EVALUATING THE SUSTAINABLITY TRACKING, ASSESSMENT AND RATING SYSTEM (STARS) AT THE EVERGREEN STATE COLLEGE

by

Kyle C. Murphy

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This Thesis for the Master of Environmental Studies Degree

by

Kyle C. Murphy

has been approved for

The Evergreen State College

by

_____

Robert H. Knapp, Jr., PhD.
Member of the Faculty (Physics and Sustainable Design)
The Evergreen State College

_____

John Pumilio
Sustainability Coordinator, Colgate University

_____

D. Michael Mucha, P.E., MPA
Director of Public Works, City of Olympia

June 12th, 2009

Date

ABSTRACT

Evaluating the Sustainability Tracking,
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Kyle C. Murphy

Sustainability is about the change in human trajectory that requires us to think differently about old assumptions and engage the large questions of the human condition (Orr, 2002). Higher education provides an ideal setting for engaging in this dialogue while creating opportunities to integrate sustainability into society today. The Association for the Advancement of Sustainability in Higher Education (AASHE) is developing a cross-institutional assessment tool to help inform this dialogue of sustainability. In 2008-09, 70 higher education institutions participated in the AASHE Sustainability Tracking, Assessment and Rating System (STARS) pilot project. I coordinated Evergreen's involvement in this pilot project. Through my research, I evaluated STARS and its ability to inform this dialogue of sustainability.

This research focused on three main questions with respect to Evergreen's use of the STARS tool: (a) Is STARS an effective tool for use at Evergreen (did the framework address issues important to Evergreen, did it meet the criteria of an ideal assessment framework, and what are the advantages and disadvantages), (b) Does the STARS process lead to organizational learning, and (c) What STARS reveal about Evergreen's commitment to sustainability. Using a case study research design, I took a multi-disciplinary approach to the data collection for STARS implementation. Through my research I found that STARS is an effective tool to evaluate sustainability at Evergreen, which led to organizational learning, and highlighted Evergreen's complex and dynamic commitment to sustainability. The STARS tool could be further explored for its ability to help institutions of higher education fully embrace sustainability

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Acknowledgements

Studying the issue of sustainability in higher education, and completing a comprehensive assessment of sustainability at Evergreen would have been an impossible task without the involvement and support of many individuals within and outside of the Evergreen community. I want to start by acknowledging the involvement and support of my three thesis readers; longtime Evergreen faculty member Rob Knapp, Evergreen's first Director of Sustainability John Pumilio, and City of Olympia Public Works Director Michael Mucha.

This project was an idea first presented by John during the summer of 2008. After several discussions with John about the need for this project and what it would entail, I decided to pursue it and dove in head first. I continued to work closely with John throughout the 10 months it took to complete this project. His assistance indentifying, and introducing me to the necessary Evergreen community members was essential in the success of my project. Even after John left Evergreen for a sustainability position at Colgate University in New York State he continued to stay involved. I thoroughly enjoyed my time working with John and owe him a great deal of gratitude.

I also owe much gratitude to Rob Knapp for his involvement in this project. Rob has long been involved with issues of sustainability at Evergreen. Rob's insights into how organizations react to being "poked" and assessed and his guidance during my writing process were extremely important. During our weekly meetings at the local coffee shop over the last several months of my writing process Rob continually pressed me to expand my conclusions and dig deep into what I learned through the coordination

of the sustainability assessment. I know that these weekly meetings and Rob's guidance are truly represented in what I hope is a high quality thesis.

This project would also not have been possible without the involvement of many individual community members at Evergreen. I want to thank Paul Smith, Sharon Goodman, Halli Winstead, Robyn Herring, Kathleen Haskett, Elizabeth McHugh, Dr. Kelly Brown, Victor Sanders, Peter Robinson, Shane Peterson, Gaylon Finley, Collin Orr, Laura Coghlan, Beth Haskett, Steve Trotter, Theresa Aragon, Steve Schmidt, Ellen Short Sanchez, Paul Gallegos, John Hurley, Todd Sprague, Allen Toothaker, Ladonna Hegristad, Paul Przybylowicz, Bill Ransom, Nancy Murray, Allen Olson, Amadou Ba, Lucienne Guyot, Ted Whitesell, Rafael Lozano, Natalie Pyrooz, Scott Hollis, Andrea Coker-Anderson, Marshall Robinson, Tami Johnson, Rich Davis, Mark Kormondy, Sherrie Lake, Julie Anderson, Nancy Parkes. The participation of these individuals provided me with detailed insights into the motivations and processes of the sustainability movement at Evergreen.

And finally, I want to thank my family and especially my wife Maureen and daughter Emelia, for their support and motivation over the course of this thesis project, and over the past three years of my time as a graduate student at The Evergreen State College. This support and motivation kept me focused and on track to complete my graduate work, even when I would have rather been spending time with them.

Chapter 1: Introduction

Sustainability is about the change in human trajectory that requires us to think differently about old assumptions and require the large questions of the human condition (Orr, 2002). Higher education provides an ideal setting for engaging in this dialogue of change, and fundamentally integrating sustainability into society today. Colleges and universities are where students gain the knowledge and practical experience that will shape the way they interact with the environment and society. If we are to achieve a sustainable future, institutions of higher education must provide the awareness, knowledge, skills, and values that equip individuals to pursue life goals in a manner that enhances and sustains human and non-human well being (Cortese, 1999). Today many institutions are striving to become laboratories for sustainability in order to provide these tools to students, and serve as examples for students, faculty and staff (Clugston & Clader, 1999; Legacy, 2004; Hansen & Lehman, 2006; Rowe, 2007). Auditing the environmental, social and economic interactions of institutions of higher education is an important tool to aid in the shift towards sustainability. However, this is a new and evolving concept and there remain relatively few examples implemented anywhere in the world (Pope, 2004). The need to effectively gauge progress towards sustainability in higher education is of fundamental importance. The Sustainability Tracking, Assessment and Rating System (STARS) is the first comprehensive tool attempting to gauge this progress. The overarching purpose of this thesis is to evaluate STARS and to consider its effectiveness as a sustainability assessment tool.

A Case Study at The Evergreen State College

This thesis project is a case study of Evergreen's participation in the STARS framework currently being developed by the Association for the Advancement of Sustainability in Higher Education (AASHE). This thesis looks at the data, processes and motivations of the sustainability movement, and the actions and reactions of the campus community to the process of assessing sustainability, which sets it apart from other efforts that look primarily at the effectiveness of campus sustainability initiatives (Cole, 2003; Mcintosh et. al., 2008; Wright, 2002; Rodriguez et. al, 2002; Venetoulis, 2001). The actions and reactions of organizations to the process of collecting and analyzing campus sustainability data is an area that has not received much attention until now.

Sustainability in Higher Education

A Brief History of Sustainability

Many authors have provided detailed historical accounts of the many declarations and conferences regarding sustainability throughout the world. These accounts often include such declarations as the Tbilisi Declaration, the Talloires Declaration, the Halifax Declaration, the CRE Copernicus Charter, and the Ubuntu Declaration made at the World Summit on Sustainable Development in August 2002 (Cole, 2003). Included in this history of sustainability is the United Nations Conference on the Human Environment in Stockholm, Sweden in 1972, the 1983 World Commission on Environment and Development, which resulted in the commonly referred to "Brundtland Report" which defined sustainable development as "the development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED,

1987), and United Nations Conference on Environment and Development held in Rio de Janeiro in 1992. The Rio de Janeiro conference focused global attention on environmental and development concerns threatening the survival of the Earth and various forms of life that inhabit it. (Sharma, 2007). Finally, in 2002, the United Nations convened the World Summit on Sustainable Development.

As important as these declarations and conferences are to the global sustainability movement, the important aspects of the history of sustainability in higher education are those that began with active faculty and students at liberal arts colleges and universities highlighting the need to better understand the interactions of humans with nature and our place in the natural world (Orr, 1991). In the late 1980's David Orr from Oberlin College in Ohio introduced the concept of transforming institutions of higher education into living laboratories where students, through coursework can conduct research and implement ideas that enhance campus sustainability (Legacy, 2004). Another major landmark in the history of the campus sustainability movement was the publication of the Student Environmental Action Coalitions' (SEAC) book, Campus Ecology (1993). This book was spawned from local action taken by a group of students on the University of California, Los Angeles campus, and marks one of the first major campus sustainability assessments in North America (Cole, 2000).

One result of this faculty and student driven movement has been formal commitments by institutions to implement the objectives of the many sustainability declarations on their own campuses (Wright, 2002). An example of this is the over 300 college and university presidents who have signed commitments to reduce the carbon footprint of their institutions (Rowe, 2007). This high level recognition and formalization

of sustainability within the operations, administration and educational structure of higher education institutions was motivated by a grass roots style movement from faculty and students, and at many institutions embraced and formalized by the decision makers within the campus administration. Another important result of these grass roots efforts on the part of concerned and motivated faculty and students has been the development of professional associations, such as the Association for the Advancement of Sustainability in Higher Education (AASHE), which focus on providing tools and resources for institutions in their pursuit of sustainability.

AASHE is an association of colleges and universities in the U.S. and Canada working to create a sustainable future. It was founded in 2006 with a mission to promote sustainability in all sectors of higher education - from governance and operations to curriculum and outreach - through education, communication, research and professional development (www.aashe.org/about/about.php). AASHE serves colleges and universities by offering an extensive resource center of sustainability initiatives and policies, discussion lists, sample syllabi showing how sustainability can be infused into various courses, a biennial conference, and professional development opportunities (Rowe, 2007). AASHE is made up of 879 member institutions, including 481 four-year institutions, 171 two-year institutions and community colleges, 147 business partners and 56 non-governmental organizations and government partners.

The Role of Higher Education in the Sustainability Movement

Higher education institutions play three main roles that can help further sustainability in local and global communities. Those roles are: (a) A teaching and research environment, (b) A community member, and (c) An economic force. All of

these roles are integral in creating the future leaders and decision makers that can continue to advance sustainability in society.

As a Teaching and Research Environment

Institutions of higher education in the U.S. included a projected 18.2 million students and over 3 million faculty and staff during the 2008 academic year (Snyder et. al., 2009). Through curriculum, experiential opportunities such as internships, fellowships and work-study campus sustainability events, and campus operations, these students, faculty and staff can gain knowledge about the importance of sustainability and the processes of advancing sustainability. Utilizing faculty and students to conduct research as an integral part of the learning experience greatly enhances the educational experience and promotes a strong sense of connection to and caring for the local communities and to the ecosystems of which they are a part (Cortese, 2003). Providing knowledge to the masses carries with it the responsibility to see that it is well used in the world (Orr, 1991). In addition higher education institutions can inform the public through responsible and well-organized curriculum (Orr, 2002).

As a Community Member

Because sustainability movements take place locally rather than globally, an important task for institutions of higher education is to identify the specific trends most relevant to their locations and the ways in which local populations can contribute to altering the trends that affect them (Kates & Parris, 2003). Institutions of higher education are in a unique position to provide a strong example to local communities, as well as partner with regional, local and national communities on sustainability work.

Graduates from higher education institutions have the ability to directly affect the health and well being of communities and their members (Orr, 1991). University-community partnerships respond to various issues from national policy interest in community building, to a growing emphasis on program and school accountability to environmental concerns at local, state and national levels, to the need for research on and by underrepresented groups, and to concerns over racial, ethnic, and social class divisions in communities (Denner et. al., 1999). These partnerships have emerged as a vital tool for teaching, research, and practice (Butterfield & Soska, 2004).

As an Economic Force

Collectively, higher education employs more than three million people, serves more than 18 millions students, and annually spends more than $300 billion (Snyder et. al., 2009). Aggregate natural resource use and greenhouse gas emissions are not available for the higher education sector, but U.S. colleges and universities are part of the U.S. economy, an economy which consumes twice as much oil and almost twice as much electricity as the next highest consuming nation (China) (www.nationmaster.com/cat/ene-energy). The purchasing power alone of colleges and universities, as they demand more environmentally and socially responsible products and processes, can help move sustainability from its present niche markets to become the standard in product and process design (Rowe, 2007). Purchasing local food, for example, encourages the development of sustainable agriculture in the surrounding region, improves the quality of food served on campus, promotes local economic development, and eliminates the economic and ecological costs of transportation, storage and processing (Orr, 1995).

Institutions may also affect economics through their investing practices. In 2008, the National Association of College and University Business Officers surveyed 791 institutions and reported an average endowment size of $522 million (www.nacubo.org:80/documents/research/NES2008PublicTable-AllInstitutionsByFY08MarketValue.pdf). Responsible investing practices can provide great potential to spur growth in projects that reduce environmental and social consequences.

The Sustainability Movement at The Evergreen State College

The Evergreen State College (Evergreen) is a four-year public liberal arts college located in Olympia, Washington. The college opened its doors in 1971 and has established a national reputation for leadership in developing innovative interdisciplinary, collaborative and team-taught academic programs (www.evergreen.edu/about/home). During the fall of 2008, Evergreen had a total enrollment of 4,696 students, and employed 243 faculty, and 536 staff.

The following discussion provides a brief history of how the sustainability movement developed out of faculty concern and action and resulted in a formal institutional commitment to sustainability. This information is based on my conversation with John Pumilio (John Pumilio, pers. com., 2009), the first Director of Sustainability at Evergreen, Nancy Parkes (Nancy Parkes, pers. com., 2009), faculty member and Co-Chair of the institution's Sustainability Council, and Steve Trotter (Steve Trotter, pers. com., 2009), Executive Director of Operational Planning and Budget.

The Evergreen community has long been committed to addressing issues of environmental justice, and social equity and justice. For much of the history of the

institution the faculty driven efforts to promote, teach and advance these issues proceeded on parallel, but separate paths. Examples of programs resulting from faculty concern and action include Evergreen's Tacoma program, which requires students to go into local communities and engage in research, education and problem-solving projects that are as beneficial to those communities as they are to students (www.evergreen.edu/tacoma/home.htm). Another result of this faculty driven effort is The Northwest Indian Applied Research Institute, which enables Evergreen to assist local tribes to meet their economic, governance and resource goals, while providing real-life learning opportunities for Evergreen students (nwindian.evergreen.edu/home.html).

During the late 1990s and early 2000s the concerned faculty and staff that had been working on issues of social justice and environmentalism began to informally work together to find ways to intertwine their efforts in a more coordinated sustainability movement. These early grass-roots effort laid the foundation for the current formalized sustainability movement. This effort to formalize sustainability through administration recognition began gaining more momentum during the summer of 2005.

Each summer, Evergreen faculty has opportunities for professional development through Summer Institutes. These professional development opportunities are sponsored by the institution and developed by existing faculty and provide new and current faculty members opportunities to gain knowledge and work on any number of issues. A Summer Institute focused on sustainability was held in 2005 as an extension of the informal work that faculty and staff had been doing to advance sustainability. This Summer Institute went beyond offering faculty resources and knowledge in regards to sustainability, and included formal recommendations to the college about how the institution should further

the sustainability movement. One of the outcomes of this Summer Institute was a list of recommendations to the college administration. One of the recommendations made and accepted by the administration was to include a commitment to sustainability in the institution's Strategic Plan Update 2007. To address this recommendation Evergreen's Vice Presidents created the Sustainability Disappearing Task Force (Task Force) and charged it with defining sustainability at Evergreen, and recommending ways in which to include sustainability at in the Strategic Plan Update.

The 2005-2007 Task Force included staff, faculty and students, and was coordinated by a graduate student in the Masters of Environmental Studies program through a graduate fellowship. Included in the Task Force Charge was a stipulation to initiate an outreach program that involved a broad representation of the Evergreen community. The Task Force held numerous community workshops and interviewed various students, faculty, and staff. The outreach conducted by the Task Force involved close to 500 participants from the Evergreen community. The extensive community input helped inform a growing need for significant work in sustainability at the institution. In response to this need, the Task Force recommended to the college Vice Presidents that the institution create a permanent Director of Sustainability position, and make the Task Force permanent. The institution accepted these recommendations and within a year hired a Director of Sustainability and formalized the institution's commitment to Sustainability in the Strategic Plan Update 2007, the Campus Master Plan and Evergreen's Vision for a Sustainable Future.

As part of the process of furthering sustainability at Evergreen, the Director of Sustainability, the Sustainability Task Force, and the College's four vice presidents

worked together to reorganize Evergreen's institutional structures to include high level decision makers at the institution. Each of the four Vice Presidents chose a representative for the newly formed Sustainability Council. The Council included the Directors of Residential and Dining Services, Facilities, Marketing and Communications, and the Academic Budget Dean. Assisted by several focused Work Groups the Sustainability Director and Sustainability Council made up the new Office of Sustainability in 2007.

Through the work of advancing sustainability at Evergreen, the Office of Sustainability recognized the need to understand where the institution was, where it wanted to go, and how to get there. With this need recognized Evergreen became involved in the effort to develop a cross-institutional sustainability assessment tool (John Pumilio pers. com., 2008). The involvement included hosting a regional conference that included discussions about developing a sustainability assessment tool, and the Director of Sustainability participating in the development of the current framework through focused conference calls and discussions.

Assessing and Reporting Institutional Sustainability

The literature proposes an impressive array of tools and processes to help measure progress towards sustainability. These range from highly aggregated top down indices to smaller scale efforts such as the ecological footprint designed to help individuals understand their impact on the biosphere (Fraser et al., 2006). Many of the tools used for assessing sustainability in higher education were not developed as transparent, cross-institutional assessment tools (Julian Dautremont-Smith, pers. com., 2009). This has made defining and assessing sustainability across campuses difficult. Because of the vast

differences in motivations and practices between institutions of higher education many have questioned the wisdom of investing time and money in developing a cross-institutional sustainability assessment (Corcoran & Wals, 2004). However, campuses still require quick, yet penetrating ways to measure status, progress, priorities and direction. This includes looking internally and providing opportunities for self-comparison, to requiring methods of comparison between institutions (Corcoran & Wals, 2004).

Sustainability involves the interplay of complex systems and sustainability assessments allow institutions to reveal the interactions of these complex systems (Litten & Newport, 2004). Sustainability monitoring and reporting will be a key element in reducing risks to the well-being of institutions of higher education that come from present unsustainable levels of resource use and waste generation, and from inequitable social conditions. The development and dissemination of appropriate indicators will help institutions manage themselves in a sustainable manner and to model such behavior for students and other organizations (Litten, 2005).

A better understanding of an institution's commitment to sustainability, and an increased awareness of campus sustainability issues should have the important function of encouraging planners and decision makers to give necessary attention to the sustainability characteristics of their policies, plans and projects as they relate to sustainability. Sustainability assessment should also clarify how planners and decision makers take into account the goals of sustainable development, and provide a mechanism for informing the public (Devuyst, 1999). AASHE's member institutions and many in the higher education community recognized the need for a transparent, cross-institutional

tool for measuring the economic, environmental and social interplay at institutions of higher education. AASHE responded to this need and led the development of a framework designed specifically to address this need in the higher education community (Julian Dautremont-Smith, pers. com., 2009).

STARS Framework

In an effort to promote and assist institutions in advancing sustainability AASHE began developing the Sustainability Tracking, Assessment and Rating System (STARS) to measure progress towards sustainability at institutions of higher education. Rather than modify an existing tool used in another sector of society, AASHE developed a new tool with input from 21 strategic advisors and 93 technical advisors from a wide variety of institutions of higher education, government agencies, businesses and non-governmental organizations.

In the spring of 2008, AASHE implemented a two-phased pilot project to test the STARS framework in real-world institutional settings. Over 70 institutions of higher education, including Evergreen, participated in the pilot project implementation of the STARS framework. The STARS pilot project included three main components; (a) the STARS Guides to Phase 1 and Phase 2 which include an overview of STARS, STARS pilot project instructions, a summary scorecard, a description of each credit, and several appendices, (b) the PDF credit reporting forms, and (c) the on-line STARS reporting tool, where the PDF reporting forms were available for download and completed forms where uploaded and provided to AASHE.

The STARS self-reporting framework is made up of numerous indicators that are arranged into three categories: (a) Education and Research (ER), (b) Operations (OP),

and (c) Administration and Finance (AF). Each category contains two types of credits, Tier One credits, worth one or more points and based primarily on sustainability outcomes, and Tier Two credits, worth 0.25 points each and which generally recognize strategies institutions can adopt to move toward sustainability (AASHE 2008a). In addition, participating pilot project institutions had the opportunity to complete four Innovation Credits for new, extraordinary, unique, groundbreaking, or uncommon outcomes, policies or practices. The Innovation credits could increase an institution's score by one percentage point for each credit (AASHE 2008c).

The STARS Pilot Project credits were released in two phases with all 29 of the Tier One Operations credits and 12 of the Tier One Administration and Finance credits released in Phase One on February of 2008 (AASHE 2008a). Phase Two, released in September 2008 included all 26 of the Tier One Education and Research Credits, the remaining 23 Tier One Administration and Finance Credits, as well as all 89 Tier Two Credits (13 in the Education and Research category, 47 in the Operations category, and 29 in the Administration and Finance category) (AASHE 2008c). The Tier One, Tier Two and Innovation Credits were released in individual PDF forms that were downloaded from the AASHE STARS Pilot Project on-line reporting tool (http://starstracker.aashe.org/). The PDF forms included the individual credit number and title, the criteria for each credit, the required documentation for each credit, and guidance for each credit. A blank credit reporting form is available in Appendix H.

In addition to reporting data for the Tier One and Tier Two credits, pilot project participants were asked to provide institutional normalization data, such as the size of the campus population, the size of the campus conditions space, the amount of undeveloped

green space, and financial information for the institution. This background data will be necessary for benchmarking institutions, as well as providing AASHE and campus sustainability practitioners with information to better understand how institutional characteristics can influence STARS performance. Certain institutional normalization data will also be used by AASHE when calculating the scores for certain credits (AASHE 2008b). The requested institutional normalization data was released with the online reporting tool in the summer of 2008.

STARS and Sustainability at Evergreen

My role as the STARS pilot project Coordinator at Evergreen gave me the opportunity to learn first hand about the motivations and processes of pursuing sustainability at Evergreen. It also allowed me to critically analyze the STARS framework and help inform the Evergreen community about the effectiveness of this tool to relate to Evergreens' Sustainability movement. The opportunity to coordinate the pilot project implementation of STARS at Evergreen raised three main questions that I focused my research on: (a) Is STARS an effective tool to evaluate sustainability at Evergreen, (b) Does STARS lead to organizational learning at Evergreen, and (c) What does the process of implementing STARS reveal about Evergreens commitment to sustainability?

