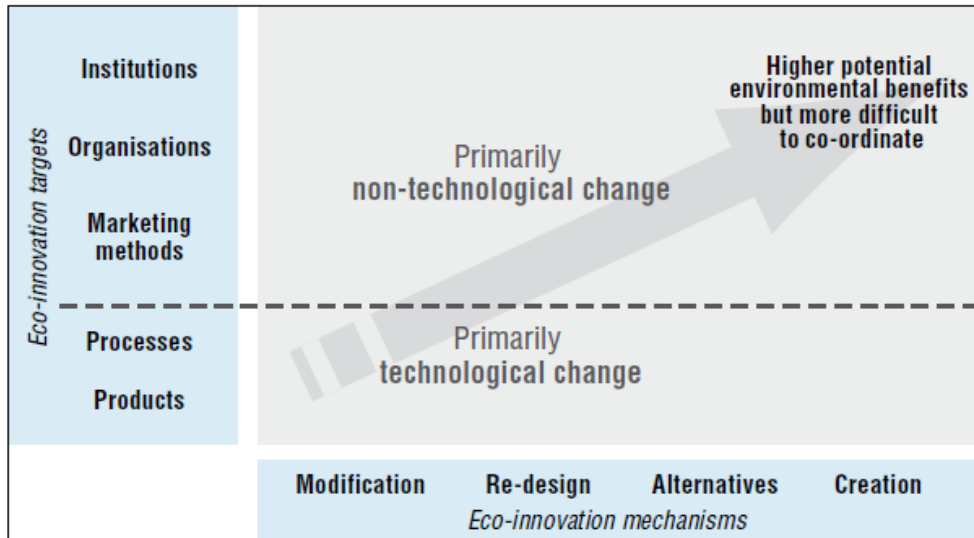
Sustainability and Higher Education

Continued growth in consumer markets for sustainable goods and services, and the ongoing application of sustainable business practices, are also driving new expectations among employers about employee knowledge and skills – a primary focus of the broader NSF project, which sought to enhance the relevance and quality of college energy management programs to be more responsive to industry needs and to support students' career success. [8]

> In addition to enhancing programmatic offerings to ensure the development of a sustainable-savvy workforce, higher education as a system is also working to help lead the shift toward a more sustainable environment, economy and society.

National Advocacy and Support

National leadership and support for sustainability among postsecondary institutions has grown substantially over the past decade, and individual states including Washington are also witnessing an expansion in sustainable policies, practices and advocacy among college campuses that extends far beyond their core educational missions. Several of these advocacy groups are described below.

The Association for the Advancement of Sustainability in Higher Education (AASHE)

Originally established to provide resources and support to colleges in the western U.S. and Canada, AASHE was officially launched in January 2006, serving as the first professional higher education association for the campus sustainability community in North America.[9] Its annual conference attracts several thousand participants and offers a variety of professional development opportunities for higher education administrators, faculty, staff and student participants.

Among its many resources for members is an awards program that recognizes sustainability leadership by institutions and individuals, produces sustainability newsletters, and manages an online resource center to support the sustainability work of its member institutions. AASHE was also a key supporter of the American College & University Presidents' Climate Commitment (described below).

ASSHE targets the following core goals and activities in order to:

- Make sustainable practices the norm within higher education
- Facilitate institutional efforts to integrate sustainability into teaching, research, operations and public engagement
- Disseminate knowledge and best practices and promote resource sharing
- Support all sectors of campus in achieving sustainability goals

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[8] See: Hardcastle, A. and Zeiger Hanson, S. (2011). *Sustainability and workforce education in Washington's community and technical colleges; briefing paper.* WSU Energy Program for the Pacific Northwest Center of Excellence for Clean Energy (Centralia College). NSF project: *Meeting the challenge of energy management in a carbon-constrained world*, NSF-ATE: 1002931: http://cleanenergyexcellence.org/about/nsf-grant

[9] See: http://www.aashe.org/about

- Increase collaboration among individuals, institutions and external partners to speed the adoption of sustainability practices
- Influence education policy so that sustainability is a focus at local, state and national levels

Measuring Performance:

AASHE also supports and administers a sustainability measurement and reporting system known as STARS (The Sustainability Tracking, Assessment & Rating System™).[10] STARS enables institutions to measure and improve upon their sustainability performance, compare their results to other institutions, and gain recognition for their efforts. Within the broad categories covered by the STARS system "scorecard" (including Education & Research; Operations; and Planning, Administration & Engagement), campuses submit data covering diverse sustainability-related goals and activities, ranging from specific coursework to indoor air quality, renewable energy and efficiency, mass transit programs, waste and water management, strategic planning, diversity, sustainability investments, and community partnerships.

Data submitted by STARS participants is used to generate reports that are available publicly. This allows all participants to share their sustainability practices and programs with the higher education community as well as benchmark their successes over time. To date, more than 300 institutions across the country have received a STAR rating.[11] These ratings confer recognition for an institution's sustainability accomplishments and help identify best practices and other resources to support future action.

The American College & University Presidents' Climate Commitment (ACUPCC)

Established in 2006,[12] the ACUPCC was intended to be a "high-visibility effort to address global climate disruption undertaken by a network of colleges and universities that have made institutional commitments to eliminate net greenhouse gas emissions from specified campus operations, and to promote the research and educational efforts of higher education to equip society to re-stabilize the earth's climate." Its stated mission is to accelerate

> The Climate Commitment also recognizes the economic and social benefits of exerting leadership for sustainability for higher education as a whole. Positing that adherence to the Commitment will help institutions "stabilize and reduce their long-term energy costs; attract excellent students and faculty; attract new sources of funding; and increase the support of alumni, business and local communities."

progress toward climate neutrality and sustainability by empowering the higher education sector to educate students, create solutions and provide leadership-by-example. [13]

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[10] See: https://stars.aashe.org/

[11] Washington institutions include Bellevue College, the University of Washington, Western Washington University, University of Puget Sound, South Seattle Community College, Shoreline Community College, Seattle Central Community College, Pacific Lutheran University, The Seattle Community Colleges, The Evergreen State College, and Edmonds Community College.

[12] Among the 12 founding signatories of the ACUPCC were Loren Anderson, President of Pacific Lutheran University, and Gifford Pinchot III, President of the Bainbridge Graduate Institute

[13] See: http://www.presidentsclimatecommitment.org/

Since its inception, the ACUPCC has received commitments from 684 signatory institutions, including 29 public and private institutions from Washington state.[14] Each signatory agrees to:

- Complete an emissions inventory
- Within two years, set a target date and interim milestones for becoming climate neutral
- Take immediate steps to reduce greenhouse gas emissions by choosing from a list of short-term actions
- Integrate sustainability into the curriculum and make it part of the educational experience
- Make the action plan, inventory and progress reports publicly available

Since 2006, signatories nationwide have submitted more than 2,150 yearly greenhouse gas emissions inventories and 533 climate action plans. More than 355 of these signatories have submitted progress reports since 2012, showing the specific actions they have taken and the sustainability results these efforts have produced.

The ACUPCC also hosts the annual Climate Leadership Summit for presidents and sustainability staff in higher education to focus on strategic national leadership, organizing the campus, sustainability financing and investment, and climate change science. The ACUPCC partners with other national organizations, including AASHE, to provide support to institutions, leadership, faculty and college sustainability personnel.

The American Association of Community Colleges (AACC)
The AACC has also encouraged its member institutions to develop approaches that promote sustainability across the community college system, which it considers as a central component of its system mission. AACC's Sustainability Education and Economic Development center (SEED) offers a variety of resources, assessment tools, networking opportunities and best practices to assist community colleges in their sustainability work.[15] Over 460 colleges (40 percent of all community colleges in the nation) are now members of the SEED center.

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[14] This total includes multiple campuses of Washington State University and the University of Washington.
[15] See: http://www.theseedcenter.org/default.aspx

Sustainability in Washington's Postsecondary Institutions

These national sustainability initiatives and organizations provide much-needed leadership, resources and support for individual institutions to establish and implement sustainability policies and practices on campuses. At the same time, many states are also expanding support for sustainability initiatives in higher education through legislation, state policy and incentives, and also through the collaborative action of the institutions themselves.