1. Is STARS an effective tool to evaluate sustainability at Evergreen?

AASHE is developing the STARS framework to be used on a regular basis by institutions of higher education. Evergreen's use of the tool during the pilot project will help the institution determine if it should continue to use STARS to assess and report on its sustainability work. To help Evergreen make the decision on the future use of this

tool, I was interested in determining if STARS is an effective tool to evaluate Evergreen's sustainability initiatives. In order to analyze the frameworks effectiveness, I looked at three aspects of this question: (a) The extent to which Evergreen's work in Sustainability is recognized by the STARS framework, (b) How many elements of an ideal sustainability assessment tool, as defined by Shriberg (2002b), does the STARS framework contain, and (c) The advantages and disadvantages of the STARS framework as it relates to Evergreen, and higher education in general. My experience coordinating Evergreen's participation in the STARS pilot project allowed me to gain an in-depth understanding of the framework itself in order for me to accurately answer these questions and determine the effectiveness of the STARS framework to evaluate Evergreen's work in sustainability.

This was an important aspect of this research because an effective monitoring and reporting tool has the potential to help inform an institution's sustainability commitment, and help stimulate awareness of campus sustainability issues (Glasser & Nixon, 2002). An effective tool should recognize a significant amount of the sustainability work at an institution, while also helping to inform the campus dialogue about how to advance sustainability efforts. Additionally, an assessment tool should identify the most important attributes of a sustainable campus, be calculable and comparable, measure more than eco-efficiency, assess processes and motivations and be comprehensible to multiple stakeholders (Shriberg, 2002b). These "ideals" don't speak directly to the effectiveness of the tool to Evergreen's sustainability work, but do provide an indication of its overall usefulness and quality.

2. Does the process of implementing STARS lead to Organizational Learning at Evergreen?

In addition to exploring the effectiveness of the STARS framework, I was also interested in examining if the process of assessing sustainability resulted in organizational learning at Evergreen. Organizational learning is an area of knowledge within organizational theory that studies models and theories about the way an organization learns and adapts (Argyris & Schon, 1978; Foil & Lyles, 1985; Huber, 1991). Foil and Lyles defined organizational learning as the process of modifying actions through better knowledge and understanding that results in associations, cognitive systems, and memories that are developed and shared by members of the organization. Huber noted that organizational learning has occurred when the range of potential behaviors of an organization changes. Huber also argued that organizational learning doesn't always lead to increased organizational effectiveness, and therefore, the quality of organizational learning is also an important outcome of any exercise that leads to learning. Evaluating STARS' potential to contribute to organizational learning at Evergreen and other institutions of higher education, as well as AASHE, is an important aspect of my research.

3. What does STARS reveal about Evergreen's Commitment to Sustainability?

One benefit of assessing institutional sustainability is that the assessment process can make the invisible visible. By this I mean that assessments can help identify what are the motivations behind an institution's sustainability work, and what processes have been followed to achieve the current level of sustainability. In chapter 4, I will discuss in

detail what I learned about Evergreen's commitment to sustainability through the actions and reactions of various campus community members who participated in the STARS implementation process. My work can inform the future actions of Evergreen as the institution continues to pursue work that will advance sustainability, as well as other institutions of higher education that might be considering the use of the STARS framework in the future. This is possibly the most unique aspect of this thesis because it differs greatly from previous research on sustainability assessments, which have focused primarily on the level of sustainability achieved by institutions (McIntosh et. al., 2008; Cole, 2003; Wright, 2002), rather than the motivations behind campus sustainability, and the reactions of campus communities to the process of assessing sustainability.

Chapter Summary

The need to accurately assess the direction of campus sustainability movements has resulted in the development of the STARS framework by AASHE. This framework was implemented as a pilot project at over 70 institutions of higher education in the United States, during the fall of 2008 and winter of 2009. My coordination of the pilot project implementation at Evergreen provided me with a unique opportunity to examine the institutional reaction of assessing sustainability at colleges and universities. I looked at the data that resulted from this process, and also the actions and reactions of a portion of the campus community. Through my case study I hope to contribute to the dialogue of sustainability at Evergreen and throughout the higher education community.

Chapter 2. Research Methodology and Methods

Introduction

In this chapter I discuss how I carried out my research on the STARS pilot project implementation of Evergreen. The chapter is separated into three sections, Research Approach, Data Analysis Methods, and STARS Credit Data Collection. The Research Approach section describes the research design and the data collection methods that form the basis of my efforts. The Data Analysis Methods section describes the process I followed to both quantitatively and qualitatively analyze the data collected for this project. The STARS Credit Data Collection section describes the process I followed to collect the necessary documentation (data) for the STARS Pilot Project. This section, along with Appendices A, B and C is designed to be used as a guide should Evergreen choose to continue future participation in the STARS self-reporting framework. This section and the accompanying appendices can also provide insights into how to coordinate STARS implementation at other institutions of higher education.

Research Approach

In this section I describe the research design and methodology I used to conduct my thesis project. I provide justification for the decisions I made about the data collection and analysis methodology. I also describe the case study design of my research and the qualitative and quantitative methods that helped guide my data collection process.

Case Study Research

My research was based on case studies research design. Case studies are used in research to help understand contemporary phenomena within a real-life context (Sharma, 2007). Eisenhardt (1989) further describes case study research as a strategy, which focuses on understanding the dynamics presented within in single setting. In the case I am studying, this single setting is the application of the STARS Pilot Project self-reporting framework at Evergreen, the unit of my analysis is therefore The Evergreen State College. This single case will enable me to gain knowledge about the complex world of higher education sustainability and organizational learning theory within this real-world setting. It will also allow me to specifically focus on the effectiveness of the STARS framework in relation to the sustainability movement at Evergreen.

One of the benefits of using a case study design to evaluate STARS is that it allowed me to refrain from developing preconceived theoretical notions prior to my research, instead allowing questions and theories to emerge during and after the data collection process (Jacob, 1998). This is supported by a similar approach employed by Sharma (2007) in his analysis of multi-stakeholder organizing for sustainability in New Zealand. Case studies can also employ a design that allows for multiple levels of analysis in a single study (Eisenhardt, 1989). This was appropriate for my research, because I followed a multidisciplinary research approach and used both qualitative and quantitative analysis on multiple levels. Using a case study approach in my research allowed me to interpret the ability of STARS to fuel organizational learning and further sustainability at Evergreen.

Qualitative and Quantitative Methods

The three main research questions I addressed in this thesis are: (a) Is the STARS framework an effective tool to evaluate Evergreen's work in sustainability, (b) Does the STARS framework encourage organizational learning, and (c) What does STARS reveal about Evergreen's commitment to sustainability. Answering these questions required that I take a multidisciplinary approach to my research. Isolated monodisciplinary approaches are insufficient for an adequate understanding of complex societal problems, which sustainability is a prime example of (Uiterkamp & Vleck, 2007).

I will use both qualitative and quantitative research methods in undertaking this thesis project. This will allow me to practice multidisciplinary, multimethod research, and gain insights into the sustainability movement at Evergreen and throughout Higher Education (Sharma, 2007). Data required for the STARS framework includes both quantitative data such as the amount of energy and water used, and qualitative data such as descriptions of policies and practices. In addition determining the level of sustainability at Evergreen as measured by STARS will require trend analysis and percentile calculations. As with other sustainability indicator efforts, quantitative data will be translated to qualitative statements to determine whether or not indicators contribute to the sustainability movement at Evergreen (Bossel, 1999). My research will also include qualitative analyses of the participation of Evergreen in the STARS Pilot Project and the impact this participation has had from an organizational learning stand-point.

Data Collection Techniques

Through the case study research design, I drew on several research methods including ethnographic fieldwork, participant observation, interviews, and organizational document review to collect the necessary data for this project (Smith, 1978; Van Maanen, 1979; Yin, 1994; Sharma, 2007). In an effort to ensure broad freedom in the approach I took in collecting data, and in the level of my participation in the STARS pilot project, I used an approach similar to the "participant-as-observer" method described by Gold (1958) because I spent more time participating in the STARS pilot project than simply observing it. For my research to succeed, I needed to get a real-world understanding of the impact that the STARS pilot project had on Evergreen as an institution. In addition, this approach allowed my data collection process to flow with the natural course of the STARS pilot project. This approach also allowed for the level of engagement and participation needed to coordinate the data collection for STARS.

During my data collection process, I kept a field journal to record both qualitative and quantitative data, and notes from meetings, interviews, phone conversation, and web searches. I used the field journal to capture any data or information I thought would be relevant for the completion of a STARS credit, or for later analysis of Evergreen's participation in the pilot project. I also saved all email correspondence made during the data collection process for later analysis if needed. For follow-up interviews I worked with the Director of Sustainability, John Pumilio, and my main faculty thesis reader, Rob Knapp, to develop questions that would provide qualitative data for further analysis on the participation of Evergreen on the STARS pilot project. I printed out the questions and took notes directly on the questionnaire document. Immediately following each interview I transcribed the notes from the questionnaire to an electronic Word document.

Throughout my data collection process, including the initial meetings and follow-up interviews, I made my role as the STARS Pilot Project Coordinator clear, as well as my role as a researcher. This fostered an atmosphere of trust between me and the other Evergreen community members. This was important both for the STARS data collection process, as well as the qualitative observations I would be making on the participation of Evergreen as an organization in the STARS Pilot Project.

Data Analysis Approach

In my research the analytical process began during data collection as the data gathered was continually analyzed and shaped the ongoing data collection. This continual analysis had the advantage of allowing me to go back and refine questions, further develop hypotheses, and pursue emerging avenues of inquiry in greater detail (Pope et. al, 2000). In the following sections I describe the analytical process I used to determine; (a) The effectiveness of the STARS framework to evaluate Evergreen's sustainability work, (b) The ability of the STARS framework to encourage organizational learning, and (c) Evergreen's STARS score, one component in my analysis of Evergreen's commitment to sustainability.

Analyzing the Effectiveness of STARS to Evaluate Evergreen's Sustainability Work

I reviewed the 2006 Sustainability Report (Pumilio et al., 2006) and the Evergreen Sustainability website (www.evergreen.edu/sustainability/) and looked for patterns or similarities between the Evergreen sustainability goals, objectives and practices and the STARS framework (Yin, 1994). I used a matrix to determine what components of

Evergreen's work in sustainability are recognized by the STARS framework. I determined that the framework recognized the sustainability components if a STARS indicator credit awarded some or all of the points possible for each component, or if an indicator credit allowed for the description of a policy or practice, regardless of the points awarded.

In addition to comparing the STARS framework to Evergreen's work in sustainability, I used a set of criteria developed from relevant literature evaluating cross-institutional sustainability indicators and sustainability assessment, to determine if STARS incorporates attributes identified as ideal for sustainability assessments (Shriberg, 2002b). The criteria I used included: (a) Identifies important and appropriate issues for institutions of higher education (b) Calculable and comparable through time, and across institutions, (c) Focus on sustainability as opposed to eco-efficiency (economic value as it relates to generation of waste, greenhouse gas emission, or energy usage (Derwall, et. al., 2005)), (d) Identifies processes and motivations at institutions, and (e) Comprehensible: results are translated into understandable outcomes, and reporting is verifiable.

STARS was considered an effective tool to evaluate sustainability at Evergreen if the framework addressed issues important to Evergreen (did it adequately recognize Evergreen sustainability efforts), and if the STARS framework met the criteria of an effective assessment framework. The advantages and disadvantages of the STARS framework in relation to Evergreen and the higher education community were also considered in the analysis of the frameworks effectiveness.

Analyzing STARS as an Organizational Learning Tool

To determine if the implementation of the STARS framework at Evergreen resulted in organizational learning I conducted follow-up interviews with six of the main Evergreen community contacts, representing both individual employees and work units, who were integral in the completion of the STARS data collection process. These contacts were: (a) Purchasing, (b) Facilities, (c) Residential and Dining Services, (d) Director of Business Services, (e) Registration, and (f) Institutional Research and Reporting.

The nine questions asked during each interview included: (a) What time commitment was required for the STARS process, (b) Did you learn anything about your area of responsibility, (c) Did the STARS process affect your units work, (e) Would sharing information and lessons learned through the STARS process be useful for other work units, or Evergreen community members, (f) What are the benefits of participation in STARS, (h) What is the best time of year to implement STARS, (i) Should Evergreen continue to participate in the STARS program, (j) What recommendations do you have for future STARS implementation at Evergreen, and (k) Have you put a process in place to ensure proper data collection in the future?

Using content analysis I compared the interview transcripts, and my field notes on the STARS implementation process to the mechanisms of, and definitions for organizational learning as determined through an extensive review of the organizational learning literature. In addition, the discussions I had with these Evergreen community members during the data collection process, and the follow-up interviews provided

important information that allowed me to gain insights into the institution's commitment to sustainability. This commitment will be discussed in detail in Chapter 4.

Calculating Evergreen Sustainability Score

AASHE did not calculate institutions scores and provide ratings during the STARS Pilot Project. Nevertheless, I calculated Evergreen's sustainability score following the methods identified in the Guide to Pilot Phase I and Phase II (AASHE, 2008a & 2008c). Because of the multidisciplinary nature of the STARS framework, I used both qualitative and quantitative methods to calculate Evergreen's sustainability score. In Chapter 3, I present the Evergreen STARS scores as one indication of Evergreen's commitment to sustainability.

I created an Excel spreadsheet to calculate the overall sustainability score, as well as summary scorecards for each of the main categories, Education and Research, Operations, and Administration and Finance. I followed the format of the STARS Summary Scorecard found in the Guide to Pilot Phase I and Phase II (AASHE, 2008a; AASHE, 2008c). This allowed me to calculate the overall score for each category and subcategory, as well as the overall sustainability score. Using the Excel chart function I graphically represented the overall STARS score, and the scores for each category using radar graphs. Graphically representing sustainability scores allows for the analysis of an institution's current situation and pinpoints the dimensions and categories where the institution excels and those which need to be addressed (Lozano, 2006b).

The STARS credits that involved quantitative analysis required the calculation of a percentage, such as the percentage of local food purchased in different categories, or the percentage of non-potable water usage. Other credits were based on a three-year

downward trend, with points awarded for trends in the direction of sustainability. For the purpose of STARS, a downward trend occurs when the least-squares regression line has a negative slope (AASHE, 2008a). For calculation of least squares regressions, I used the chart function in Microsoft Excel. Percentages were calculated using a standard handheld calculator.

Many other credits were awarded based on the existence of programs, policies or practices. For these credits, I analyzed the data collected for each credit and determined if the requirements for each credit had been met. Because this analysis required a qualitative determination as to whether STARS criteria had been met, there was the possibility that I might take too much of a participant role and become a "supporter" of Evergreen in the STARS process, thus biasing my analysis (Sharma, 2007; Yin, 1994). However, recognizing this possibility, I tried to objectively analyze the data for each credit, ensuring that the scores I calculated would be consistent with AASHE calculations had it been included in the Pilot Project.

STARS Credit Data Collection

This section describes my role in the implementation of the STARS Pilot Project at Evergreen. I describe the process used to coordinate the collection of all necessary data for the completion of the applicable Tier 1 and Tier 2 credits, Innovation credits and Institutional Normalization data. I also describe the participation of other Evergreen community members in the data collection process. Appendix A includes a table indicating the appropriate contact and data source for each credit. Several of the STARS credits required a multi-step data collection process. I have included a detailed description of the process of each of these credits in Appendix B. This section, together

with the Appendix A and B provides a detailed "road map" of the STARS data collection process as it pertains to Evergreen. These materials will facilitate Evergreen's efforts should the College choose to participate in STARS in the future. I will note that STARS credits might be modified by AASHE based on the input of Pilot Project participants. If this occurs, caution will have to be used to ensure that the contacts or data source identified for the Pilot Project still apply.

I begin by describing the steps I took to prepare for the required outreach and data collection, followed by the process I used for collection of the Institutional Normalization data, Operations (OP) credit data, Administration and Finance (AF) credit data, Education and Research (ER) credit data, and Tier 2 and Innovation credit data.

Part of my responsibility in coordinating the completion of the STARS Pilot Project was determining which credits were not applicable to Evergreen, based on guidance provided by AASHE, and would not need to be completed. This presented a chance for researcher bias to enter into my project, a major concern raised about qualitative case study research (Yin, 1994, Sharma, 2007). By not including certain credits, and therefore Evergreen community members, in the data collection process, potentially important qualitative and quantitative data about Evergreens participation in STARS was not included in my research. However, I don't believe this flawed my analysis of the STARS framework as a tool for use at Evergreen. In chapter 5 I make recommendations to include greater community participation to ensure all necessary data is included in future STARS processes.

Pre-Data Collection

My role as STARS Pilot Project Coordinator was established through several meetings with the Director of Sustainability, John Pumilio, on June 27th, July 9th, and July 22nd, 2008. In these meetings we discussed Evergreen's involvement in the STARS Pilot Project, the sustainability movement at Evergreen, the higher education sustainability movement in general and the potential wide ranging importance of this research project. Through these meetings I gained a general understanding of the various initiatives Evergreen has engaged in to help define and further sustainability both on and off campus. During these meetings, John and I also discussed indicators and sustainability assessments as a way to help define sustainability at an institution.

After my role had been defined, I began the data collection process with the development of a Data Tracking Spreadsheet using Microsoft Excel. This spreadsheet helped me track my progress and coordinate the outreach and communication necessary for completion of the Pilot Project. I designed the spreadsheet with ten separate worksheets, five for tracking the data collection process for the Institutional Normalization Data, Education and Research (ER) credits, Operations (OP) credits, Administration and Finance (AF) credits, and Tier 2 credits. On these five worksheets the information tracked included, but was not limited to, the primary contact for each credit or data need, as well as the status of data collection for each credit.

I included a worksheet for tracking the time spent on the STARS Pilot Project by myself and other Evergreen community members. This information allowed me to analyze the overall time commitment needed to complete the STARS framework. I also

included a worksheet for tracking all contacts made during the STARS data collection process. All the worksheets can be found in Appendix C.

The Pilot Project credits and data needs were released in two phases to moderate the workload for participating institutions (www.aashe.org/stars/pilot.php). I created the Data Tracking Spreadsheet immediately following my decision to conduct this research for the Phase I credits and Institutional Normalization data, and with the release of Phase II credits in October 2008.

A major component of the pre-data collection stage was determining the appropriate Evergreen community members to contact for each credit, and which credits were applicable. This was done with input from John, and my main faculty thesis reader, Rob Knapp. We identified the appropriate contacts and applicable credits immediately after the completion of the Data Tracking Spreadsheet for Phase I and Phase II of the Pilot Project. Appendix A identifies the appropriate contact(s) for each credit.

Institution Normalization Data Collection

The institutional normalization data included information on the physical size of Evergreen, student enrollment, staff and faculty make-up, and financial information. When the STARS framework is fully implemented this background data will enable AASHE to benchmark all participating institutions, as well as provide AASHE and campus sustainability practitioners with information to better understand how institutional characteristics can influence STARS performance. Certain institutional normalization data will also be used when calculating the scores for certain credits (AASHE 2008b). AASHE requested at least three years of institution normalization data

to be submitted for the Pilot Project. Data collection for all three years followed the same methodology described below.

Data Boundary & Timeframe

Online academic calendars were used to determine the beginning and end of each academic year. For academic years in which on-line calendars were not available, the beginning and end of previous academic years was estimated based on the current academic calendar. The beginning and end of the fiscal year was based on my personal knowledge of the state fiscal year as a state government employee, which also aligns with Evergreen's fiscal year. The timeframe reported was for the 2005-06, 2006-07 and 2007-08 academic years and the 2006-07, 2007-08 and 2008-09 fiscal years. Because of the overlap between academic and fiscal years, the effective timeframe reported to STARS was from July 30th, 2005 to September 1st, 2008.

The boundary was determined in pre-data collection conversations with the Sustainability Director, John Pumilio, to include the entire Olympia campus, and the Grays Harbor and Tacoma branch campuses.

Institutional Population

I requested data for student enrollment, and staff and faculty population from the Institutional Research and Reporting Program (Institutional Research). I made this request through email outreach to the Director of Institutional Research, Laura Coghlan, with a Word document containing all the data needs attached. Laura provided data for total enrollment, residential students, full-time non-residential students and part-time non-residential students. Laura also recommended I contact the Program Coordinator for Extended Education/Summer School, Steve Schmidt, for non-credit student enrollment

numbers. I emailed Steve Schmidt with the data request and promptly received non-credit student enrollment data for the three year academic reporting timeframe (2005-06, 2006-07 and 2007-08).

I also reviewed the IR webpage for faculty and staff population data. The Institutional Research webpage includes a Faculty and Staff Data page with population trend data. This trend data provided the necessary information needed for STARS submission.

Buildings & Grounds

The Director of Sustainability, John Pumilio, coordinated a meeting with Paul Smith, Director of Facilities, and several other facilities staff on August 25, 2008. Prior to the meeting I emailed a summary of the data needs to the facilities staff. During the meeting John and I briefed the facilities group on STARS and briefly described the data needs again. Paul agreed to be my point of contact for all facilities related data needs. In addition we set a September 30th, 2008 deadline for data collection. In addition to discussing the Institutional Normalization data needs at this meeting, we also discussed the data need for several of the STARS Tier 1 credits related to facilities.

Immediately following the meeting I emailed Paul the PDF credit reporting forms. I received the completed forms back on November 6th, 2008 following three follow-up emails on September 19th, October 6th, and November 6th, 2008. The follow-up emails included reminders from me on the data needs and my timeline, as well as requests for clarification on reporting time frame and reporting boundary from Paul.

Financial Information

In addition to the population data, I also requested financial information from Institutional Research through the same email and Word document sent to Laura Coghlan. I was provided with financial information on endowment and research expenditures and was directed to the Executive Director of Operational Planning and Budget, Steve Trotter, for operating budget information. I emailed Steve and received a response back directing me to the budget website (www.evergreen.edu/president/budget/home.htm). I reviewed the documents on the budget website and found the necessary budget data. Rather than report the budget information for each fiscal year, as requested by STARS, I reported the total biennial budget and noted this reporting discrepancy in the Notes section provided on the on-line reporting tool. I chose to report the budget for the entire biennium because that is how it was reported on the budget website.

I also met with the Director of Sustainability on November 8th, 2008 and received the financial data for Sustainability Program as requested by STARS.

Education and Research (ER) Credits

All twenty-six of the ER credits were released during Phase II and required the most extensive data collection on my part, as well as outreach and document review. Table 1 shows the credits that required outreach and the appropriate contacts. I began outreach and document review immediately following the identification of the appropriate contacts for Phase II on October 1st, 2008. I initiated outreach to the necessary ER credit contacts the same way as with the AF credits, with an email from me to the appropriate contact identified during the pre data collection stage of my research.

For three of these credits (ER-17, ER-18, ER-19), related to faculty and staff development and training, the original contacts identified during pre-data collection referred me to Allan Toothaker, Associate Vice President for Human Resources. Through email and a phone conversation with Allan, I was able to get the information I needed to complete the credit reporting forms.

As with many of the OP and AF credits, I was able to get the required data for five of the ER credits through discussions with John Pumilio, Director of Sustainability. This occurred during the November 8th, 2008 meeting at which several of the AF credits were also discussed.