In Washington, state policies and regulations regarding environmental protection, greenhouse gas emissions reduction and growing a clean energy economy are already among the most progressive in the nation, and this creates a favorable foundation for sustainability initiatives among the state's postsecondary institutions. Since 2009, Washington's postsecondary institutions have been required to submit a greenhouse gas report and subsequent climate action plans to the Department of Ecology as required by RCW 70.235.050 and RCW 70.235.060. State law requires all state agencies, including colleges, to significantly reduce greenhouse gas emissions below 2005 levels over the next 40 years, with regular strategy, methodology and results-based reporting requirements that will include research and the provision of compliance data by individual institutions.

Whether through their degree programs, certificates and courses, campus facilities and operations, or the development and application of supportive institutional policies and practices, to some extent all Washington colleges and universities are investing in sustainability beyond the regulatory requirements. A number of institutions have created mission statements and strategic plans for campus sustainability that underscore this commitment. A review of Washington's college and university websites shows that many institutions have included some version of sustainability in their core mission or value statements. Many of the websites contain extensive content regarding their sustainability goals, objectives and initiatives, and there is evidence that many actions are being taken. However, it is less clear how many institutions could confirm that sustainability is informing their organizational culture, or the extent to which sustainability concepts are integrated across all campus programs.

Some institutions are making great strides, while others are in early phases of development. Many advanced-stage institutions have established sustainability offices to serve as a hub for campus initiatives, and those that do have typically created sustainability manager or coordinator positions to oversee the implementation and performance of campus initiatives (see Figure 2). Some report directly to presidents or other executives, while others work though individual departments such as campus facilities. Some are full-time positions, while others are part-time; in some cases the responsibilities are distributed across several existing regular or student employees on a campus.

Sustainability managers and coordinators also help to connect academic programs, student organizations, campus resources and funding to leverage work that is already taking place within various departments, and to align these efforts with campus sustainability goals.

It is worth noting that, in several cases, the impetus for campus sustainability has come directly from the student body itself. At several campuses, student fees are assessed to support student-hires in sustainability coordinator positions, and these positions and the programs that they help to implement are sometimes managed and directly administered by student governments. The sustainability managers at several of Washington's campuses began their careers as student employees, who were recruited by the institution following graduation to continue working as sustainability managers.

Figure 2. Examples of Washington State Colleges and Universities at the Forefront of Sustainability

Bellevue College
http://www.bellevuecollege.edu/sustainability/

Edmonds Community College
http://www.edcc.edu/sustain/

The Evergreen State College
http://www.evergreen.edu/sustainability/home.htm

Pacific Lutheran University
http://www.plu.edu/sustainability/home.php

Seattle Colleges
http://www.seattlecolleges.edu/green/home

Shoreline Community College
http://intranet.shoreline.edu/sustainabilitycommittee/

University of Puget Sound
http://www.pugetsound.edu/about/sustainability-at-puget-sound/

University of Washington
http://f2.washington.edu/ess/

Washington State University
http://sustainability.wsu.edu/

Western Washington University
http://www.wwu.edu/sustain/

These listings represent a partial sample of leading Washington state institutions.

Supporting Sustainability

Washington's higher education institutions have also collaborated to establish support structures to help them achieve their sustainability goals. The newest example is the Washington Higher Education Sustainability Conference (WAHESC), which was held at Western Washington University in February 2014. This inaugural event was designed to provide a regionally focused opportunity for those teaching, working or studying within higher education to network and learn about sustainability in academics, operations and research.[16] The event attracted nearly 700 participants, and offered a wide range of program sessions that included sustainability in campus operations, transportation, achieving Zero Waste across campus, integrating sustainability across the curriculum, and sponsoring campus gardens and farms. Some workshops, such as the "Community College Solutions Workshop," organized work groups that focused on identifying common barriers and solutions to achieving different sustainability goals that participants might employ on their own campuses.

Other support systems available to Washington institutions come from existing science and environmental programs on campuses where faculty and staff willingly share their expertise, and from organizations that support environment-based curriculum and program development, such as the Washington Center for Improving the Quality of Undergraduate Education and its *Curriculum for the Bioregion* program.[17] This initiative brings together faculty, staff, community leaders and experts throughout Washington state to help strengthen sustainability education, and provides links to a large number of campuses and affiliated organizations that support sustainability initiatives across the state.

Going forward, as the number and scope of campus sustainability initiatives continue to grow in Washington, the state and higher education partners may need to envision additional ways to support the goals of individual campuses. Colleges provide plenty of organizations to join, and staff members file myriad reports that reflect a growing requirement or commitment to support sustainability initiatives and related educational programming. Active participation in these organizations and practicing sustainability internally requires new investments of time and resources – membership fees, data collection and analysis, report preparation and local implementation activities – which all have implications for resource allocation, staffing and coordination that can be an additional burden on these institutions, especially in the current economic climate.