Table 1. Contacts for ER Credits

Contact	Credit(s)
Director of Sustainability	ER-1, ER-2, ER-3, ER-14, ER-15
Registrar	ER-5, ER-6, ER-8
Academic Deans for Curriculum	ER-12
Academic Dean for Faculty Hiring & Development	ER-16
Washington Center	ER-16
Associate Vice President for Human Resources	ER-17, ER-18, ER-19

Three of the ER credits (ER-5, ER-6, and ER-8) required the most extensive process to complete out of all the STARS credits. These credits all related to the amount of sustainability included in the curriculum at Evergreen. I have included a detailed description of the process required to complete these credits, along with credits ER-13 and ER-16 in Appendix B.

Seven of the ER credits recognized institutions that conduct research related to or focused on Sustainability. AASHE indicated that these seven credits did not apply if

research was not a core component of the institution's activities (AASHE, 2008c). I discussed the applicability of these credits with John Pumilio, and the main faculty reader for this thesis, Rob Knapp. Based on this discussion I determined that these credits would not be applicable to Evergreen and therefore choose not to pursue the required data to complete these credits. In my role as STARS Pilot Project Coordinator I had to make a decision on what to include and what not to include in reporting data to AASHE.

Administration and Finance (AF) Credits

The first eleven AF credits were released during Phase I, and the remaining twenty-three were released during Phase II. Table 2 shows the contact for each of the AF credits. The Director of Sustainability, John Pumilio, was the appropriate contact for about half of the AF credits released during Phase I. For these credits, I was able to collect most of the required data from the Evergreen website, and provide the partially completed credit reporting forms to John for the remaining data. For the rest of the Phase I AF credits I contacted the Director of Business Services, Collin Orr, and set up a meeting on October 10th, 2008 to discuss the data needs.

Five of the twenty-three AF credits released during Phase II required data that I was able to get from John Pumilio. For these credits, I met with John on November 8th, 2008 and discussed the data needs, during this meeting we also discussed data needs for some of the ER and Tier 2 credits, which I describe in more detail later in this chapter. I was able to get most of the data needed for these credits from the discussion during our meeting; the remaining data needs were obtained from the Evergreen website, and in emails, and face-to-face meetings with the Canopy Lab Manager, Scott Hollis, and the

Washington Center Graduate Research Intern, Lucienne Guyot. This outreach occurred between October 20th, and December 1st, 2008.

The remaining eighteen AF credits required outreach to Evergreen community members, and review of policies, plans and practices found on the Evergreen website, and several State of Washington governmental websites. I initiated the outreach to Evergreen community members with an email describing the STARS Pilot Project and my role in coordinating Evergreen's participation, as well as the data I was contacting them about. An example of this initial outreach email can be found in Appendix D. This outreach expanded to phone conversations with three participants, Associate Vice President for Human Resources, Allan Toothaker, Director of Financial Aid, Julie Anderson, and Diversity and Equity Officer, Paul Gallegos. All data collection for the AF credits was completed on December 10th, 2008.

Table 2. Contacts for AF Credits

Contact	Credit(s)
Director of Sustainability	AF Prerequsite-1, AF-6, AF-7, AF-8, AF-9, AF-10, AF-11, AF-12, AF-18, AF-19,
Director of Business Services	AF-1, AF-2, AF-3 AF-4. AF-5
Canopy Lab	AF-12, AF-18
Washington Center	AF-12
Director of Financial Aid	AF-17
Diversity & Equity Officer	AF-20, AF-21, AF-22, AF-23
Associate Vice President for Human Resources	AF-27, AF-32
Payroll & Benefits Manager	AF-28
Vice President for Finance & Administration	AF-33, AF-34

Appendix B provides detailed descriptions of the data collection process for AF-12, AF -14, AF-15, AF-16, AF-18, AF-19, AF-22, and AF-26. These credits required the

most in-depth data collection process and a combination of outreach and document review. Providing a detailed description of the data collection process for each of these credits should benefit Evergreen if the institution continues to participate in STARS in the future.

Operations (OP) Credits

All twenty-eight of the OP credits were released during Phase I of the STARS Pilot Project. The nature of the OP credits made it possible to focus my outreach efforts on five contacts, as well as the Director of Sustainability, John Pumilio. These contacts were: (a) The Facilities Group, which included the Director of Facilities, Paul Smith as my main contact, (b) The Environmental Health and Safety Officer, Robin Herring, (c) The Purchasing the Contracts Manager, Kathleen Haskett, (d) The Residential and Dining Services program (RAD), which included the Director of Residential and Dining Services, Sharon Goodman, and the ARAMARK Sustainability Intern, Halli Winstead, and (e) The Commute Trip Reduction Program Coordinator, Victor Sanders. Table 3 identifies the credits relevant to each contact.

Table 3. Contacts for OP Credits

Contact	Credit(s)
Facilities Group	OP-1, OP-2, OP-3, OP-8, OP-9, OP-10, OP-12, OP-13, OP-16
Residential and Dining Services (RAD)	OP-4, OP-5, OP-6, OP-7, OP-14, OP-15, OP-21
Environmental Health and Safety	OP-17, OP-18
Purchasing	OP-19, OP-20, OP-21, OP-22, OP-23, OP-24
Director of Sustainability	OP-11, OP-25, OP-26, OP-28
Transportation	OP-27

Outreach to these Evergreen community members began with separate meetings coordinated by John Pumilio between August 25th, and September 3rd, 2008 with Facilities, Environmental Health and Safety, Purchasing, and RAD. Meetings included a description of the STARS pilot project, a discussion of the best way to ensure data collection for each credit, and a timeline for submitting data back to me. Following each meeting the OP credit reporting forms were distributed to the appropriate contacts. Outreach to Victor Sanders began with an email that included the appropriate credit reporting form.

During the meetings with the Facilities Group, and Purchasing on August 25th, and the RAD meeting on September 3rd, I was informed that the cleaning services (OP-4, OP-21) at Evergreen is handled by both Facilities Services and RAD. For these credits I expanded my contacts by meeting with the housekeeping manager for Facilities Services, Gaylon Finley, on October 10th, 2008 to discuss the data needs for these credits. However, on October 23rd, 2008 I received an email from Sharon Goodman informing me that the recently hired graduate sustainability intern for RAD, Natalie Pyrooz, could compile the necessary data for the cleaning services credits. I met with Natalie on October 28th and passed on the data I had received during my discussion with Gaylon. Following our meeting I emailed Natalie the necessary credit reporting forms for completion.

For two more of the OP credits (OP-18, OP-23) my outreach expanded from the initial contact to include additional Evergreen Community members. For Credit OP-18 I met with Radiation Safety Officer, Peter Robinson, to get data on practices and policies

regarding the use and disposal of radioactive material. I added the information I gathered in this discussion to the other data provided by Robin Herring for credit OP-18. During a follow up phone conversation on December 30th, 2008 regarding the credits related to purchasing Kathleen Haskett directed me to Space Management Services staff Patti Zimmerman for data on OP-23. I immediately emailed Patti with the data request for OP-23.

On October 6th, 2008 I began receiving the completed OP credit forms back from the participating Evergreen community members with all forms returned to me by December 8th, 2008. I reviewed each form as I received them to ensure they were complete. If the credit forms were not complete I would contact the appropriate community members through email or phone to acquire additional information. Most of these inquiries had to do with providing feedback on the difficulty of data collection for each credit, or any additional feedback they would like to provide to AASHE. I also asked each participant how much time commitment was required for completion of his or her credits.

After receiving the completed credits I conducted follow-up meetings on October 31st, 2008, and November 7th, 2008 with the ARAMARK Sustainability Intern and the Director of Facilities, respectively. The purpose of these meetings was to gain any additional insights on the data they submitted their data collection process, and any thing they learned through the collection of the STARS credit data. Tier 2 credit data needs were also discussed at these meetings, and will be described below. I choose to follow up with the ARAMARK Sustainability Intern and the Director of Facilities because they

were responsible for completing the most credits, and these credits required the most in-depth data collection on their part.

Tier 2 and Innovation Credits

The Tier 2 credits were released in Phase II of the STARS Pilot Project. These credits are worth fewer points than Tier 1 credits, 0.25 points each, and recognize strategies institutions can adopt to move toward sustainability, rather than sustainability outcomes (AASHE 2008a). Most of the data collection for these credits was accomplished by reviewing the Evergreen website, or other State of Washington governmental websites for the appropriate data. For the remaining credits, I discussed the data needs with the ARAMARK Sustainability Intern, the Director of Facilities, and the Director of Sustainability, during the meetings on October 31st, November 7th and November 8th, 2008 respectively. A detailed table of the contacts and data sources for each Tier 2 credit is included in Appendix A

For the innovation credits, I choose four aspects of the Evergreen sustainability movement that I felt exceeded the criteria for any of the other STARS credits (AASHE, 2008c). These four programs were: Sustainable Prisons, Tribal Reservation Based Program, Evergreen Forest Carbon Sequestration Research, and the Curriculum for the Bioregion Initiative. For the Sustainable Prisons program and the Curriculum for the Bioregion Initiative, I used the descriptions provided to me for credits AF-12 and ER-16 respectively. For the Tribal Reservation Based Program I found the necessary data on the Evergreen website. John Pumilio emailed me information on the Evergreen Forest Carbon Sequestration Research after discussing this project during our October 8th, 2008 meeting.

Data Submission to STARS

AASHE coordinated the submission of the STARS Pilot Project data through the on-line STARS Pilot Reporting Tool (http://starstracker.aashe.org/). The tool allowed participating institutions to input the required Institutional Normalization data and upload the completed Tier 1, Tier 2 and Innovation credit reporting forms directly to the reporting tool. I began inputting the Institutional Normalization data as I collected it, and completed the input on December 5th, 2008.

Prior to uploading any of the completed credit reporting forms, I provided them to the Director of Sustainability, John Pumilio, and my main faculty thesis reader, Rob Knapp for review. Rather than submit all the completed credits to John and Rob at one time, I provided them groups of credits over the course of a month, beginning on November 21st, 2008. I began uploading the credit reporting forms on December 29th, 2008 and completed the on-line submission on January 10th, 2009.

Chapter Summary

In the first section of this chapter I described the multidisciplinary approach of my research. I described how I used qualitative and quantitative methods in a case study research design to explore the implementation of the STARS Pilot Project at Evergreen. I explained how my data collection was drawn from a variety of qualitative methods including ethnographic fieldwork, participant observation, interviews and document review. I also explained the multimethod approach to data analysis that I used. The highly interactive approach to my research presented several challenges and opportunities for researcher bias, which I have explained in this section, and will continue to discuss throughout this thesis.

The second section of this chapter covers the data collection methods for the STARS Pilot Project. This section used in conjunction with Appendices A, B and C can serve as a guidebook for future participation in STARS at Evergreen.

The next chapter focuses on the results of my research on the organizational learning aspect of this project, as well as the results of the STARS Pilot Project and the sustainability scores I calculated for Evergreen. The chapter provides the results that will allow me to draw conclusions about my thesis statements.

Chapter 3. Results and Analysis

Introduction

In this chapter I present the data analysis and results of my research. The results of my research are presented in three sections; Institutional Participation, STARS Framework Analysis, and Evergreen STARS Results. Data on the resource commitment and community involvement are provided in the Institutional Participation section. The STARS Framework Analysis section provides data on the indicator credit, and point distribution of STARS. I present the overall STARS scores, and Evergreen's scores for each category in the Evergreen STARS Results section.

Institutional Participation

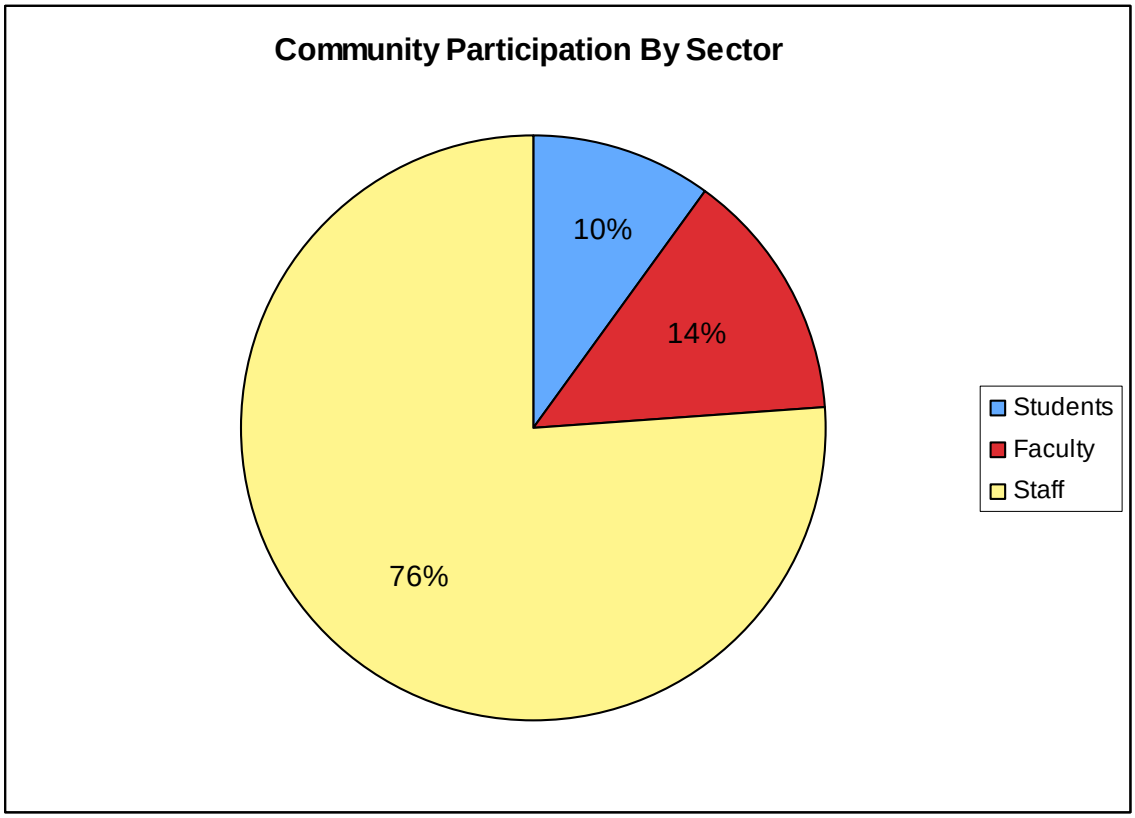
The process of implementing the STARS framework at Evergreen and conducting this case study required a substantial time commitment from a large number of Evergreen community members. In this section I discuss this institutional participation component of my research. This includes a discussion of the resource commitment required to complete the STARS pilot project, and a brief discussion of the follow-up interviews I conducted with the Evergreen community members who participated the most in the STARS data collection process.

Resource Commitment

The data collection process for the STARS pilot project began on August 25th, 2008 and concluded on January 10th, 2009. I conducted outreach to 50 different Evergreen community members during this time period, of these 50 community members

five were students (either interns or work-study students), seven were faculty, and 38 were staff members. Figure 1 displays the community participation by sector, as a percentage of the total community participation. I include my coordination effort as student participation. My outreach to community members included 164 emails (total sent and received by me), 20 meetings, and nine phone conversations.

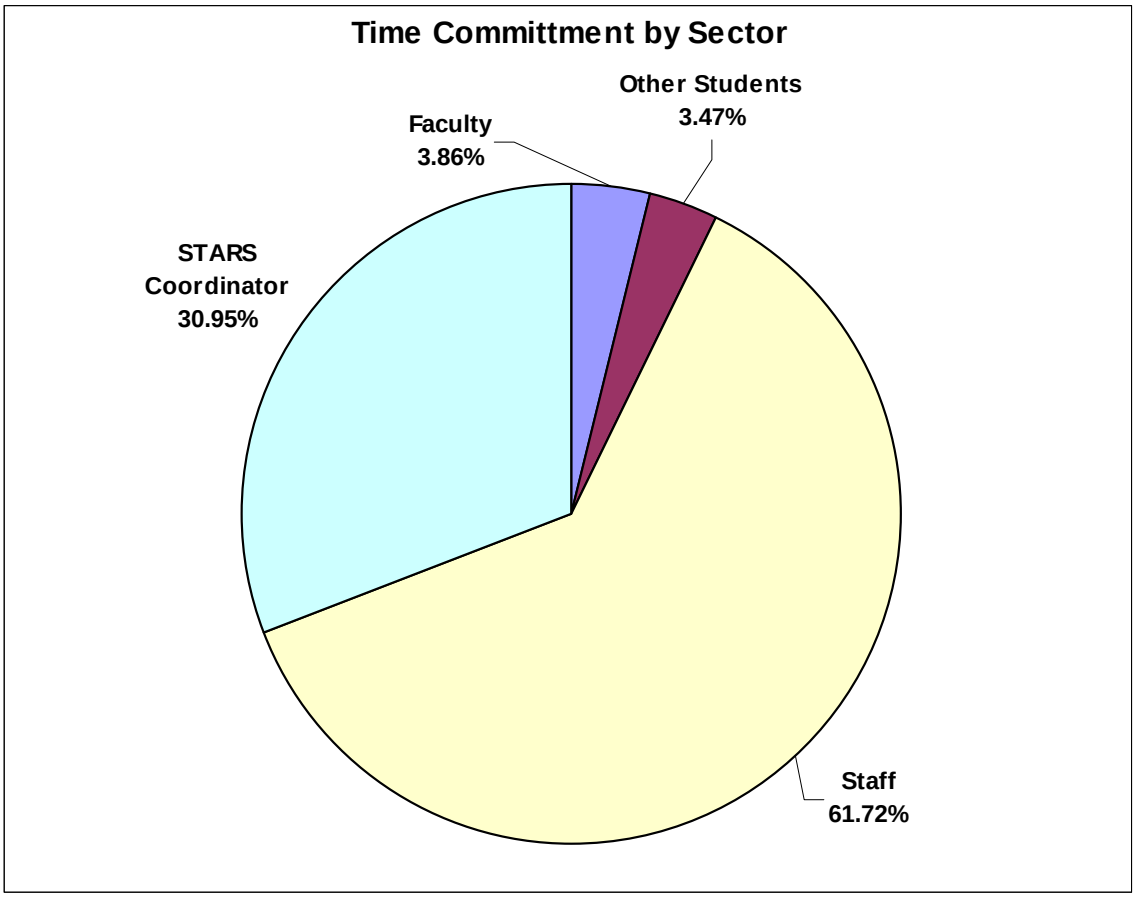
Figure 1. Community Participation by Population



The total time required to complete the STARS pilot project was 259 hours. This included the time contributed by the numerous Evergreen community members identified in chapter 2, and the time I spent coordinating the completion of the STARS pilot project. My coordination efforts required 80.25 hours of the total time commitment, all other students contributed 9.00 hours, faculty contributed 10 hours of the total time, and staff contributed 160 hours of time. My time accounted for 30.95% of the total time

commitment. Figure 2 illustrates the time commitment of students, staff, faculty and me (identified as STARS Coordinator) to the STARS data collection process.

Figure 2. Time Commitment by Campus Sector



Although the hours contributed by staff accounted for the majority of the time commitment (61.72%) it is important to point out that of the 160 hours of staff time, 85 hours were contributed by one individual, Halli Winstead, the ARAMARK Sustainability Intern. This internship position is classified as a paid student internship with ARAMARK, the campus food services provider. At the time of the STARS data collection Halli was no longer a student at Evergreen, and was a paid intern on ARAMARK's staff. However, this internship position is likely to be filled by another

student when Halli's internship is over, and the work she conducted for the STARS data collection would then fall under the student category.

Follow-up Interviews

As described in chapter 2, I conducted follow-up interviews with the six groups, both individuals and work units that participated to the largest degree in the data collection process for the STARS pilot project. The interview questions and the summary of responses can be found in Appendix E.

The time commitment reported by participants ranged from 1 hour for the Director of Business Services to approximately 80 hours for the ARAMARK Sustainability Intern. All participants interviewed reported learning something new about their area of responsibility, or reaffirming something they already knew about their unit's area of responsibility. Participants reported various effects of the STARS process on their work units. All participants interviewed recognized a benefit to sharing information and lessons learned through STARS implementation with other work units and community members at Evergreen. Participants described a number of different benefits of participation, the more common being encouraging discussions and increasing knowledge of sustainability throughout the community. Recommendations on the best time to implement the STARS process included winter, summer and fall, with all in agreement that the end of the fiscal year time frame would not be ideal. All participants recommended implementing future versions of STARS, and also recommended having one individual coordinating the process. One participant reported putting a process in place to ensure consistency of data collection in the future. Table 11 located in Appendix

E provides a summary of the answers provided by each of the contacts that were interviewed.

STARS Framework Analysis

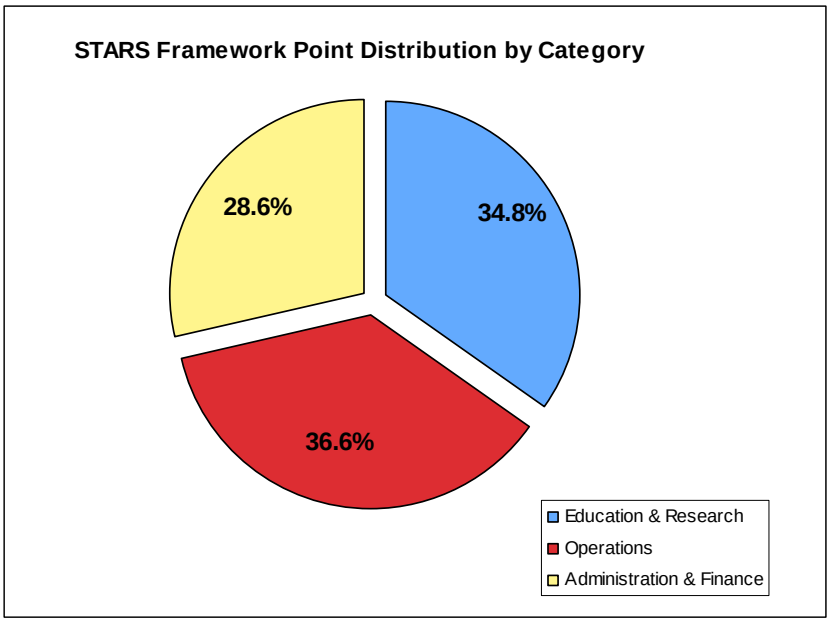
In this section I present my analysis of the STARS framework. This includes an analysis of the STARS framework credit and point distribution, and an analysis of the credits I determined not to be applicable to Evergreen, based on criteria provided by AASHE (AASHE, 2008a; AASHE, 2008c). I will also present my analysis of the matrix comparison between Evergreen's sustainability work and the STARS framework, as well as the comparison between the framework at the assessment ideals proposed by Shriberg (2002b).

Credit and Point Distribution

The STARS framework was comprised of a total of 177 "indicators" or credits. There are two types of credits; Tier 1 credits (88 total) worth one to six points for a total of 171 points possible, and Tier 2 credits (89 total), worth 0.25 points each for a total of 22.25 points possible. In addition there was one prerequisite credit in each of the Operations and Administration and Finance categories. Prerequisites are intended to represent the minimum requirements for demonstrating institutional commitment to sustainability (AASHE, 2008b). Institutions must meet the prerequisite in each category in order to receive points for the credits in that category. AASHE intends to score institutions based on the total points they receive, not the number of "indicators" or credits they can meet. The Education and Research category included 67.25 points, or 34.8% of the overall points. The Operations category included the most points with

70.75, making up 36.6% of the overall framework points. The Administration and Finance category was worth the fewest points at 55.25, or 28.6% of the overall framework points. Figure 3 displays the point distribution by category for the STARS Framework.

Figure 3. STARS Framework Point Distribution by Category

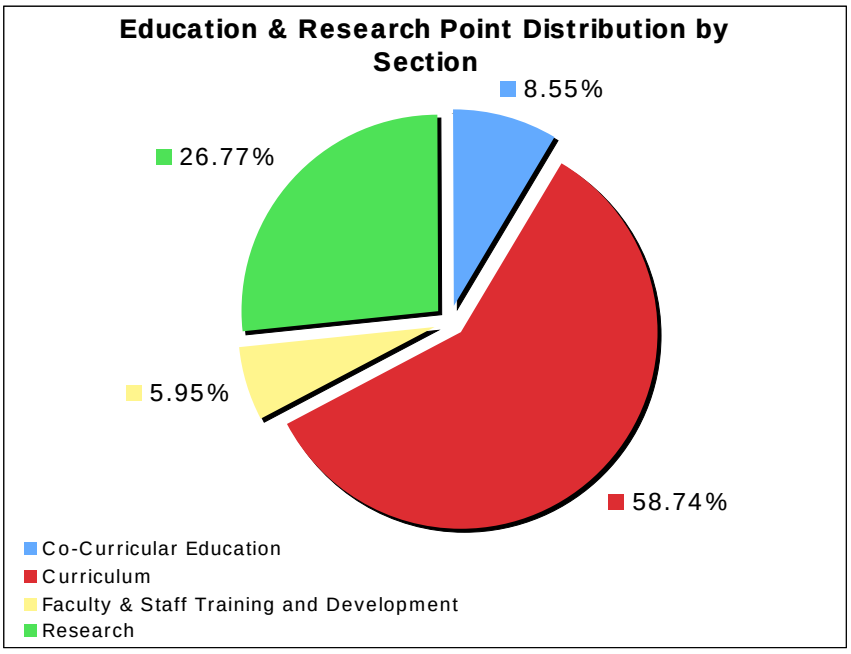


Several of the credits included applicability standards that Evergreen did not meet. Credits that did not apply to Evergreen were not counted against the institution's overall score (AASHE, 2008a).

Education and Research Category

The Education and Research (ER) category was made up of four sections: (a) Co-Curricular Education, (b) Curriculum, (c) Faculty & Staff Development, and Training, and (d) Research, with a total of 26 Tier 1 credits and 14 Tier 2 credits (AASHE, 2008c). The total points available in the ER category were 67.25. Figure 4 displays the point distribution by section as a percentage of the total points available for the ER category.

Figure 4. ER Category Point Distribution by Section



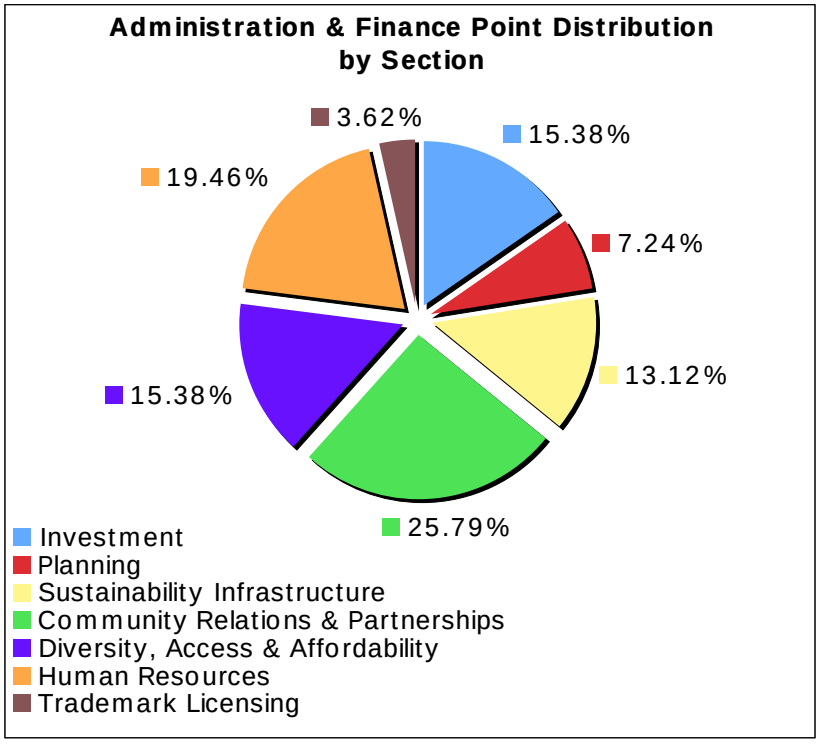
Of the 40 total credits that were included in the ER category 28 were applicable to Evergreen. I determined that all seven of the credits in the Research subcategory (ER-20 through ER-26) worth a total of 18 points were not applicable. AASHE (2008c) provided criteria for these credits that stated "the Research credits do not apply to institutions where research is not a core component of the institution's activities." I made this determination based on the fact that research expenditures accounted for only 0.008% of Evergreen's total operating budget for the 2006-07 and 2007-08 fiscal years, and faculty are not hired or retained by research performance.

The remaining five credits determined inapplicable were in the Curriculum section (ER-7, ER-9, ER-10, ER-11, and Tier 2 Curriculum-1) and accounted for 12.25 of the 68.25 total ER points available. The Tier 1 credits were determined inapplicable because they were based on established degree programs or academic departments, which Evergreen does not have. The Tier 2 credit related to an institution's common book for incoming freshmen, which does not pertain to Evergreen.

Administration and Finance

The Administration and Finance (AF) category contained the following seven sections: (a) Investments, (b) Planning, (c) Sustainability Infrastructure, (d) Community Relations and Partnerships, (e) Diversity Access and Affordability, (f) Human Resources, and (g) Trademark Licensing. The AF category included 63 credits made up of 34 Tier 1 credits and 29 Tier 2 credits. There were 55.25 points included in the AF category, 48 of which were available for the Tier 1 Credits, and the remaining 7.25 points available for the Tier 2 credits. Figure 5 displays the overall point distribution by section as a percentage of the total points in the AF category.

Figure 5. AF Category Point Distribution by Section



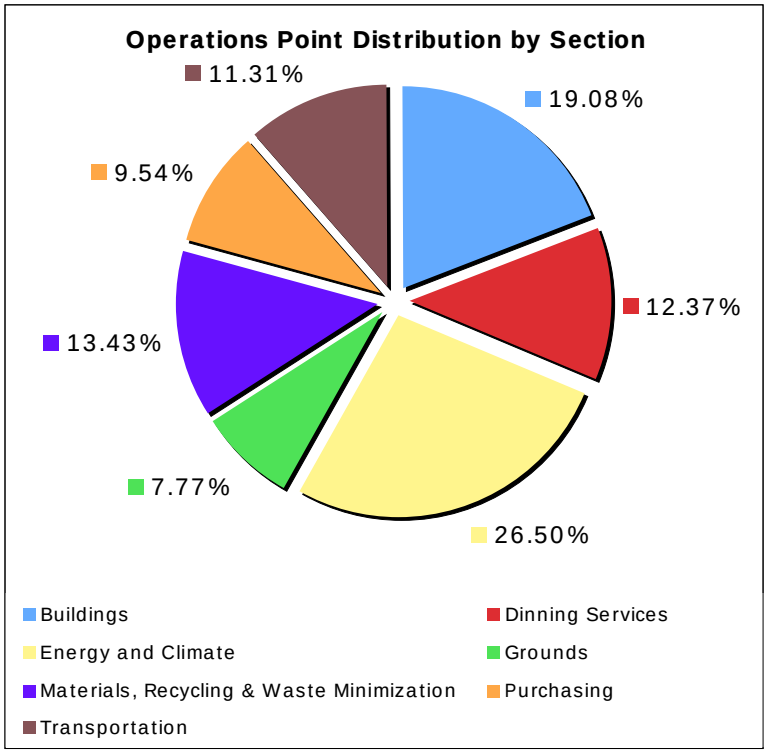
I determined that only two of the Tier 1 credits were not applicable to Evergreen. This included credits AF-25 and AF-29, worth a total of 3 points. Credit AF-25 related to doctoral or terminal degree programs, which Evergreen does not offer. Credit AF-29

related to graduate student employment, and although Evergreen offers financial aid opportunities to graduate students, such as work-study, the institution does not offer traditional graduate student employment. I found that all of the Tier 2 credits were applicable to Evergreen.

Operations Category

The Operations (OP) category included seven sections: (a) Buildings, (b) Dining Services, (c) Energy and Climate, (d) Grounds, (e) Materials, Recycling and Waste Minimization, (f) Purchasing, and (g) Transportation. The OP category included 50 Tier 1 credits worth 59 total points, and 47 Tier 2 credits worth 11.75 total points. All 97 OP credits were applicable to Evergreen; therefore the total points possible for Evergreen were 70.75. Figure 6 displays the point distribution by section as a percentage of the total points in the Operations category.

Figure 6. OP Category Point Distribution by Section



Evergreen Sustainability Work Recognized by STARS

Through my review of the 2006 Sustainability Report and the Evergreen Sustainability website I found 46 different sustainability components. These included Evergreen's Vision for a Sustainable Future, 15 sustainability goals and objectives and 20 sustainability projects. Of these 46 sustainability components, the STARS framework recognized 44. Of these 44, 31 of the components where recognized such that they were the primary focus of a STARS credit and points were, or could be awarded for such work. An additional 13 components were recognized such that they were only part of the focus of a STARS credit, and either partial credit could be awarded, or the credit reporting form would allow for a description of that component, but might not award points for it. The complete matrix used in this analysis can be found in Appendix F.

Sustainability Assessment Ideals

In chapter 2, I presented a set of criteria, recommended by Shriberg (2002b) for an ideal assessment tool. These criteria were: (a) Focus on sustainability as opposed to eco-efficiency, (b) Identifies important and appropriate issues for institutions of higher education, (c) Calculable and comparable through time, and across institutions, (d) Identifies processes and motivations at institutions, and (e) Comprehensible: results are translated into understandable outcomes, and reporting is verifiable.

I found that the STARS framework met all five of the criteria. The STARS framework includes indicators that address environmental, social and economic concerns, with points being awarded for outcomes and policies that attempt to minimize impacts to the environment, and society. This indicates a move beyond assessing not only eco-

efficiency, but all aspects of sustainability.

As discussed in the Credit and Point Distribution section of this chapter the STARS framework identifies many of the important issues facing institutions of higher education in their pursuit of sustainability. Issues identified in the framework include: Sustainability in the curriculum, energy usage and green house gas emission, diversity, access and affordability, human resources, sustainable purchasing, and institutional investing and planning.

The STARS framework includes numerous indicators that focus on missions, policies, incentives, and planning and process-oriented outcomes. These indicators help identify the processes and motivations around sustainability at institutions of higher education (Shriberg, 2002b).

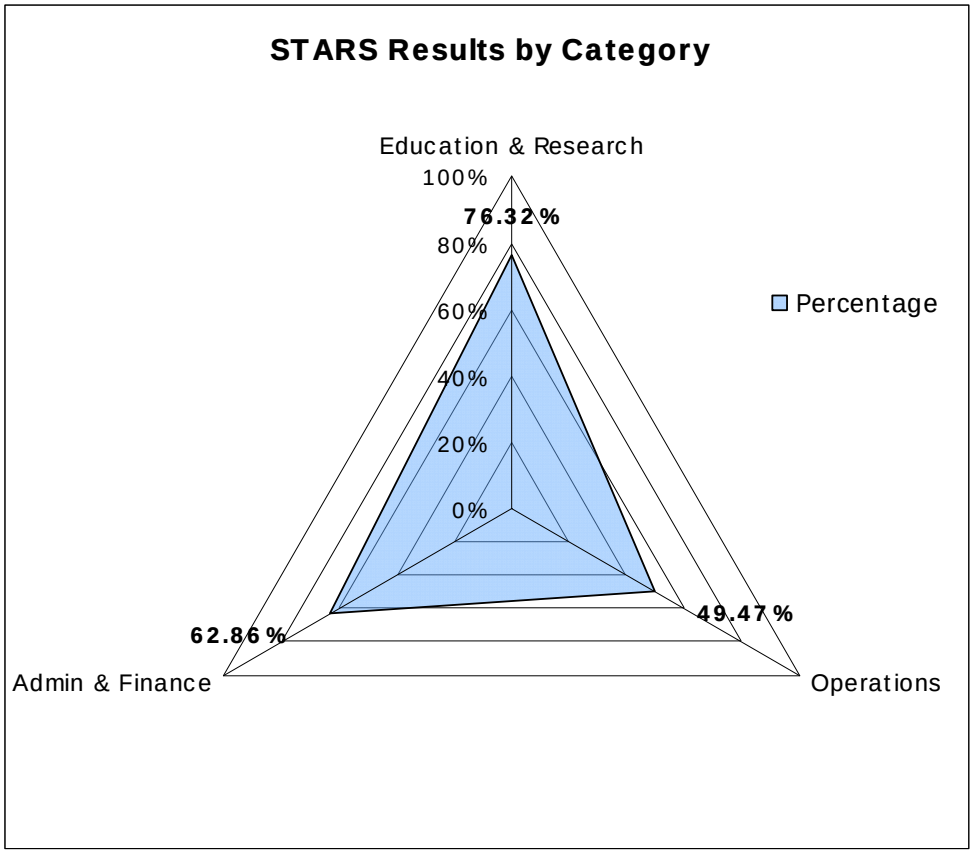
Finally, the results obtained from implementing the STARS framework will allow for comparison of one institution's performance through time, as well as one institution's performance against other comparable institutions. Results can also be reported as percentages and graphically displayed, making them easily understandable. By comparing the results displayed graphically from one year to the next sustainability practitioners at institutions can observe the evolution of their efforts towards sustainability (Lozano, 2006c). Once the STARS framework is fully implemented by AASHE, participating institutions may choose to seek third party certification or verification.

Evergreen STARS Scores

I calculated Evergreen's overall STARS sustainability score as 66.88%. This is the average of the percentage of applicable points earned for each category, plus 4

percentage points for the four innovation credits. This is consistent with AASHE's description of how ratings will be calculated for STARS framework when STARS version 1.0 is released in fall of 2009 (AASHE, 2008c). Figure 7 displays of the scores for each category Broken out by each category.

Figure 7. Overall STARS Results for Evergreen

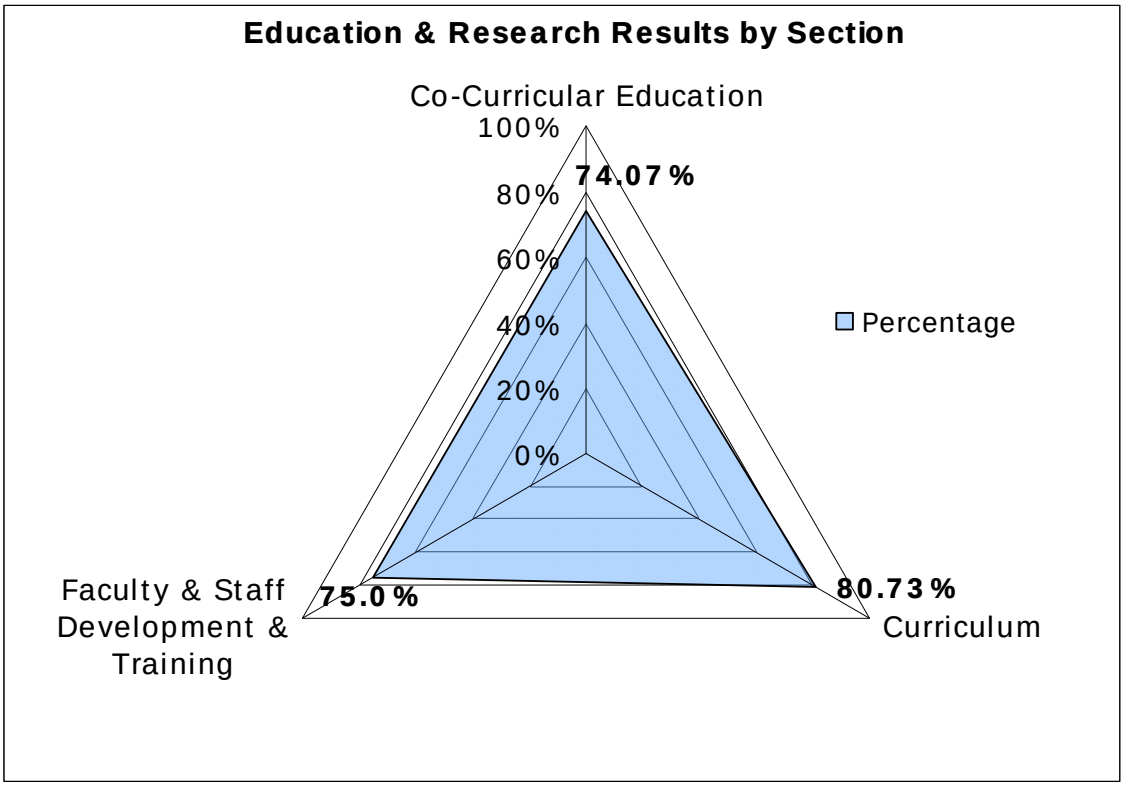


Evergreen scored the highest in the Education and Research Category with 76.32% applicable points overall. The score I calculated for the Administration and Finance category was 62.86% of applicable points, and the score for Operations was 49.47% of applicable points. The following sections discuss the results for each of the three categories. I will include a detailed discussion of what these numbers help reveal about Evergreen's commitment to sustainability in the next chapter.

Education and Research

Evergreen received 28 of the 38 possible points in the Education and Research (ER) category. Of the possible points 34 were Tier 1 and the remaining 4 points were Tier 2 credits. I calculated the following scores for the three sections in the ER category with applicable credits: (a) Co-Curricular Education – 74.07%, (b) Curriculum – 80.73%, and (c) Faculty & Staff Development and Training – 75%. Figure 8 details the scoring by percentage for each section. Appendix G includes the summary scoring sheet for the ER category that includes the total points awarded and the points possible for each section.

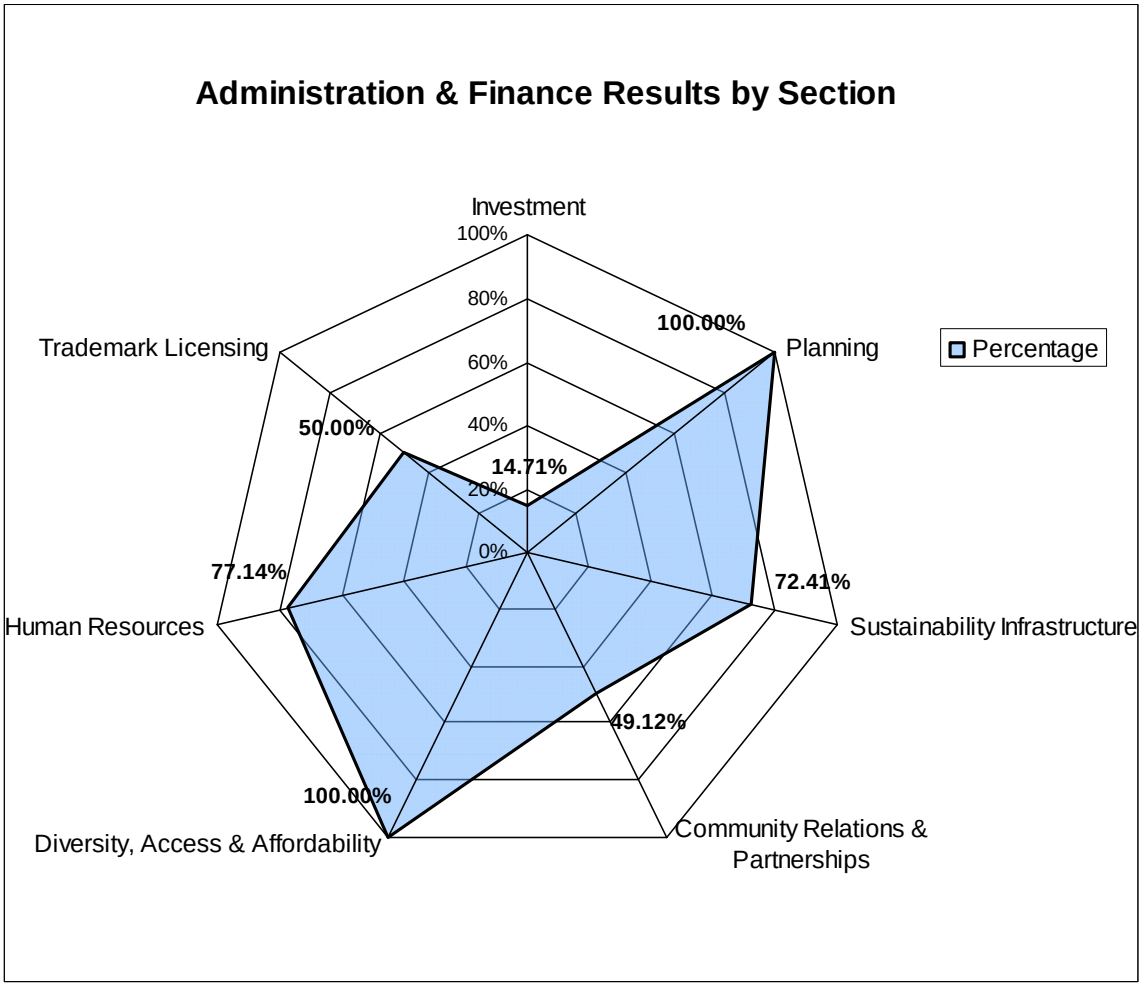
Figure 8. ER Category Results by Section for Evergreen



Administration and Finance Category

A total of 52.25 points were available to Evergreen in the AF category. I calculated an overall score of 32.75 points, or 62.86%. The following scores were calculated for each of the sections in the AF category: (a) Investments – 14.71%, (b) Planning – 100%, (c) Sustainability Infrastructure – 72.41%, (d) Community Relations & Partnerships – 49.21%, (e) Diversity, Access & Affordability – 100%, (f) Human Resources – 77.14%, and (g) Trademark Licensing – 50%. Figure 9 shows the scoring breakdown by section for the AF category. Appendix G includes the summary scoring sheet for this category.