> It is increasingly challenging for many institutions to:
>
> - Access the growing body of research, materials and experience generated by individual institutions and practitioners, and
> - Adapt and apply effective sustainability policies and practices locally.

Aside from time and resources, a coordinated regional approach for providing resources, expertise, training, tools and information on best practices could also help augment the work of individual institutions.

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[16] See: http://www.wahesc.org/
[17] See: http://www.evergreen.edu/washingtoncenter/projects/bioregion.html

Conclusions

The momentum for sustainability in higher education has grown rapidly. Educators across the nation have been intensely developing sustainability initiatives, programs and curriculum since at least 2006, and it seems likely that these initiatives will continue to grow in scope and importance. While all educational institutions can benefit from the operational efficiencies and improvements that sustainability initiatives impart, the focus on sustainable action has quickly evolved to include all facets of the triple bottom line – economic, social and environmental.

Similarly, the targets of sustainability at many postsecondary institutions have naturally expanded beyond operations, and now address strategic planning, mission, operations, and integrating sustainability through teaching and learning programs to the core business of educating students. Institutions in Washington that embrace sustainability principles are working in myriad ways to establish and implement institutional policies, practices and partnerships that support a more sustainable environment, economic prosperity and social equity.

Looking ahead, it seems likely that Washington's postsecondary institutions will continue to invest in sustainability. Demand already exists for programs that can raise student awareness about the importance of sustainability principles while also teaching them how to apply these techniques in their chosen careers. In their broader efforts to address the impending challenges due to global warming, many of Washington's institutions are also attempting to integrate sustainability concepts into the fabric of their campus cultures to help mitigate their own impacts on climate change and contribute to a more sustainable future. The necessary leadership required to accomplish these goals continues to develop and advance, yet other important conditions and actions should be considered to help maintain this momentum:

- **Invest in sustainability**. As with any major initiative, advancing sustainability in postsecondary education cannot succeed without internal and external support. Most Washington institutions continue to suffer in the shadow of the economic recession, which may limit their ability to invest in future action. While the savings generated through more sustainable campus operations and other efficiencies may help offset some of these costs, additional support through federal, state, private sector, foundation and community sources would help sustain the momentum and spark new levels of activity across Washington's campuses. Strategies for using existing resources wisely and reducing the administrative burden of complying with state laws will enable institutions to focus on expanding current sustainability activities and maximizing their impact.

- **Expand "sustainability collaboration" among institutions and stakeholders.** Postsecondary institutions must continue to reach out and establish strategic partnerships to extend their sustainability goals. Greater collaboration can help to identify best practices, leverage existing resources, meet reporting requirements and reduce the expense of participating in multiple sustainability initiatives. Collaboration among institutions, individual programs, stakeholders and staff can help identify new opportunities to accelerate progress and enhance outcomes for institutions and the students and communities they serve.

- **Employ a centralized clearinghouse approach for colleges and universities to support sustainability for campuses, employees and the students they serve.** The national, regional and state organizations and partnerships currently providing sustainability support may continue to expand their services; however, it may also be worthwhile to consider developing a Washington state clearinghouse or network for sustainability to organize and coordinate the provision of sustainability expertise, training and support to interested campuses and personnel. The Washington college and university systems currently support such centers to assist institutions and their partners in industry-sector collaboration and partnerships, for curriculum and program development, teaching and learning, assessment, and other functions. These federal and state-funded centers could also be tapped to help augment sustainability support for institutions.[18]

In order for campus leadership, faculty and staff to support and advance sustainability, they must achieve a fundamental level of knowledge and skill, and have access to effective tools and best practices needed to integrate sustainability across the campus community. Although all campuses should develop their own networks and in-house resources, a centralized or networked approach may prove a more effective and efficient mechanism for supporting system-wide sustainability development among Washington institutions.

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[18] Some examples include National Science Foundation projects such as the one supporting this paper, and industry-focused Centers of Excellence funded through the Washington State Board for Community & Technical Colleges; many other initiatives and organizations exist in Washington that provide direct or partial sustainability support to colleges and universities.