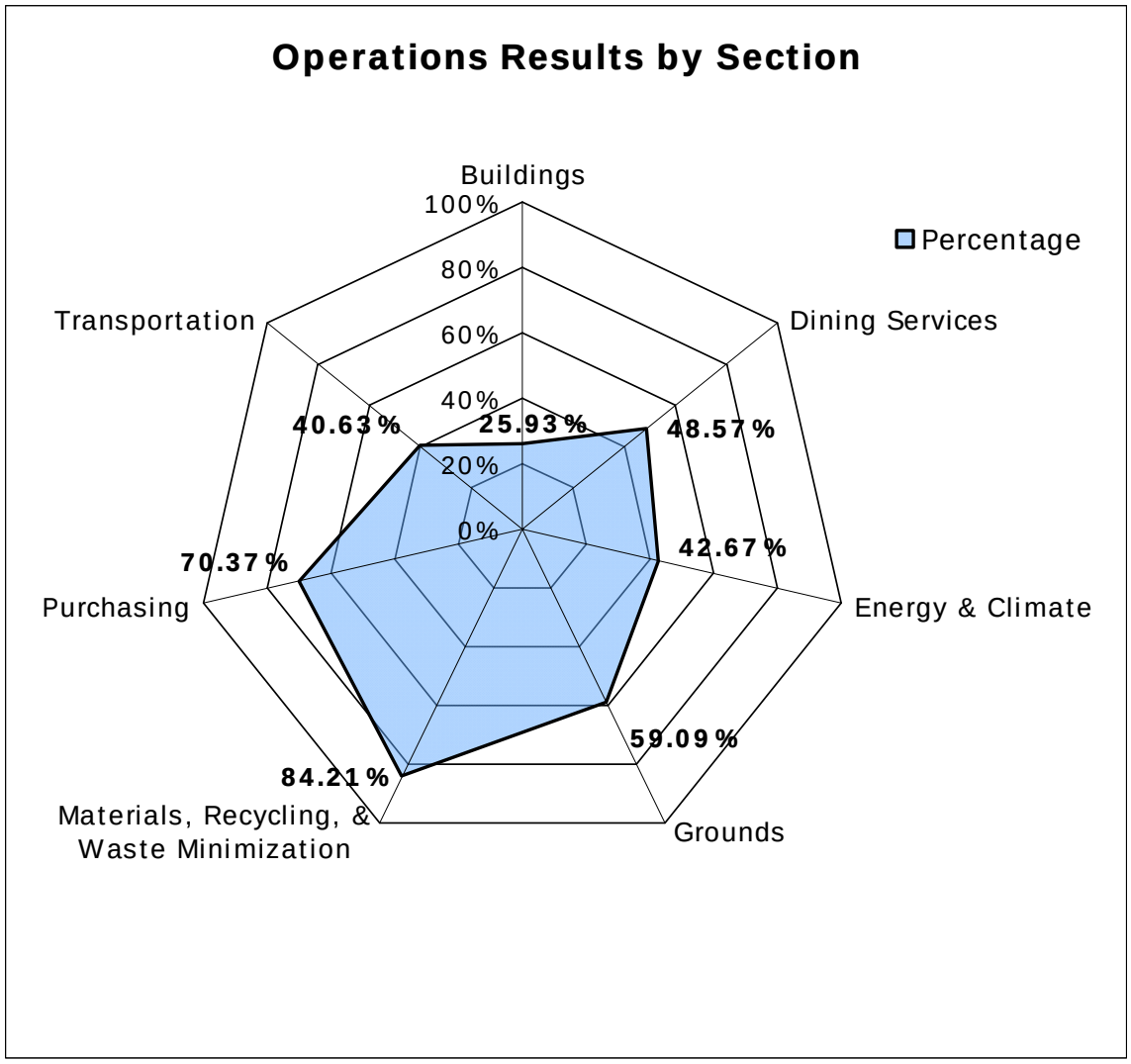
Figure 9. AF Category Results by Section for Evergreen



Operations Category

I calculated a score of 35 points out of 70.75 possible points, or 49.47% for the OP category. I calculated the following scores for each section in the OP Category: (a) Buildings – 25.93%, (b) Dining Services – 48.57%, (c) Energy and Climate – 42.67%, (d) Grounds – 59.09%, (d) Materials, Recycling and Waste Minimization – 84.21%, (e) Purchasing – 70.37%, and (f) Transportation - 40.63%. Figure 10 displays the scores for each section in the OP category. Appendix G includes the summary scoring sheet for the OP category.

Figure 10. OP Category Results by Section for Evergreen



Chapter Summary

In this chapter I present the results of my case study research on the implementation of the STARS framework at Evergreen in three sections, Institutional Participation, STARS Framework Analysis, and Evergreen STARS Results. The results presented in this chapter will provide the foundation for the conclusions I make regarding the three thesis questions I pose: (a) Is STARS an effective tool to evaluate Evergreen's work in sustainability, (b) Does the STARS framework encourage organizational learning, and (c) What does STARS reveal about Evergreen's commitment to sustainability.

Implementing the STARS framework at Evergreen required contacting a total of 50 different Evergreen community members, and a total time commitment of 259.25 hours by all participants. Of the 50 community members, approximately 76% were staff, however, two participants provided the most time commitment, myself during the coordination efforts (85 hours), and the ARAMARK Sustainability Intern (80 hours) in her data collection efforts on the local and organic food purchasing credits.

According to my analysis of STARS, I found that the distribution of points available was fairly evenly split between the three main categories with 34.8% for Education and Research, 36.6% for Operations and 28.6% for administration and finance. Within the Education and Research category, a majority of the points (58.74%) were available in the Curriculum section. In the Operations category the majority of points were available in two sections, Energy and Climate (26.5%) and Buildings (19.08%). In the Administration and Finance category the majority of points were available in three

sections, Human Resources (25.79%), Diversity, Access and Affordability (15.38%), and Investments (15.38%).

I analyzed the effectiveness of the STARS framework to evaluate Evergreen's work in sustainability by comparing the 46 sustainability components at Evergreen to the STARS framework. I found that STARS recognized 45 of Evergreen's 46 sustainability components. I also compared the STARS framework to five criteria for an ideal sustainability assessment tool. The STARS framework met all five of the criteria.

In the final section in this chapter I present the sustainability scores I calculated using the STARS framework. Evergreen scored 66.44% overall, with a score of 76.32% in the ER category, 62.86% in the AF category and 49.47% in the OP category.

Chapter 4. Discussion

Introduction

Coordinating Evergreen's participation in the STARS pilot project allowed me to explore the sustainability movement at Evergreen and the potential for the STARS framework to further sustainability at institutions of higher education. My data collection and investigation process focused on answering the three questions presented in Chapter 1: (a) Is the STARS framework an effective tool for evaluating Evergreen's work in sustainability (b) Does the STARS framework encourage organizational learning, and (c) What does implementation of STARS reveal about Evergreen's Commitment to Sustainability.

Through my experience and the experience of Evergreen community members in the implementation of STARS, other institutions will be able to gain insights into how the exercise of assessing sustainability affects the campus community and the institution's sustainability work. While Evergreen is a unique institution with a structure and educational style unlike most institutions of higher education (Jones, 1981; Cox, 2004), the reactions and actions of individuals and groups at Evergreen provides an indication of how other colleges and universities that implement STARS might respond to the process of assessing and reporting sustainability.

STARS and Evergreen Sustainability

In this section I provide the conclusions to the three thesis questions previously posed. I discuss the effectiveness of the STARS framework to evaluate Evergreen's

sustainability work and determine to what extent STARS recognize the publicized components of this work. I evaluate the STARS framework as an ideal sustainability assessment tool, as well its advantages and disadvantages. I also address the important issue of organizational learning and discuss how the process of implementing the STARS framework facilitated learning at Evergreen. I also focus heavily on Evergreen's commitment to sustainability, and what I learned about this commitment through my coordination of the STARS pilot project.

Effectiveness of the STARS Framework to Evaluate Evergreen Sustainability

As discussed in chapter 1, regular sustainability assessments are essential in informing the sustainability movement and aiding decision-makers in sustainability planning and implementation (Shriberg, 2002b). The decisions about which assessment tool to use at Evergreen is very much related to how effective the tool is at assessing sustainability work at the college. In order to determine how effective the framework is to Evergreen, I looked at three aspects of this questions: (a) The extent to which Evergreen's work in Sustainability is recognized by the STARS framework, (b) How many elements of an ideal sustainability assessment tool does the STARS framework contain, and (c) The advantages and disadvantages of the STARS framework as it relates to Evergreen, and higher education in general.

STARS Framework Recognizes Evergreen Sustainability

As part of my research on the STARS framework I wanted to understand how many of the "promoted" aspects of Evergreen's work in sustainability were recognized

by the STARS framework. By promoted I am referring to the components of Evergreen's sustainability work that can be easily found in the documents the institution publishes, such as the Sustainability Report, the Strategic Plan and the Campus Master Plan, and the projects identified through the Office of Sustainability. These represent the important sustainability issues at Evergreen, and are one way in which the institution defines sustainability.

As reported in chapter 3, I found that the STARS framework recognized 44 of the 46 promoted components of Evergreen's sustainability work. Of these 44 components, 31 were recognized as the primary focus of a STARS credit and full points were, or could be awarded if fully implemented as required by STARS. An additional 13 components were recognized as only part of the focus of a STARS credit, and either partial credit could be awarded for full implementation, or the credit reporting form allowed for a description of that component as supporting documentation. The two components that were not recognized by STARS were two "Key Strategies Leading Towards a Sustainable Future" identified in the 2006 Sustainability Report. The components or "strategies" are; (a) to increase communication and assemble the history behind Evergreen's sustainability goals, achievements, and indicators, and (b) Strengthen bonds and relationships among all Evergreen's programs (Pumilio et. al., 2006). While the STARS framework does not recognize these strategies, by tracking and reporting on all of the identified components of Evergreen's sustainability work STARS is providing a mechanism to address these strategies. The recognition by the STARS framework of all but two sustainability components I identified indicates that the way in which Evergreen defines sustainability through the work it pursues and promotes is consistent with the

STARS framework.

While the this analysis provides an understanding of how many of the sustainability components at Evergreen are recognized by the STARS framework, it does not fully answer the questions of framework effectiveness to Evergreen. Each component of Evergreen's sustainability work that is recognized by the STARS framework has many nuances that may not be fully recognized. For example the recent renovations of the Daniel J Evans Library building were LEED equivalent non-certified building space, which resulted in only minimal points awarded for credit OP-1. The planned future renovations of the Campus Activities Building (CAB) have been designed to achieve LEED Gold certification. The redesign of the library was done with much less participation by the student and faculty community than the CAB redesign. Additionally the student community is financing the cost of renovating the CAB through additional student fees. The cooperation and interaction of the overall campus community; students, faculty, and staff in the CAB redesign project provides evidence for a serious commitment to sustainability, even if the current STARS results don't reflect this. Future decisions about the level of LEED certification in construction and renovation will continue to illuminate the changing dynamic of the campus community and the fluid commitment to sustainability that is evident at Evergreen and in any complex system such as an institution of higher education. I will discuss Evergreen's commitment to sustainability in much greater detail later in this chapter.

The above example provides evidence that the STARS framework might underestimate an institution's commitment to sustainability. I also found that the opposite is possible; STARS may overestimate institutional commitments to

sustainability. For example, I calculated six out of six points possible for credit ER-8 Academic Sustainability Courses by Student Credit Hours. The credit reporting form states that student credit hours are calculated by multiplying the number of students that complete each course in each class by the number of credit hours or equivalent the course is worth (AASHE, 2008c). If only a portion of a course includes a sustainability component the total credits available for this course would still count towards the calculated student credit hours. The result would be an overestimation of the actual credits awarded for sustainability, and an overestimation of the total student credit hours awarded for sustainability. It may be possible to determine what percentage of individual courses included sustainability, by surveying the faculty teaching such courses, but this would be extremely time consuming for most institutions that offer a large number of courses. This provides AASHE an opportunity to investigate this potential limitation of STARS and identify ways to address this it to ensure an accurate and fair accounting for all institutions that participate.

While STARS credits might not award points or distinctly recognize the nuances of sustainability at institutions of higher education, the reporting process for the pilot project allowed participants to include any supporting information they deemed necessary. The nuances, such as the green building example given above, could be included in written descriptions on the credit reporting form, thus providing potentially valuable information to AASHE and the wider higher education community. AASHE expects that STARS will create a central source for standardized information about campus sustainability performance and will facilitate the sharing of the information reported through the STARS framework among the higher education community

(AASHE, 2008b). Additionally the information that was provided to STARS during the pilot project will be used to further develop and refine the framework in an effort to provide a highly relevant and useful tool for use by institutions of higher education (Meghan Fay, pers. com, 2009).

Reed et al. (2006) found that a hybrid bottom-up and top-down participatory process achieves the knowledge required to provide more nuanced understandings of the environmental, social and economic interactions of sustainability initiatives within communities. The STARS framework represents just such a hybrid process. A more top-down process involving key decision makers and staff throughout the higher education community guided the development of the framework and the indicators, and the framework implementation at Evergreen included a bottom-up effort involving student coordination and broad participation by the campus community.

Based on both the qualitative and quantitative understanding of the relationship between STARS and Evergreen the framework appears to effectively recognize the sustainability work at Evergreen. As discussed above, the STARS framework recognized 45 of the 46 promoted components of Evergreens sustainability work. And, at least during the pilot project, the STARS data submission process allowed for informative descriptions of the intricacies of campus sustainability to be included. This provides a method for the institution to document the nuances, details and history of its sustainability practices, and gain additional benefit from the STARS framework. AASHE has not yet determined how this information will be shared among the higher education community but the STARS program director at AASHE identified the association's Resource Center website (www.aashe.org/resources/resource_center.php) as

one option for making information and best practices available. Another possibility is for the information to be made available through a searchable database that would allow users to find information and best practices that directly relate to their area of interest. Either of these options will require AASHE to summarize and organize a large amount of information that was provided by the approximately 70 institutions that participated in the pilot project (listed in appendix I), and the many more institutions that may use the STARS framework in the future. Regardless of the mechanism that AASHE develops to make information and best practices available, Evergreen will have to regularly utilize that mechanism to gain insights and examples from other institutions to fully benefit from the STARS framework.

The effectiveness of STARS as it relates to recognizing Evergreen's sustainability work might be reflective of the extensive participation that Evergreen had in the overall development of this framework. In 2006, Evergreen hosted a regional meeting during the beginning of the STARS development process, Evergreen faculty member and Curriculum for the Bioregion Initiative Director Jean MacGregor served as a technical advisor to AASHE on the development of STARS. In addition the Director of Sustainability participated in focused conference calls and provided feedback during the framework development process. That level of participation and interest in the development of a high quality assessment tool speaks in part to Evergreen's commitment to sustainability.

Ideals of Sustainability Assessments

In his research on the adequacy of various sustainability assessment tools and efforts Shriberg (2002b) proposed five aspects of an ideal sustainability assessment tool:

(a) Identify important issues to institutions of higher education, (b) Calculable and comparable, (c) Move beyond eco-efficiency, (d) Measure process and motivations, and (e) Stress comprehensibility. I compared these five ideals to the STARS framework to determine if the development of the framework was guided by the lessons learned from the development and implementation of previous assessment tools. As discussed briefly in chapter 3, I determined that the STARS framework included all five of these ideals.

One potential conflict present in these ideals is that having an assessment tool that is calculable and comparable and a tool that measures processes and motivations seems to be counter intuitive. The "how" and "why" of campus sustainability movements are often very nuanced and qualitative, a trait that does not lend itself easily to comparable calculations. The STARS framework addresses the tension between these two ideals presented by Shriberg by staying on the surface of the process and motivation questions. STARS does this by seeking information on goals and objectives in campus planning efforts, policies, and aspects of campus sustainability that can easily be calculated and compared among different institutions. For example credit AF-6 awards one point to institutions that have made a formal, substantive commitment to sustainability by including it in their strategic plans (AASHE, 2008a). The inclusion of sustainability commitments in strategic plans can be easily compared from one institution to the next. However the inclusion of sustainability in a strategic plan is the high level and publicized result of an institution's motivations, and not the nuanced details about how and why sustainability was included in a strategic plan.

In this article, Shriberg also reviewed eleven sustainability assessment tools that have been used for institutions of higher education. These eleven sustainability tools

were chosen because they represented the most far-reaching and widely used tools at the time (Shriberg, 2002b). Shriberg also notes that these eleven tools, while displaying advantages, did not address all five of the ideals proposed.

One of the things that Shriberg's work highlights is that there have been several approaches to assessing sustainability at institutions of higher education. Additional approaches have also been identified by Cole (2000), Lozano (2006b), McIntosh et al. (2008), Rodriquez et al. (2002), Corcoran & Wals (2004), and Venetoulis (2001) to name just a few. A quick Internet search for college sustainability assessments turns up an even larger number of campus sustainability assessment efforts. The fact that the STARS framework contains the ideals that Shriberg identified as necessary for a cross-institutional assessment indicates the process AASHE used to develop the STARS framework was informed by past efforts to assess campus sustainability. This demonstrates an advantage of the STARS framework, and suggests that institutions of higher education throughout the U.S. and Canada might find this a relevant tool with respect to their own work in sustainability.

STARS Advantages and Disadvantages

Many authors have written about the advantages and disadvantages of sustainability assessment tools (Shriberg, 2002b; Bell & Morse, 2004; Pope, 2004; Devuyst, 1999). However, this has never been done for an assessment tool developed specifically for use by institutions of higher education, such as the STARS framework. I am in an appropriate position to provide a review of this cross-institutional assessment tool, having recently coordinated the implementation of STARS at Evergreen. This

aspect of my research will provide a greater understanding of the strengths and weaknesses of the STARS assessment tool to the higher education community.

Advantages

First, the development of the STARS framework by AASHE included extensive involvement from the higher education community (www.aashe.org/stars/committees.php#steering), and the coordination process for the STARS pilot project at Evergreen included participation by over 50 community members, who either provided data and completed STARS credit reporting forms, provided feedback on data I had collected, or helped me identify appropriate contacts for various credits. I also found that engaging community members in the STARS framework implementation provided an opportunity for Evergreen to learn by identifying an improved process for tracking sustainable food purchasing, and by informing discussions about how to adequately track sustainability in the curriculum. This aspect of my research will be discussed in greater detail later in this chapter.

This sustainability assessment process also helped inform the managers and institutional leaders about the success of the institution's sustainability work and the areas for possible improvement. This was accomplished by engaging institutional managers and leaders in the data collection process, and by presenting the results of the STARS framework to those same community members, as well as the Sustainability Council. Moreover, Rosenström and Kyllönen (2007) found in their research on the Finnish Sustainable Development Indicator exercise from 1998-2002 that the focus on more technocratic participation and the lack of democratic or community participation resulted in a lack of social learning and the ultimate failure of sustainability initiatives. Thus the

community participation in the development of the STARS framework and in the implementation of the framework at individual institutions is an advantage that may ultimately lead to successful sustainability movements. In chapter 5, I provide recommendations about enhancing community participation to ensure that the assessment is successfully completed, and the results are promoted among the campus community.

The importance of community participation in the sustainability assessment process is certainly not unique to institutions of higher education. Several authors (Stirling, 1999; Macnaghten & Jacobs, 1997; Fraser, 2006) have reported similar benefits of informing decision makers, empowering community members and encouraging social learning from community participation in the process of identifying sustainability indicators and assessing sustainability in other sectors of society. What my research provides is a confirmation and new evidence of the importance of community participation in assessing sustainability. This is relevant to the STARS framework because although AASHE does not recommend community participation as part of the process of completing the campus sustainability assessment, it will help achieve one of their stated goals; facilitate information sharing about higher education sustainability practices and performance. Information sharing was an important aspect of the STARS process at Evergreen and as discussed throughout this report, occurred during interviews and meetings with Evergreen community members about the STARS data needs, and the STARS framework results for Evergreen.

A second advantage I found while implementing the STARS framework at Evergreen was the level of student involvement, and the potential for greater student participation in future STARS implementation efforts. In chapter three I reported that

students provided approximately 34% of the time commitment necessary to complete the framework implementation. A vast majority of this student time (89.92%) was provided by me during the coordination of STARS. However there are many opportunities to expand the level of student participation in the future. In particular, the ARAMARK Sustainability Intern, Halli Winstead, provided a total of 85 hours or 53% of the total staff time. This position is classified as a paid student internship with ARAMARK, the campus food services provider. Halli filled this internship as an undergraduate, and upon her graduation in June of 2008, stayed on for another year in the internship position. Halli's effort to track local and organic food purchases during the STARS pilot project was counted as staff hours; however, this work was also done by Halli as a student prior to her graduation, and could be done by a student in the future.

Student involvement reduces the overall cost of conducting this type of assessment, and also helps provide a practical education in sustainability to students, a key component of Evergreen's work in sustainability (www.evergreen.edu/sustainability/interimreport.htm). Based on a quick review of the STARS indicator credits that were part of the pilot project, I estimate that the data collection for 57 of the 76 Tier 1 credits, and all of the Tier 2 credits could easily involve student participation.

The level of student participation during the pilot project, and potential for increased student participation during future STARS implementation highlights the learning and experience that students can gain through involvement in campus sustainability work, and the benefit this work provides to the institution. In addition to the coordination effort that I carried out, sustainability project descriptions and data for

STARS credits was provided by student interns and research assistants working on a sustainable prisons program, developing sustainability curriculum for the bioregion, and coordinating Evergreen's commute trip reduction program.

A third advantage of the STARS framework is the potential for improving the efficiency of the institution's work. The time commitment provided by the ARAMARK Sustainability Intern resulted in an improvement to the process of tracking local and organic food purchases. This was reported to me by the intern and the Director of Residential and Dining Services as a major process improvement that will help the college track the breakdown of local and organic food purchases better, with the very likely possibility of leading to a greater amount of local and organic food being purchased. During these same discussions the intern also mentioned that the contracted food services provider on campus, ARAMARK, was considering using the tracking process developed through the STARS implementation at the other campuses they serve.

Further, much of the time commitment provided by this intern was required for the development of the new sustainability food purchasing tracking system. This is a large amount of work that will not be necessary during the next STARS cycle at Evergreen. In follow-up discussion with the intern, and the Director of Residential and Dining Services, they estimated the same data could now be provided for the relevant STARS credits in about 2 to 4 hours, as opposed to the 85 hours that were required during the pilot project. The time commitment required to coordinate the data collection and reporting process will also be reduced significantly, although not to the same extent. Approximately 70% of my time was spent collecting data, meeting and communicating with staff, faculty and students, and analyzing the STARS data. The remaining 30% of

my time was spent developing the spreadsheet for the data collection process (Appendix C). This spreadsheet could easily be used again during future STARS efforts at Evergreen. In addition, chapter 2 and appendices A, B, C and D can be used as a "how-to" guide to aid in future STARS implementation at Evergreen.

A fourth advantage of the STARS framework, while not part of the pilot project implementation, will be the option for institutions to seek third party verification of assessment results (AASHE, 2008a). I found that the Evergreen community members who participated in the STARS implementation process for this project identified the importance of outside verification of the results. One participant identified third party verification as an important consideration in determining what assessment tool the institution should use. While there is a lack of research on the importance of third-party verification for sustainability in the higher education community, research from agriculture and forestry disciplines identify verification by a third-party as an important way to demonstrate independence, objectivity, and transparency in an attempt to increase trust and legitimacy among stakeholders and the public (Hatanaka et al., 2005; Van Kooten et al., 2005). Verification of results can also reduce the risk of institutional bias inflating scores or ratings.

An issue that needs to be addressed in relation to third party verification of STARS results is how this process would work considering the extensive participation by an institution's community members. At Evergreen, as I mentioned above, over 50 community members participated in the STARS data collection process to some extent, with approximately 28 individuals providing data for STARS credits. The intricacies of some of the data collection, such as tracking sustainability in the curriculum, green

purchasing, and sustainable food purchasing may require a single point of contact between the third party verifier and the institution. This single point of contact could help organize meetings between the individuals and work groups that provided data and the third party verifier if necessary. This could also help focus the inherent pressure that would come from a third party verification process, by having one individual deal directly with the third party verifiers, and not introducing more work onto already full workloads. The recommendation I make in chapter 5 for a single STARS coordinator at Evergreen might help address this issue.

However, the design of many of the STARS credits may provide some difficulties to third party verification in general. I did a quick analysis and found that about 22 of the Tier 1 credits worth a possible 54 points might not provide information that is easily verified. These 22 included credits such as ER-5, ER-6, ER-7 and ER-8, the Education and Research Category credits that deal with sustainability in the curriculum. During my data collection, I found I had to personally interpret the course descriptions for signs of sustainability in the curriculum. And further the data collection process I used for these credits was difficult and time consuming. Also the credits that address sustainable purchasing, green house gas inventories and air travel also required extensive time commitments from Evergreen community members during the data collection process, and a third party verifier would likely have to commit similar amounts of time, and consult regularly with the necessary Evergreen community members to verify the results of these credits. This may not be a critical issue when considering third party verification at a single institution, but could become substantial when compounded for all the institutions that might use the framework and seek third party verification. This does not

discount the potential advantage for third party verification; it simply presents an opportunity for AASHE to think critically about how to make third party verification work successfully with the STARS framework. Also, a real strength of the STARS framework is not the potential for third party verification, but rather what it reveals about the motivations and how it informs the processes behind an institution's sustainability movement.

Finally, participating institutions will be able to update information in their profile and submit additional information as often as they wish, and they will be able to apply for a new rating once per year (AASHE, 2008b). When asked to provide recommendations on future implementation, many of the participating community members at Evergreen indicated that a yearly or biannual implementation cycle would be ideal for ensuring consistent and meaningful participation at Evergreen. Lozano (2006b), and Glasser and Nixon (2002) also support this annual or biannual implementation in their research on assessing campus sustainability. If too much time passes between assessments the steps taken to collect and report the necessary data can be lost, and the individuals who were previously involved in the assessment process may no longer be with the institution. Shorter assessment intervals will ensure that data is accurately tracked each year, and the institutional knowledge gained through the previous assessment process are retained and passed on as faculty, staff or students leave the institution. Additionally a STARS implementation cycle of greater than two years would be inconsistent with the strategic decision making at Evergreen and other institutions that operate on a biennial funding cycle.

Disadvantages

One disadvantage of the STARS framework to Evergreen, and all institutions of higher education is the lack of specificity to each individual institution. An example of this at Evergreen is the indicator credits that I determined not to be applicable due to Evergreen's unique educational structure. These credits included ER-7, ER-9, ER-10, and ER-11. These four credits relate to established degree programs and academic departments. The educational structure at Evergreen does not include focused degree programs or academic departments. These credits appear to be important components of the STARS framework, as collectively they are worth 12 points, or 32 percent of the possible points in the Curriculum section of the Education and Research Category. While Evergreen doesn't have academic departments, the institution does have informal curriculum teaching units that focus on different academic disciplines. This presents an opportunity for Evergreen to work with AASHE to identify possible ways the institution's sustainability work could be recognized within the spirit of these credits.

The above example may not be a great disadvantage for STARS overall because most four-year institutions of higher education include formal degree programs and academic departments, but if the process of institutionalizing sustainability requires institutions to change the overall educational structure so that these or other credits were no longer applicable it could limit the usefulness of STARS. However, the STARS framework appears to be designed such that changes in sustainability best practices and needs could easily be incorporated into new indicator credits within the framework.

Attempting to develop a framework that is relevant to all institutions of higher education requires a lack of specificity to individual institutions. While Shriberg (2002b) identified comparability across institutions as an ideal of a sustainability assessment tool, other authors (Fraser et al., 2006; Bell & Morse, 2004; Reed, 2006; Valentin & Spangenberg, 2000) have identified the benefit of community participation in identifying indicators specific to their locations and situations. I present this as a disadvantage to individual institutions, but I argue that the tradeoff between specificity to individual institutions and relevance to the higher education community as a whole is a good one, and therefore the advantage of cross-institutional comparability should outweigh the disadvantage of lack of specificity when considering the use of the STARS framework.

While the coordination of STARS framework implementation at Evergreen did not take longer than I had anticipated it did require an extensive time commitment, both on my part and on the part of other participants. The extra accuracy and detail that participatory processes bring to indicator-based assessments introduce an extra layer of complexity. Therefore, participatory processes may take much longer than anticipated (Fraser et al., 2006).

The lesson that can be learned from Fraser et al. (2006) and applied to future implementation of the STARS framework is that careful planning and coordination is necessary to ensure that the assessment is completed in a practical timeframe, while still ensuring sufficient community participation. I attempted to accomplish this in my coordination of the STARS implementation at Evergreen. Early on I worked closely with the Director of Sustainability, and my faculty thesis advisor to identify who needed to be included in the data collection process. The Sustainability Director then organized

separate meetings with the individuals and groups that would be providing data for a majority of the credits. This allowed me to quickly pass the required data needs on to the appropriate individuals and focus on data collection for the remaining credits. Working with the Director of Sustainability was an essential element in the success of this project as I discuss in chapter 5. I routinely made contact with the community members who I had met with and passed the data needs on to. This ensured that they were continually reminded of the time frame for data collection, and engaged in the process. Deadlines for submitting data to me were determined during the initial meetings organized by the Director of Sustainability. I set deadlines for data submission so that I would have ample time to review and format the data, well before the STARS deadline.

The lack of overlap with existing work conveyed to me by several of the participating community members is another disadvantage. This lack of overlap by some resulted in increased workloads on the part of some at Evergreen. This is an important issue for Evergreen as a goal of sustainable workloads was identified in the Evergreen Strategic Plan 2007 Update (www.evergreen.edu/president/docs/strategicplanup07.pdf). Of the 256 total hours required to complete the STARS pilot project at Evergreen, individual time commitments for faculty and staff ranged from 16 hours to 1 hour, and the average time commitment for faculty and staff combined was approximately 2 hours.

This should be an issue for consideration at other institutions of higher education as well. Increased workload on faculty and staff can have a negative effect on the level of services provided at institutions of higher education. In the follow-up interviews I conducted, participating community members mentioned already substantial workloads, as a reason that enforcement of sustainability related policies may not be occurring as it

could. This provides increased evidence that the practice of assessing sustainability should become standard and institutionalized. Conducting assessments on a regular basis, as discussed above, can aid in this standardization process by avoiding the need to relearn the data collection and reporting process every several years. This may also help better incorporate the necessary data collection into existing workloads. During the follow-up interviews, many individuals mentioned that through the pilot project participation they have a better understanding of what data collection would be necessary in the future, and the need to collect this data could be easily incorporated into future workloads. The only major exception to this was the data collection process required for the sustainable purchasing credits, OP-19, OP-20 and OP-22. It was conveyed to me that the data needs for these credits, and the process required to get the data from the purchasing tracking system is unique enough to the STARS process that it would not be easily overlap with existing work duties and workload.

Finally, Evergreen's non-standard structure and learning style influences the results, not necessarily leading to a lower score, but resulting in 14 indicator credits not being applicable. This was a concern for some community members and may provide a misunderstanding of Evergreen's STARS scores and results to outside audiences. For example during my meeting with the Evergreen Sustainability Council it was noted that identifying credits related to academic departments and focused degree programs as not applicable to Evergreen might cause confusion and misunderstanding to potential students. Although Evergreen doesn't have formal academic departments or degree programs, the institution does have academic planning units and students can create a focused education experience. Evergreen could complete the credit related to academic

departments, treating the academic planning units as department for the purpose of the STARS framework. To address the concern raised about the non-applicability of focused degree programs, Evergreen could work with AASHE to include a note of clarification on the published STARS results, and in any reports that Evergreen produces.

The STARS framework is being developed as a cross-institutional assessment tool for use by all institutions of higher education. This focus on the entire higher education community means that while it will be relevant over a large population, it will have much less specificity to any one individual institution as discussed above.

Encouraging Organizational Learning

In order to determine if the implementation of the STARS framework would lead to organizational learning I first looked at what kinds of experiences and processes lead to learning. I then looked for accepted definitions and compared those definitions to my notes from the STARS data collection process, the follow-up interviews and my meeting with the Sustainability Council. If the STARS framework implementation at Evergreen created favorable factors for learning, and also resulted in learning it suggests that a similar outcome could result from STARS implementation at other institutions.

Factors Encouraging Organizational Learning

A key to organizational learning is the integrated involvement of an organization's stakeholder community in decision-making (Meppem & Gill, 1998). During the STARS implementation process at Evergreen, community participation led to improved understanding of the environmental, social and economic complexities of the organization's work, and provided an opportunity for differing opinions, values and ideas

to help inform decision-making. This was accomplished through the interactions and discussions that occurred when I met with different members of the Evergreen community during the STARS data collection process, and when I presented the framework results to those same community members, many of who have direct involvement in the decision making process.

During the STARS implementation process the knowledge and data that Evergreen community members provided was shared among the various stakeholders within the institution. Fraser et al. (2006) found that this type of community participation in sustainability increased organizational learning. When I met with individuals and work groups during the follow-up meetings I would present the results I calculated for all categories of the framework. During these meetings the focus of discussions was mainly about the credits and data that the specific individuals I was meeting with where involved in, but the discussion would often expand to how that information was also beneficial for other parts of the institution. For example, my follow up meeting with the college registrar included discussions about how to improve data collection in the future, but expanded to how the information provided to AASHE and the STARS scores I calculated for curriculum would be useful for the college admissions staff in their student recruitment efforts.

Future implementation of STARS could include identifying and fostering these potential linkages and cross-disciplinary opportunities. This is a way that the institution can cultivate, and share the experiences and knowledge created by different individuals. When the experiences and understandings of individuals is promoted and shared among the organization the result is increased learning (Nonaka, 1994; Giesecke & McNeil,

2004). Based on my professional experience, and the observations I made during the STARS implementation process, employees are often focused solely on their area of responsibility, even though their knowledge and experience might benefit some other aspect of the organization. The STARS framework provides an opportunity for collaboration between the different disciplines within institutions administrative, and educational sectors. Using the process for STARS implementation that I employed, and discuss in detail in Chapter 2, an institution's STARS coordinator could work closely with the institution's sustainability officer or high-level committee to identify and facilitate collaboration, through cross-disciplinary meetings such as the institution's Sustainability Council.

Defining Organizational Learning at Evergreen

Organizational learning occurs when different members of an organization develop varied interpretations of information and outcomes, thus changing the range of the organization's potential behavior (Huber, 1991). Huber also states that organizational learning occurs when any of the organization's units acquire information that is recognized as potentially useful. I found that both of these situations had occurred at Evergreen as a result of the STARS framework implementation. As I mentioned previously in this section, my discussions with the college registrar clearly indicated that the data generated about sustainability in the curriculum is useful to the admissions and recruitment staff. Additionally, participating community members at Evergreen recognized that information obtained through the process would help to inform the decision making process at the college, assist the Director of Sustainability in furthering sustainable initiatives, facilitate discussions with the community about advancing

sustainability, and convey the institution's commitment to sustainability to prospective students, and stakeholders.

Second, the data needed for STARS submission required that a system for tracking sustainable food purchases be modified to track different food categories, rather than overall food purchases. While this modification took about 85 hours to complete, the new tracking process will better inform the food purchasing decisions and aid in the effort to reach a goal of 40% local food purchasing by 2010 (Halli Winstead pers. com., 2008). This new tracking process not only benefits Evergreen, but also could be used by different organizations, and as mentioned previously in this chapter, Evergreen's food services provider is considering using this new tracking process at the other institutions they serve.

Third, discussions with participating community members' uncovered different interpretations of what the results of this assessment would mean for the institution. For example, some participants recognized the importance of sharing assessment results with decision-makers and senior staff, but not necessarily the student community, while others recognized information sharing with the student community a primary purpose of assessing sustainability. These differing interpretations can lead to the range of the organization's potential behavior changing, and organizational learning. I previously discussed how STARS implementation could help an institution identify areas for intra-organizational collaboration. The existence of different interpretations of the same process is another opportunity where the Director of Sustainability could facilitate collaboration. When more of the institution's community members understand the

different interpretations that exist, it can help enhance cooperation and lead to new approaches to the work of the organization.

In sum, I found that the implementation of the STARS framework at Evergreen provided an experience that was favorable to encourage organizational learning, and there was evidence that organizational learning occurred. This demonstrates that the use of STARS at other institutions of higher education may also lead to organization learning, which can improve the actions of an organization through better knowledge and understanding (Foil & Lyles, 1985).

Evergreen's Commitment to Sustainability

What defines an institution's commitment to sustainability? Institutions of higher education are a complex dynamic of three distinct populations (students, faculty, and staff) (Sharp, 2002), displaying diverse values and opinions within and between each population. This dynamic interaction shapes and informs the sustainability work an institution does. An institution's commitment is expressed verbally through strategic plans and policy statements, and visually through procedures, practices and sustainability projects (Rowe, 2007), such as green building, sustainable food purchasing, and sustainability in the curriculum. For a list of the verbal and visual sustainability commitments at Evergreen refer to the matrix in Appendix F. An institution's commitment to sustainability can also be expressed through the actions and reactions of the various members of this dynamic community to new process and information, such as the STARS pilot project.

The implementation of the STARS framework at Evergreen allowed me to quantify the institution's verbal and visual commitments to sustainability. I reported in

chapter 3 this commitment was calculated as 67% overall and 76%, 49% and 63% for the Education and Research, Operations, and Administration and Finance aspects of the institution respectively. But what do these hard numbers tell us? Careful investigation of the results for each category will provide valuable information to the managers and decision-makers and widely promoted results will also help increase the visibility of successful sustainability projects; such as the level of sustainability offered in the curriculum, and green cleaning effort. The framework results will also encourage discussions and identification of areas for improvement. Examples of this include the low scores awarded for the Building section of the Operations Category, local and organic food purchasing, employee satisfaction, and student participation in community service.

The participation of the Evergreen community in the development of the STARS framework and the implementation of the STARS pilot project is also indicative of the institution's commitment to sustainability. Velazquez et al. (2005) argues that the lack of time staff and faculty are able to devote to sustainability projects hampers sustainability progress at institutions of higher education. In my research at Evergreen, I found that while the time constraints on faculty and staff still existed, there was a strong willingness by all participants to assess and track sustainability, and a consistent understanding that future sustainability assessments should be a priority. All community members that I relied on for various data needs were willing and able to get the necessary data to me by the pilot project reporting deadline of January 2009. During follow-up interviews many of these same community members identified the increased workload that data collection

required, but also recognized this assessment effort as a meaningful and important process to go through.

The process I carried out to complete the STARS pilot project at Evergreen allowed me to qualitatively analyze the institution's commitment to sustainability, as expressed through actions and reactions of various members of the campus community. Beyond the positive action and reaction to participation in the pilot project, as previously discussed, the reactions to various results of the STARS framework are also highly informative. One of the most striking and important reactions to this process was the different motivations to Evergreen's sustainability commitment that I discovered. During four of the follow-up interviews the participating Evergreen community members indicated that through their work in sustainability the value of the institution was enriched. They also recognized the importance of their work to society, and felt an increased sense of community identity and empowerment. Additional motivations included the need to pursue sustainability best practices to reduce the cost of doing business, the need to "green" the campus because it is what other institutions are doing, and the benefit to college recruitment efforts by embracing sustainability.

I have chosen four areas of the STARS framework to discuss in greater detail that highlight the different reactions, and, when considered in combination with the verbal, visual and quantified commitments discussed above provide a deeper understanding of the overall institutional commitment to sustainability at Evergreen.

Operations Category – Building Section

Evergreen only received 2.5 of the 13.5 points total for this section of the STARS framework. This section was made up of four Tier 1 credits, and two Tier 2 credits. One

point out of four possible was awarded for credit OP 1: New Construction, Renovations, and Commercial Interiors. I awarded this point because the renovations of the Daniel J. Evans Library were completed as LEED equivalent non-certified building space. In order to receive additional points, renovations would have to be LEED Silver or higher. AASHE considers LEED silver a starting point on the path to sustainability (AASHE, 2008b).

The Evergreen community members participating in follow-up discussions indicated that Evergreen's decision not to pursue LEED certification for the library renovation was related to overall cost and cost-recovery of the project. A stronger commitment to sustainability requires that institutions overcome the expected barriers of the current institutional structure and dynamic, such as lack of funding and institutional inertia (Shriberg, 2002a). In the "Effectiveness of the STARS Framework to Evergreen Sustainability" section of this chapter I discussed the process that Evergreen went through to build and renovate other buildings on campus. In those instances the decision making process included participation from students and faculty, and in one instance the student body even voted in favor of financing the renovation of an existing building through additional student fees. The result of those previous processes was LEED Gold certification for the Seminar II building, and planned LEED Gold certification for the future Campus Activities Building (CAB) renovation. Additionally the Seminar II building, which was completed in 2004, was in fact the first publicly funded LEED Gold certified building in the state of Washington (www.evergreen.edu/sustainability/operationsfacilities.htm). This example of collaboration between the three different campus populations strengthens Lozano's

(2007) argument that collaboration is a necessary component of successful sustainability movements.

Also in the Building section of the OP Category, Evergreen received zero of five possible points for credit OP-2: Building Operations and Maintenance. This credit awards points for institutions that have received some LEED-EB certification at any level for some portion of eligible buildings. The LEED for Existing Buildings (EB) Rating System helps building owners and operators measure operations, improvements and maintenance on a consistent scale, with the goal of maximizing operational efficiency while minimizing environmental impacts. It can be applied both to existing buildings seeking LEED certification for the first time and to projects previously certified under LEED (www.usgbc.org/DisplayPage.aspx?CMSPageID=221).

Evergreen has not pursued LEED-EB certification for any of the institution's existing buildings. In follow-up interviews Evergreen community members stated that although LEED-EB has been considered in the past, it has not been pursued primarily because of the cost of certification, and because the operations and maintenance of existing buildings was carried out in a manner similar to what would be required for LEED-EB certification. While existing buildings may be maintained and operated in a manner consistent with LEED-EB certification requirements, certification ensures third-party verification of a building's features, increases an institution's familiarity with the LEED certification criteria, and tends to improve building performance (AASHE 2006a).

Further discussions about this credit focused on how the framework could be modified to recognize LEED certified new construction and renovations built before the three-year time frame recognized by credit OP-1, in addition to discussions about

pursuing LEED-EB certification for existing buildings. The manner in which Evergreen carries out its daily activities, including the operation and maintenance of its buildings is an important demonstration of the ways to achieve a high level of sustainability and to reinforce desired values and behaviors in the whole community. These activities provide unparalleled opportunities for teaching, research, and learning (Cortese, 2003). The reactions of the Evergreen community members to the results of this credit clearly led to discussions about several options to address this credit in the future, an indication that the range of potential behavior of the institution has changed, which is evidence of organizational learning.

Operations Category – Dining Services Section

One of Evergreen's verbal commitments to sustainability is to increase the purchase of local and organic food to 40% by 2010 (Pumilio et al., 2006). Credits OP-5 and OP-6 in the Operations category award points based on the percentage of local and organic food purchased, respectively. Recent reporting by the Office of Sustainability indicates that Evergreen currently purchases 32% of its food from local and organic sources (www.evergreen.edu/sustainability/sustainablefood.htm). This compares to approximately 15% local and 7% organic food purchases as calculated through the STARS framework. The discrepancy in the numbers reported on Evergreen's sustainability website, and the numbers calculate for STARS relates to the different criteria used by Evergreen and AASHE for defining local food. AASHE (2008a) defines local food as food that is grown and processed within 150 miles of the institution. Under this definition the purchase of all bakery goods by Evergreen from a locally owned and operated business does not qualify as local because they don't purchase all of their

ingredients from local sources. This is mainly due to limited availability of wheat grown within 150 miles of the Evergreen campus.

Evergreen's own definition of local includes all of Washington, Oregon, Idaho and part of British Columbia. But Evergreen goes beyond just proximity of food production to the campus, and includes the economic, environmental and social implications of purchasing from different producers within the Pacific Northwest region. This approach recognizes the use of transport fuels and consequent carbon emissions to the atmosphere as well as the community-wide sustainability impacts through local economic development and social justice (Koester et al., 2006).

The reactions of the Evergreen community members I interviewed focused on the adequacy of the AASHE definition of local, and the limitations that are placed on participating institutions by simply drawing a 150-mile radius around campuses. The discussions highlighted the current process the institution is going through to develop a definition of local food that, as discussed above, includes determining the environmental, social and economic implications of food purchasing. As part of this process, Evergreen is developing official guidelines for sustainable food purchasing, and a decision tree for determining the economic and environmental sustainability and social justice of food purchasing decisions.

This process indicates a strong commitment to meeting Evergreen's goals for sustainable food purchasing. Additionally, as presented in previous sections of this chapter, Evergreen's participation in the STARS pilot project resulted in a new process for tracking sustainable food purchasing that will provide better data and information to inform future food purchasing decision. Also, the work to develop this new process, and

report the food purchasing numbers to STARS required approximately 85 hours of work, but, as previously reported, the ARAMARK Sustainability Intern and the Director of Residential and Dining Services both predict that the data reporting process will only require about 2 to 3 hours in the future, a strong indication of organizational learning.

Education and Research Category – Curriculum Section

Credits ER-5, ER-6 and ER-8 award points for the percentage of sustainability focused and related courses offered, and the percentage of student credit hours in sustainability courses, respectively. These credits recognize the opportunities available for students to gain knowledge and experience in sustainability, and the degree to which the student population is taking courses focused or related to sustainability. I estimated that Evergreen would receive six of the six points possible for each of these credits.

To determine the number of courses offered that include some level of sustainability in the course curriculum I relied on the End of Program Review (EPR) survey. The Institutional Research and Assessment Program conducts this survey at the end of each academic year. For the first time during the 2008 assessment, faculty were asked to what extent (1-extensively, 2-moderately, 3-a little, 4-not at all) was sustainability included in their courses. However, the EPR only includes those courses taught during the regular academic year. To account for the courses taught in the summer, and the graduate courses, which are also not included in the EPR, I reviewed the relevant course catalogs to determine the level of sustainability based on the descriptions for each course.

During the follow-up interviews I discussed this data collection process with participating Evergreen community members. These discussions lead to brainstorming

about how better and more accurately to capture the level of sustainability in all of the academic offerings at Evergreen. This interest in fully understanding the level of sustainability being taught at Evergreen indicated to me that the institution is committed to better understanding, and furthering this aspect of its work in sustainability. A more complete understanding of the academic offerings will help the institution ensure that sustainability is a major component of the academic experience at Evergreen. This is important considering recent research indicates that US college students are not learning nearly enough about how to create a more just and sustainable future (Uhl & Anderson, 2001).

The potential process that was discussed for better tracking sustainability in the curriculum would rely on faculty identifying the level of sustainability offered in their courses during the development of the catalog of academic offerings. If during the course development and listing process faculty are asked about sustainability in their courses it would help to engage them to think more critically about their role in advancing sustainability in the curriculum. It might even encourage faculty to think about how to incorporate issues of sustainability into courses that do not traditionally include such components.

Administration & Finance Category – Investment Section

I determined that Evergreen would receive 1.25 of the 8.5 total points available for the Investment section of the AF category. This category included five Tier 1 credits and two Tier 2 credits. The credits in this section award points if institutions have a committee on investor responsibility, they screen for negative investments, they track

their positive sustainability investments, and they engage with companies in which they hold investments to address social and environmental responsibility (AASHE, 2008a).

The Evergreen State College official investment policy states:

> "It is the policy of The Evergreen State College to participate as investors or as shareholders only in companies or financial institutions which do not conduct business in/with, or maintain direct involvement with nations which, by their laws, violate human rights. By asserting this principle, the board of trustees affirms that human rights shall be a factor in determining the acceptability of an investment."

At this time, Evergreen does not have an investment committee to oversee the proper implementation of the college investment policy. Nor has the institution screened for negative investments, tracked their positive sustainability investments, or engaged with companies in which they hold investments to address social and environmental responsibility.

Evergreen has two main investment portfolios; College Investments controlled by the college worth approximately $33 million in June of 2008 (www.evergreen.edu/sustainability/docs/College%20Investments.pdf), and Evergreen Foundation Investments, a separate legal entity from the college. The Foundation Investments are managed by the University of Washington (UW) through the UW Foundation and had a net worth of approximately $7 million in June of 2008 (www.evergreen.edu/sustainability/docs/College%20Investments.pdf.).

The Foundation Investments are managed by the University of Washington Foundation due to the lack of human and financial resources at Evergreen and the consistently high rate of return from the UW Foundation. Additionally, according to the Sustainable Endowments Institute's 2008 College Sustainability Report Card (www.greenreportcard.org/report-card-2009/schools/university-of-washington), UW

received an “A” for its investment priorities, which recognized the UW for its practice of investing in renewable energy sources and for community development loan funds. The UW also received "B's" in both Endowment Transparency and Stakeholder Engagement categories.

In follow-up discussions with participating community members there was an indication that a more hands on approach to managing the institution’s investment could be taken, a committee on sustainable investing has been considered in the past, and STARS framework implementation might be the catalyst needed to make this happen. I also noted an interest from the essential community members to take a more active participatory role in future STARS implementation. Community members I interviewed saw increased involvement as a starting point for ensuring the institution’s investment policy was implemented, and sustainable investing was pursued more fully. This demonstrates a commitment to furthering sustainability at Evergreen by better understanding the environmental, economic, and social implications of the institution’s investment practices. This is also another sign that the range of potential behavior of the institution has changed through the STARS process and organizational learning has occurred, as discussed previously in this chapter.

Administration & Finance Category – Community Service Credits

Credits AF-15 and AF-16 award points based on the number of students participating in community service and the student hours contributed to community service, respectively (AASHE, 2008c). These credits award points for community service that is coordinated through the institution. I determined that Evergreen would receive two out of a possible six points for these two credits. The method I used to

determine the level of community service participation at Evergreen included reviewing the Center for Community Based Learning and Action (CCBLA) Annual Report, which identifies the number of students and hours contributed to community service through the CCBLA. In addition, I reviewed the Evergreen Student Experience Survey for 2004 and 2006. This survey tool questions a representative sample of the undergraduate population. As part of this survey, participants are asked a series of questions about how often they participate in community activities including community service. One of the areas of community service that I was not able to capture for these credits, but would affect the results is the amount of community based projects or service learning that is part of individual courses at Evergreen. This type of community service is not tracked by the CCBLA, but is tracked through the End of Program Review Survey (EPR). The 2007-08 EPR reported 26.7% of all courses surveyed included some community projects or service learning (www.evergreen.edu/institutionalresearch/eprassessment.htm#epr2007-08). It would be possible to use a similar data collection and analysis methods as I used for the curriculum credits discussed above, and in Appendix B, to determine how many students participated in the courses that included service learning. I did not attempt this because I was not aware of the existence of this data until after I had concluded the data collection process for my research.

The participating community members I conducted follow-up interviews with, and the members of the Sustainability Council I met with, were surprised by the results for these credits. In addition to expressing surprise, community members mentioned the need to better track and encourage community service at the institution. There was a

general sense that the Evergreen student body is highly active in community service and action, but that the results did not necessarily reflect that. Student involvement in community service and volunteerism represents a powerful tool for enhancing student development while also providing service to the community; therefore it is an effective way for students to gain practical experience and knowledge in sustainability related efforts and to gain a sense of community responsibility (Bringle & Hatcher, 1996; Astin & Sax, 1998). This is evidence of the institution's commitment to an important aspect of sustainability; student development, and community service.

During my data collection process, as will be discussed in chapter 5 as a limitation of my research, I was not able to meet with the Director of the CCBLA during the data collection process for these credits. Involving the CCBLA Director in the data collection may have led to a better understanding of the level of community involvement by Evergreen students, such as the existence of the data from the EPR.

A Complex and Dynamic Commitment to Sustainability

Through my research I observed the dynamic and complex commitment to sustainability displayed by Evergreen. This commitment includes strong verbalization of the need to promote and advance sustainability through the Evergreen Vision for a Sustainable Future, the Strategic Plan, Campus Master Plan and the 2006 Sustainability Report. In addition to the strong commitments made on paper, Evergreen has and continues to engage in projects and procedures designed to advance sustainability, including willing and active participation in the STARS pilot project. And finally, this commitment is expressed through the actions and reactions of the institution and its community members to the process of assessing institutional sustainability.

I observed this commitment in advanced stages and as a starting point for improvement. This demonstrates the complicated nature of sustainability movements at institutions of higher education. The complex multi-structured framework of institutions of higher education with distinct community populations impedes most attempts to fully institutionalize a systematic commitment to sustainability (Sharp, 2002). Further the lack of an interdisciplinary framework at institutions is limiting the ability to fully embrace sustainability (Velazquez et. al., 2005). Evergreen's unique structure with a focus on interdisciplinary learning and regular interaction and cooperation between the three distinct campus populations provides a good foundation for the institution to continue to make advances towards a strong commitment to sustainability. As I have highlighted in this section, this cooperation between faculty, staff and students has led to advances in campus sustainability, through the design and construction of LEED Gold buildings. Additionally, it is clear that the range of the institution's potential behavior has changed as a result of participation in STARS. This is a clear indication that the process resulted in organizational learning at Evergreen, and that STARS can provide the benefit of assessing campus sustainability, and encouraging learning.

STARS and the Sustainability Challenge

I see sustainability as a way to address the many environmental and social challenges faced by society today, such as global climate change, social injustice, environmental degradation, just to name a few. The idea that we can provide for the needs of current generations, while not reducing the ability of future generations to have their needs met is an ideal that holds great potential. Education needs to play a fundamental role in how our society moves forward and addresses the sustainability

challenge (Uhl & Anderson, 2001). However, the current organizational structure of institutions of higher education does not support this need. In this section, I will provide a brief discussion of some of the limitations faced by higher education in fully institutionalizing sustainability, and discuss how the knowledge created by my research, and the STARS framework might help address these limitations.

Limitations to Institutionalization of Sustainability

Education is about the fundamental level where the way in which we view our relationships with the world and others begins to take shape (Cole, 2003). Higher education needs to focus on increasing our understanding about this complex relationship between humans and their environment because the future leaders, decision-makers and intellectuals of the social, political, economic and academic sectors are created, formed and shaped within the world's higher education institutions (Lozano, 2006b).

However, the current reality is that the educational and administrative framework of most institutions of higher education does not support the organizational practice that is needed to force the change that is necessary. The different subcultures that exist within institutions of higher education (faculty, staff, and students) create inherent tensions within the structure of the institutions that becomes a roadblock to change (Sharp, 2002). The separation between the three subcultures and especially between the student and faculty communities, and the administrative communities often times excludes the students and faculty from the planning and decision making process.

Additionally, many institutions treat sustainability as a label that can be stamped on projects and included in verbal commitments so that the institutions appear more "green" to stakeholders and the public. Institutions that ignore the impending risks that

we face as a global community, and fail to embrace sustainability will compromise their capacities to carry out their functions by operating inefficiently and by losing credibility and trust with stakeholders (Litten & Newport, 2004), and by not adequately shaping the leaders of tomorrow to successfully address the challenge of sustainability.

In large part, graduates from today's institutions of higher education continue to contribute to Earth's decline, rather than mitigate the growing array of social and environmental problems facing current generations (Uhl & Anderson, 2001). Core requirements at many universities and colleges include the components of sustainability education (Rowe, 2007). This often results in unintended consequences at traditional institutions of higher education, as an ever-increasing demand for more curricular requirements within an undergraduate program can introduce competing claims for the scarce resources known as academic credit hours (Koester et al., 2006). This highlights the inadequacy of the current educational framework at most colleges and universities in response to the need for fully embracing sustainability across the curriculum. Institutions must provide opportunities for all students, regardless their area of study, to incorporate issues of sustainability into their education. If only limited numbers of students at institutions are adequately exposed to sustainability, the opportunities to transfer that knowledge and experience beyond the campus walls will also be limited.

Universities should be systems to foster the change that is needed to ensure sustainability becomes institutionalized in higher education systems and society as a whole (Lozano 2006b). The need to more effectively inform students and society about sustainability requires a renewed focus on institutional change. Colleges and universities must demonstrate their commitment to make society more sustainable by incorporating

sustainability directly into teachings, research, operations, facilities management, purchasing, and their interactions with local and regional communities (Glasser & Nixon, 2002).

Given the educational and research capacity, the external partnerships, and the position of higher education as an influential voice in society, there is ample opportunity for higher education to help shift societal norms toward a healthier environmental, social, and economic sustainability (Rowe, 2007). A sustainability framework within which a broad range of environmental, technological, and cultural problems can be researched, addressed, and solved, should be an important central organizing idea for higher education (Uhl et. al., 2000). A new focus of higher education should include providing opportunities for students to work on actual, real-world problems facing their campus, community, government and industry (Cortese, 2003). STARS may help institutions of higher education address this and the other problems faced in fully embracing sustainability.

In summary, I have recognized four limitations to fully embracing sustainability at institutions of higher education. These limitations are; (a) Inherent tensions between the different campus populations, (b) Sustainability seen as an add on or "green" stamp, (c) Insufficient educational structure to support sustainability in the curriculum, (d) Existing organizational framework that does not support institutionalization of sustainability.

STARS and Institutional Change

My research has demonstrated that the STARS framework can be a catalyst for organizational learning and foster change at institutions of higher education. The

implementation of STARS at Evergreen provided me with a greater understanding of the organizational culture at the institution, which I hope can inform a strategy for achieving new levels of institutional engagement in sustainability. The STARS framework provides a relevant and highly appropriate instrument for monitoring and analyzing sustainability at institutions of higher education, which is needed to help ensure sustainability is fully realized at colleges and universities (Velazquez et al., 2006).

Previously in this chapter I identified increased community participation in the implementation of the STARS framework as an advantage of its use. The use of this tool can help overcome the inherent tensions between the different campus sub-cultures discussed by Sharp (2002). Including faculty, staff and students in the data collection process and during the presentation of the assessments results will help inform future decision making through a process that includes the diverse views of the different sub-cultures of the institution. Examples of this in my research include the discussions and interactions of the students, faculty and staff on the Sustainability Council during the presentation of my research results. I also experienced this directly when I, as a student, met with faculty and staff and discussed the data needs, and later the results of my research. These meeting often led to the discussion of various options for future data collection, and how to address limitations in Evergreens sustainability work that were identified through the use of the STARS framework.

The focus on process and motivations in the STARS framework delves into the planning, decision making, incentives and other process-oriented outcomes, and will help identify mechanisms for organizational change by asking why and how campuses pursue sustainability initiatives and projects that are currently being done (Shriberg, 2002a).

Through the coordination of the STARS pilot project at Evergreen I was able to gain insights into those processes and motivations of sustainability work, as previously discussed. These insights delved deeper into the "how" and "why" of campus sustainability than what STARS actually requires, and I was able to understand the spirit in which sustainability is happening at Evergreen. I gained these insights through interactions with the Evergreen community members whose work, and interests involve them in various aspects of the institution's sustainability movement. Through my research, I learned about motivations at Evergreen that included very personal feelings of community identity and empowerment from several Evergreen community members, to addressing the need to publicize Evergreen's work in sustainability to potential students, and the need to "green" the campus because it's what is being done in society today. These varying motivations for pursuing sustainability result in the complex and dynamic commitment to sustainability at Evergreen.

The use of the STARS framework will help institutions move beyond using sustainability as simply an add-on. Institutions that pursue sustainability as an add-on or "green" stamp may find that they lack specific requirements for some of the STARS credits. For example credits AF-8 and AF-9 award points specifically for having a formal campus sustainability plan, and climate action plan, respectively. Additionally several of the credits include requirements for sustainability related policies, such as green building and sustainable purchasing policies. Institutions that view sustainability as an add-on and not an integrated part of the institution's framework may be unlikely to pursue plans and policies that are required for STARS credits.

Understanding and quantifying the current opportunities available and the level of sustainability being taught to students is the first step in the process of successfully transferring knowledge beyond the campus walls. In my experience with the STARS framework at Evergreen, the process of collecting data, and presenting results of the assessment to members of the campus community led to discussions about how best to track the level of sustainability in the curriculum and brainstorming on how to continue to expand the opportunities for students to learn about sustainability. I would assume that a similar outcome is possible at other institutions that use the STARS framework. In addition to tracking the level of sustainability in the curriculum the STARS framework also tracks what I consider non-traditional learning opportunities at institutions. For example, credits in the Education and Research category award points for sustainability related outreach campaigns, peer-to-peer sustainability training programs, and sustainability literacy assessments.

The need to provide students with a practical education in sustainability has been identified by Evergreen (Pumilio et al., 2006), and throughout the higher education community (Cortese, 2003). While the STARS framework does not directly track opportunities for practical sustainability education, in a follow-up interview I conducted with the facilities staff we discussed the possibility of incorporating students into addressing some of the areas of deficiency identified through the STARS assessment. The Director of Facilities gave an example of a previous student who had looked into LEED-EB certification for several existing buildings on campus. One future possibility that I mentioned and was briefly discussed was to include student participation in developing ideas for using non-potable water for irrigation on campus. However, along

with this, we also discussed the limitations of using reclaimed wastewater at Evergreen due to the distance of the campus away from the local wastewater treatment facility, approximately 5 miles, across a saltwater inlet. The outcome of pursuing ideas like this could be students helping to address real-world sustainability problems faced by colleges and universities, such as reducing potable water usage for irrigation, or tracking and improving sustainable investing. As with other outcomes I experienced, it is not unreasonable to think that similar discussions might result from STARS implementation at other campuses.

My experience implementing the STARS framework and the resulting actions and reactions of Evergreen community members led me to believe that the process of assessing sustainability at institutions of higher education can help address some of the limitations to institutionalization of sustainability in higher education. Further, the STARS framework includes indicators that specifically address some of the limitations that have been identified by others, including addressing the processes and motivations of sustainability planning and implementation at institutions of higher education.

Chapter Summary

The first thesis question I presented in chapter 1 was how effective was STARS at evaluating Evergreen's sustainability work. To answer this question I looked at the amount of Evergreen's work in sustainability that is recognized by STARS, the "ideals" that the STARS framework contains, and the advantages and disadvantages of the framework. Through the Sustainability Report and Evergreen's sustainability website I identified many components or "indicators" of Evergreen's sustainability work. As discussed in chapter 3, the STARS framework recognized the majority of these

"indicators". In addition the framework contained all five "ideals" recommended by Shriberg (2002b). And the many advantages of the framework outweighed the disadvantages, such as encouraging community participation, providing students an opportunity for practical education in sustainability, and improving organizational efficiency and knowledge.

While the framework recognized the publicized aspects of Evergreen's work in sustainability there are many nuances to sustainability at Evergreen that may not be highlighted by the STARS framework but the reporting method for the STARS did allow for additional information to be included. Such additional information could include the nuances of an institution's sustainability work. In many aspects, it is these nuances, such as Evergreen's process for defining local food, or community participation in green building design at that are the truly informative aspects of the institution's commitment to sustainability.

The STARS framework's focus on the general aspects of an institution's sustainability work does not reduce the usefulness of the STARS tool. As discussed previously, for a cross-institutional sustainability assessment tool to be relevant to all 4,100 institutions of higher education in the United States, it will have to be much less specific to the nuances of sustainability work at individual colleges and universities.

My second thesis question posed in chapter 1 looked at the potential for the STARS framework to be a tool that led to organizational learning. My experience with the Evergreen community during the STARS pilot project led me to believe that organization learning did occur as a result of this process. Organizational learning is important because it results in organizations creating, acquiring, and transferring

knowledge and modifying their behavior to reflect new knowledge and insights (Giesecke & McNeil, 2004). This is extremely relevant to the sustainability movement in higher education because of the need to change the current structure of higher education institutions to fully embrace and institutionalize sustainability. Regular implementation of STARS should continue to encourage organizational learning and potentially lead to organizational change. Future research should focus on this assumption and also look at if the resulting change is moving society towards a more sustainable future.

The final thesis question allowed me to gain a better understanding of Evergreen's commitment to sustainability through the implementation of STARS. As discussed previously in this chapter, this commitment is very dynamic and complex, and includes many nuances that the STARS scores only brush the surface of. The fact that Evergreen participated in the STARS pilot project and community members were encouraging the us of the framework in the future tells me that there is a strong commitment to gaining a deeper understanding of sustainability at Evergreen, and advancing the sustainability movement. The newly created knowledge that the STARS framework provides Evergreen should help to strengthen this commitment and allow Evergreen to continue to be leader in the higher education sustainability movement.

While the STARS framework only provides one indication of Evergreen's sustainability commitment, it is an important one. It provides a comprehensive and comparable way for potential students to gauge an institution's level of sustainability, which recent research indicates is an important factor for consideration by potential students. It also provides institutions with important indications of how successfully they are implementing sustainability, and possible areas for improvement. However, more

importantly the STARS framework provides a tool that, if implemented correctly, can engage the campus community in the dialogue of sustainability, and provide greater understanding of the motivations and processes behind an institution's sustainability commitment.

In order to effectively bring about transformational change that is needed to address the many environmental and social problems faced by society today institutions of higher education need to adequately prepare the decision makers and leaders of tomorrow. To effectively address this need colleges and universities must change from the current structure and paradigm to one in which sustainability is fully embraced and institutionalized, serving as laboratories for sustainable living. My research has shown that through the process of implementing the STARS framework, students can become involved in the sustainability work of an institution and gain practical knowledge that will help shape them as future leaders and decision makers. I also found that the STARS framework can be used as an effective tool for informing the higher education community on the current state of sustainability in higher education.

Chapter 5. Recommendation, Limitations and Future Needs

Introduction

In this chapter I provide recommendations to Evergreen and AASHE. These recommendations are focused mainly on the use of the STARS framework in the future, and how this might further sustainability. I have avoided making recommendations to Evergreen about sustainability projects that could be implemented because that was not the focus of my research. I also discuss the limitations of my research and how these limitations might have affected my work. And finally I discuss the future research needs that my work has highlighted.

Recommendations to Evergreen

Recommendation 1 – Participate in STARS

Evergreen should continue to participate in the STARS framework in the future. All participating Evergreen community members interviewed consider the participation in this program to be a benefit to Evergreen. The college is clearly among the leading institutions of higher education, as evidenced by 13 national and local sustainability related awards and recognitions (www.evergreen.edu/sustainability/awards.htm). Evergreen must continue to advance sustainability both on campus, and throughout the higher education community to continue to be a leader and help shape the future of the sustainability movement.

Based on my experience and research with the tool, and conversations with the Director of Sustainability at Evergreen, who has been involved in the development of the STARS framework, this tool has the potential to become a primary tool for assessing and tracking sustainability in higher education. In fact, even before the conclusion of this thesis project I received inquiries from another institution of higher education that was just beginning to implement the framework. To continue to provide leadership in the higher education sustainability movement, Evergreen must fully embrace the use of the STARS framework, as was done during the STARS pilot project, if it is clear that it will be the national standard for assessing campus sustainability.

As discussed in the chapter 3, the STARS data collection and reporting process required a total of 259.5 hours from about 30 Evergreen community members. However, this time commitment should go down substantially for the next STARS process. The ARMARK Sustainability Intern provided almost one third of the entire time commitment (85 hours). As discussed in the Advantages section of the previous chapter, the time required to provide the local and organic food purchasing data should only require about two to four hours. This would reduce the total time commitment needed to complete STARS to 176 hours.

As discussed previously, the time required to coordinate the STARS data collection process would also be reduced, however, not to the same degree. About 70% (56 hours) of the time commitment I provided was for data collection, meetings with community members and data processing and analysis. This work will still need to be done during future STARS implementation. However, chapter 2 and appendices A, B ,

C, and D are designed as a "how to" guide for future STARS implementation and should further reduce the time commitment needed for coordination.

Recommendation 2 – A Single STARS Coordinator

A single individual working closing with the Office of Sustainability should conduct the coordination of the STARS framework implementation in the future. All of the participants I interviewed at Evergreen very much appreciated having one person coordinate the data collection and reporting process. Several participants mentioned the benefit of having someone in a coordination role so that deadlines for data collection were set and followed. Without a primary project coordinator in place for STARS implementation the data collection needed by various Evergreen community members would not receive the attention required to ensure timely reporting. In addition, through the process of coordinating the pilot project and interacting with various individuals at Evergreen I gained important insights into the motivations behind the sustainability movement at Evergreen. The most important of these motivations included strong feelings of community identity and empowerment through individuals work in sustainability. This is a motivation that goes beyond pursuing sustainability simply because it is an add-on or green stamp, to pursuing sustainability because it is the right thing to do and provides individuals with a personal feeling of satisfaction in the work they do. This is a very important aspect of Evergreen's sustainability work that may not have been identified if STARS was implemented in a less coordinated fashion.

A single coordinator would also provide an opportunity for practical sustainability education and experience for a student if the STARS coordinator were a student. As a student who coordinated the STARS pilot project implementation I can say that this type

of coordination is effective and economically efficient for Evergreen. My coordination efforts were well received by all the Evergreen community members I interacted with and I was able to successfully collect the necessary data for all credits, with exception of the credits I determined to be not applicable to Evergreen. The skills and qualifications that aided me in my successful coordination included: (a) a familiarity with and strong interest in sustainability, (b) strong communication and interpersonal relation skills, (c) experience working with diverse individuals within an organization, and (d) a strong work ethic. The institution should look for similar qualifications in a future STARS coordinator. Additionally, as a student earning credits for graduate work, I was essentially paying the institution to coordinate the STARS effort. The benefit to me was not financial, but rather educational. One option for ensuring future STARS coordination through student participation is to develop a high quality fellowship opportunity through the Cargill grant for sustainability fellowships that the institution has recently received (Pumilio pers.com. 2009).

A major assumption underlying this recommendation is that Evergreen continues to support the Director of Sustainability position, and the Office of Sustainability. The success of my coordination of the STARS pilot project was due in large part to the support and involvement I received from the Director of Sustainability. This involvement included assistance identifying the necessary contacts and coordinating pre-data collection meetings with essential Evergreen community members, and data collection for 17 of the Tier 1 credits in all three STARS categories. The Director of Sustainability also helped keep data procurement on schedule, and I gained important knowledge about sustainability in higher education and Evergreen's sustainability

movement through our discussions. At this time, it should be noted that the Director of Sustainability I worked with has moved on to lead sustainability efforts at Colgate University, and this position remains unfilled and in danger of elimination due to current budget shortfalls. Therefore, a secondary recommendation along with a single STARS coordinator is a Director of Sustainability that can support the STARS process. This one position provides a very important and necessary component of Evergreen's sustainability movement and without this position filled and in place I don't see STARS being implemented at Evergreen in the future.

Recommendation 3 – Increase Community Participation

Throughout this chapter I have presented evidence that the result of participation by Evergreen community members was increased learning and process improvements. The coordinator of future STARS implementation at Evergreen should try to increase community participation as much as practical. Community participants should be considered in three categories; (a) Data Providers, (b) Planners and Decision Makers, and (c) Wider Community. While there may be overlap in terms of individuals in each of the three categories, separating participation into these distinct categories helps to better understand how to include individuals in each category in the process.

Data Providers can be thought of as individuals within the faculty, staff and student populations who have access to the data needs for the STARS indicator credits. Examples of this in my coordination efforts include the Director of Facilities, who facilitated the data collection for all credits related to the facilities management. Through his involvement, several facilities staff members were also included, by providing the necessary data to the Director of Facilities for summarization before he provided me with

the completed credit reporting forms. Another example of this is the Purchasing and Contracts Manager who provided me with all the necessary data on sustainable purchasing. On the student population side, involvement included the Graduate Research Assistant with the Curriculum for the Bioregion Initiative, who works to better prepare undergraduates, and others, to live in a world where the complex issues of environmental quality, environmental justice, and sustainability are paramount (www.evergreen.edu/washcenter/project.asp?pid=62). The Graduate Research Associate provided information on the Curriculum for the Bioregion Initiative for several STARS indicator credits.

In addition to all the Data Providers that were involved in the STARS pilot project implementation, as described in Chapter 2, future STARS implementation should be include the Director of the Center for Community Based Learning and Action (CCBLA), any faculty involved in sustainability research at Evergreen, and students involved in Evergreen sustainability work. The involvement of the Director of the CCBLA will help ensure that accurate data on student involvement in community services is provided, and may lead to ideas about how to improve tracking of community service, and increase opportunities for student involvement in community service. The participation of faculty involved in sustainability research at Evergreen would ensure that the Research credits in the Education and Research Category are included in future STARS participation, a recommendation made by several of the community participants in the pilot project implementation.

There were four students, including myself, who provided much of the data for the STARS pilot project. In follow-up discussions with these students it was clear that

the STARS pilot project provided an opportunity for their work to be recognized. Future student participation would ensure that practical education and recognition continues to be provided to students. The three students who provided data to me for the STARS pilot project were involved in sustainability work through internships or work-study opportunities. These opportunities provide practical experience and education in sustainability to students, and provide a benefit to the institution. The work conducted by these students is often a core component of Evergreen's sustainability work, as was the case with my STARS coordination effort, and results in high quality work being conducted at a low cost to the institution. Along with involving more students in the data collection process for STARS, Evergreen should continue to offer unique internship and work study opportunities to students. Such opportunities could be offered in areas related to facilities and grounds management, sustainable investing and institutional research to name a few. All of these areas included work and data collection that was necessary for the STARS framework. By supporting these types of opportunities, the increased work created by the STARS reporting process could be partially absorbed by the internship or work-study. In addition, this is consistent with the recommendation to create six to twelve permanent student positions presented in the 2006 Sustainability Report (Pumilio et. al., 2006).

Outreach to the Data Providers could be done through emails and face-to-face meetings where the relevant STARS credit descriptions, criteria, and data needs are provided. The results of the STARS framework could also be presented to these community members at the completion of the data collection and reporting process, as I did during my research. Outreach should also be done to Sustainability and Justice

planning unit faculty members with assistance from the curriculum deans. This outreach could include solicitation for student participation in STARS data collection, as well as faculty participation. The STARS coordinator and the Director of Sustainability could also work with active student organizations on campus to identify potential student participants.

Planners and Decision Makers include the individuals who are in positions to make decisions about sustainability related projects and programs. During my coordination of the STARS pilot project at Evergreen Planners and Decision Makers involved in the process included the Director of Facilities, the Director of Financial Services, the Vice President of Finance and Administration, and the members of the Sustainability Council, to name a few. During future STARS implementation at Evergreen involvement of Planners and Decision Makers should include the Academic Deans, the Vice Presidents, the College President and the Academic Vice President and Provost. The results of STAR framework assessments must directly and quickly feed back into the planning and decision making process at Evergreen. The required data needs to be collected at as local a level as possible, and both summarized quickly for policy makers, and made available for more careful monitoring and follow-up (Fraser et al., 2006).

These Planners and Decision Makers can be involved through both the data collection process, when they are the necessary Data Providers, and during the presentation of the STARS framework results. Results could be presented to the Sustainability Council, as I did. The Director of Sustainability and Sustainability Council members could then present these results to the Academic Deans, Vice Presidents,

Provost, and President, possibly along with recommendations about how to address areas of improvement identified through the STARS framework. Decision makers must use the results of the STARS framework to help guide future decisions to ensure a continued commitment to advancing sustainability. The STARS data and results can help inform a wide range of decisions and planning processes. The data and results for the Education and Research category can help faculty decide how sustainability can continue to be incorporated into the educational experience at the college. By providing detailed information about the nuances of Evergreen's sustainability work and the motivations behind this work planners and decision makers can make more informed decisions about such issues as faculty and student involvement in green building design, and increasing the ability of the college to meet policy goals and objectives, such as green purchasing and sustainable investing.

The wider Evergreen community should be involved during the presentation of the STARS results. Broad and systematic participation helps to strengthen the local identity by providing the means for all members to better identify with their community and its development, and broad participation also increases the potential effectiveness and success of sustainability initiatives (Valentin & Spangenberg, 2000). The involvement of the wider Evergreen student, faculty and staff community could be done through a campus presentation and forum, and by publishing the STARS results on the Evergreen website and through campus wide email distribution lists for faculty, staff, and students, and the entire campus community. The various distribution lists in Evergreen's email system will allow for targeted information to be distributed to the interested population.

Recommendations to AASHE

Advancing sustainability is often about determining the most sustainable practice based on current resources and technology (Pumilio, pers. com, 2008). Because resources and technology are continually changing so too are the most sustainable practices. This will require regular input from the higher education community and modification of the STARS framework so indicators evolve over time as circumstances change (Carruthers and Tinning, 2003). During the STARS pilot project process recommendations and feedback were sought from participating institutions for each indicator credit. Similar opportunities for input and feedback should be available for future STARS participants and the information provided should continue to shape future versions of STARS.

Institutions should not be penalized simply for the regional or local limitations on the availability of agricultural products, the way the STARS criteria does. One way to accomplish this is provide regional definitions, or award points based on a comprehensive evaluation of the sustainable food purchasing practices. Sustainability in relation to purchasing decisions is not simply about reducing the distance between the production and us of purchased good. When considering food purchasing decisions it is also about supporting agricultural practices that minimize environmental, social and economic impacts. It should also be about supporting the local economy and community. Defining local simply by way of a 150 mile radius around campuses does not take into account the complex nature of food production and distribution and could result in institutions receiving points for unsustainable practices simply because they are purchasing products that are grown and processed within 150 miles of the institution.

Based on my research community participation was a major factor in the successful implementation of the STARS framework at Evergreen, and clearly resulted in organizational learning. Considering this, AASHE should encourage wide campus participation in the STARS framework, as I have recommended Evergreen do in this section. Although similar organizational learning opportunities may arise from different methods of implementing STARS, the methods I used and recommend expanding on have been proven by this research to result in clear learning opportunities for organizations. As part of AASHE's efforts to promote the use of STARS, the organizational learning results of my research can be used as an example of how institutions might benefit from involvement of campus community members in the data collection during use of the STARS framework.

Research Limitations and Future Needs

I have experienced limitations in my research that need to be addressed, as well as identified areas where future research can address some of the limitations I experience, and some of the questions my research creates.

Limitations

A conscious limitation of this case study is that it focuses on one institution of higher education in the U.S. out of over 4,000. Several authors have argued that case studies are not suitable for generalizing research results from a single case to a wider population (Stake, 1978; Yin, 1989; Firestone, 1993;) I would argue that single-case studies do provide opportunities to generalize results broadly across a population and the case study method may be central to scientific development via generalization as a

supplement or alternative to other research methods as referenced by Flyvbjerg (2006). Flyvbjerg goes on to argue that good social science employs the methods that are best suited to answer the research question at hand. My research was focused on gaining detailed understandings about the use of the STARS framework. The extensive knowledge that I was able to gain was a direct result of the focus on a single case, The Evergreen State College. That being said, this focus on a single subject does present some generalization difficulties related to Evergreen's unique educational structure, which doesn't include established undergraduate major and minor programs, or distinct academic departments. This unique structure makes it easier for the institution to broadly incorporate sustainability into the educational experience. As discussed previously, the curricular requirements at many institutions of higher education often limits the ability for broad inclusion of sustainability into formal degree programs (Koester et. al., 2006).

The result of this unique educational structure at Evergreen was that several of the credits in the Curriculum section of the Education and Research Category were not applicable. Specifically credits ER-7, ER-10 and ER-11, which award points in relation to sustainability incorporated into established academic departments and formal degree programs. Although the non-applicability of these credits did not negatively impact the overall STARS scores I calculated for Evergreen, they may lead to misunderstandings about the educational offerings and opportunities at Evergreen by an outside audience. Although Evergreen does not have established academic departments or focused degree programs, the educational structure is set up to allow students to design a curricular pathway that can be very focused on one of many academic disciplines. In the end, this difference will serve as a comparison between Evergreen's educational structure with

team teaching, interdisciplinary learning, and emphasis on critical thinking, and more common educational structures in integrating sustainability into the curriculum. This would only help to expand the base of knowledge around sustainability at colleges and universities.

In most areas of the STARS framework I would not expect Evergreen's unique structure to lead to different results than many other institutions. For example, most of the credits in the Operations Category should not be affected by Evergreen's educational structure, and should provide a similar comparison to other institutions of similar size and with similar operating budgets. I would expect any difference in the outcomes for this category to be more the result of differing motivations and process at various institutions, rather than the educational structure of the institution. I also expect the same would be true for much of the Administration and Finance Category.

The "participant-as-observer" approach I took to the participant observation method, as described in chapter 2, could have biased the results of my data collection and the STARS scores I calculated. In addition to observing and participating in meetings, I was also directly involved in the data collection process for the STARS framework implementation. Researchers who take up more of a participant role may lose sight of their observer role as they become too immersed in the setting (Sharma, 2007). During the STARS data collection process I was treated as an active member of different sub-cultures I was working with and therefore I had to often remind myself not to forget my role as a participant observer in this research process.

If my role did have an effect on the research, which I believe it did not, it would most likely present itself in the conclusions I draw about Evergreen's commitment to

sustainability, and the motivations behind the campus sustainability movement. Because of the active participatory role I took, community members I interacted with could have been more comfortable with my presence and more open and honest during discussions and follow-up interviews, which would have benefited my research. However, it is possible that statements I made, rather than the true feelings and motivations of the community members, shaped the direction of discussions and follow-up interviews. Again, because I was aware of this potential limitation, I took all necessary precautions to restrict my input during meetings and interviews so as not to overly affect the direction of the discussions.

Another limitation of the participant-as-observer role that I employed is that the researcher can develop strong emotional attachment to the people or process being studied (Gold, 1958). In my research this limitation would mostly likely result in inflated STARS scores. Throughout the data collection and STARS analysis process I had to continually step-back and ensure that I was interpreting the data collected and scoring the STARS credits in the spirit of each credit. An example of this is the process I went through to collect data and score credit ER-18: Sustainability New Employee Orientation. Addressing sustainability during new employee orientation helps establish sustainability as an institutional priority and part of the campus culture and encourages the adoption of environmentally and socially preferable habits, routines, and choices (AASHE, 2008c). Through my research process I learned that Evergreen includes information on commuting options, diversity and equity program and policies, and human resources related issues. I had to fight the urge to give Evergreen a point for this credit because these are issues associated with sustainability, and doing so would have improved

Evergreen's score. In the end I determined that the information provided in the new employee orientation did not meet the spirit of the STARS credit in that the overall concept of sustainability is not addressed, but rather issues that are considered part of the sustainability process.

Previously in this chapter I discussed the importance of community participation in sustainability assessments and tracking projects. However, I was able to collect a significant amount of the data for the Administration and Finance Category of the STARS framework from the Evergreen website. Of the 32 credits available to Evergreen in this category, all the data for 9 credits was collected entirely from the website. These 9 credits represent approximately 30% of the total points possible for this category. More importantly I collected the data for the three credits dealing directly with community service and student participation entirely from the website. I attempted to include the Director of the Center for Community Based Learning and Action in the data collection for these credits, but our schedules were not able to coincide until after the STARS data collection process was complete.

The result of limiting community participation by collecting data through the website could be a less than accurate accounting of certain aspects of Evergreen's sustainability work. This also limited the opportunity for organizational learning to a larger population of the campus community. This limitation is the reason I recommended expanding community participation in future STARS implementation efforts at Evergreen.

A final potential limitation of my research is one similar to that of research conducted by Shriberg (2002b). While I attempted to objectively evaluate the use of a

sustainability assessment tool, I also propose the use of such a tool is an integral part of this change process. A goal of this research was also to assist colleges and universities in making decisions about using the STARS framework, and implementing its use. The co-mingling of providing an objective review of the use of this tool and advocating for assessing sustainability in higher education use may bias the results, despite attempts to analytically separate objective evaluation from advocacy. For example, it occurred to me that my coordination efforts at one of approximately 70 institutions that implemented the STARS framework during the pilot project phase provided me with unique experience with this tool. My research could help justify further use of STARS at Evergreen or other institutions and I would be in a position to benefit from my experience. While this may have been something I thought about mainly when considering taking on this project, I can comfortably say that this thought did not play a part in any of my data collection or analysis. Rather the realization of this possibility ensured they I made a conscious effort to conduct professional and unbiased research so that the experience and knowledge I gained would adequately prepare me for the future.

Future Needs

During my research several questions came to mind that I was not able to answer through my project. The questions presented here through future research needs would expand on the knowledge that I have created and continue to enlighten the higher education community and others about the current state of sustainability in higher education.

One of the outcomes I observed was evidence that organizational learning had occurred through the implementation of the STARS framework. Future research should

delve deeper into this aspect of STARS and determine if continued implementation of STARS reinforces the learning I observed and results in organizational change and the advancing Evergreen's commitment to Sustainability. This is a research question that could easily be relevant to all institutions of higher education. Does organizational learning also take place at other institutions that implement STARS?

During my interactions and discussions with Evergreen community members, one concern that consistently came up was how AASHE would normalize STARS participation. In order to provide accurate comparability between institutions the results of the STARS framework must be normalized so that institutions are essentially treated the same regardless of student population size, endowment and other budgetary factors, or location. One issue that came to mind during my coordination process was how credits such as OP-3: Potable Non-Irrigation Water Consumption, which awards points for continual reductions in potable water consumption, would be fairly normalized between institutions. I can imagine a possibility in which one institution has historically reduced water consumption, and must report an already low baseline to STARS and is no longer achieving significant reductions, while a second institution has more recently begun to reduce water consumption and has a much higher water usage baseline to report. The second institution would receive more points because it is reducing its use, while the first institution would receive fewer points even though it is using less water annually. I would argue that the institution with lower water consumption is more advanced sustainably, as long as it continues to pursue the latest technology and best practices to achieve new reductions in the future. Both of these institutions could be of similar size and endowment and normalized into the same category by AASHE. Future research

could be conducted on the STARS normalization process to determine its fairness, or to highlight any issues that AASHE could address in an effort to continually improve the STARS framework.

The Princeton Review 2009 "College Hopes & Worries Survey" asked respondents “If you (your child) had a way to compare colleges based on their commitment to environmental issues (from academic offerings to practices concerning energy use, recycling, etc.), how much would this contribute to your (your child’s) decision to apply to or attend a school?” The results of the survey indicate that 66% of potential students, or parents, surveyed said that they would use this information to help make decisions about where to go to school. AASHE identifies this need as a reason for conducting sustainability assessments and use of the STARS framework. Future research should identify if the comparability of the STARS ratings provide a useful tool for individuals making decisions about what schools to attend and if potential students are actually using this information in their college and university application decisions?

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Appendix A

Appropriate Contacts as of 1/01/2009

Table 4. STARS Credits by Evergreen Community Members Contacts

Contact	Student, Staff, Faculty	Relevant Credits
Laura Coghlan - Director of Institutional Research and Reporting	Staff	Institutional Normalization Data, ER-5, ER-6, ER-8
Steve Trotter - Executive Director of Operational Planning and Budget	Staff	Institutional Normalization Data
Steve Schimdt - Program Coordinator, Extended Education/ Summer School	Staff	Institutional Normalization Data, ER-13
Paul Smith - Director of Facilities	Staff	OP-1, OP-2, OP-3, OP-8, OP-9, OP-10, OP-12, OP-13, OP-16, Tier Two Buildings, Tier Two Energy and Climate, Tier Two Grounds
Sharon Goodman - Director of Residential and Dinning Services	Staff	OP-4, OP-5, OP-6, OP-7, OP-14, OP-15, OP-21
Halli Winstead - ARAMARK Sustainability Intern	Staff	OP-5, OP-6, OP-7, OP-14, OP-15, Tier Two Dinning Services, Tier Two Materials Recycling and Waste Minimization
Natalie Pyrooz - Graduate Sustainability Coordinator	Student	OP-4, OP-21
Robyn Herring - Environmental Health and Safety Officer	Staff	OP-17, OP-18, Tier Two Materials Recycling and Waste Minimization
Peter Robinson - Radiation Officer	Staff	OP-18
Kathleen Haskett - Purchasing and Contracts Manager	Staff	OP-19, OP-20, OP-21, OP-22, OP-23, OP-24, Tier Two Purchasing
John Pumilio - Director of Sustainability*	Staff	OP-11, OP-25, OP-26, OP-28, AF Prerequsite-1, AF-6, AF-7, AF-8, AF-9, AF-10, AF-11, AF-12, AF-18, AF-19, ER-1, ER-2, ER-3, ER-14, ER-15, Tier Two Sustainability Infrastructure
Victor Sanders - Student Transportation Coordinator	Student	OP-27, Tier Two Transportation
Collin Orr - Director of Business Services	Staff	AF-1, AF-2, AF-3 AF-4. AF-5, Tier Two Investments
Scott Hollis - Canopy Lab Manager	Student	AF-12, AF-18,
Lucienne Guyot - Graduate Research Assistant, The Curriculum for the Bioregion Initiative	Student	AF-12, ER-16
Ellen Short Sanchez - Director of the Center for Community Based Learning and Action	Staff	AF 14, 15, 16
Julie Anderson - Interim Director of Financial Aid	Staff	AF-17
Paul Gallegos - Diversity and Equity Officer	Staff	AF-20, AF-21, AF-22, AF-23, Tier Two Diversity
Allan Toothaker - Associate Vice President for Human Resources	Staff	AF-27, AF-32
Ladonna Herigstad - Payroll and Benefits Manager	Staff	AF-28
John Hurley - Vice President of Finance and Administration	Staff	AF-33, AF-34
Todd Sprague - Director of Marketing, Communications and College Relations	Staff	AF-33, AF-34
Andrea Coker-Anderson - College Registrar	Staff	ER-5, ER-6, ER-8
Paul Przybylowicz - Academic Dean, Curriculum	Faculty	ER-12
Bill Ransom - Academic Dean, Curriculum	Faculty	ER-12
Nancy Murray - Academic Dean, Faculty Hiring and Development	Faculty	ER-16
Linda Hohman - Associate Vice President for Human Resources	Staff	ER-17, ER-18, ER-19, Tier Two Human Resources
Rich Davis - Facilities	Staff	Tier Two Energy and Climate
Mark Kormondy - Grounds	Staff	Tier Two Grounds

*As of the publication of this document John Pumilio is no longer the Director of Sustainability at The Evergreen State College, and is now the Sustainability Coordinator at Colgate University. In response to potential staff turnover please refer to position titles rather than individuals names for future STARS data collection.

Appendix B.

Detailed STARS Credit Data Collection

Education and Research (ER) Credits

ER – 5: Sustainability Focused Academic Courses; ER – 6: Sustainability Related Academic Courses

At the end of each academic year the Institutional Research and Reporting program at TESC conducts an End of Program Review (EPR) assessment for all academic programs (TESC defines academic offerings as programs not courses). For the first time during the 2008 assessment faculty were asked to what extent (1-extensively, 2-moderately, 3-a little, 4-not at all) sustainability was included in their programs. On October 10th, 2008 the director of sustainability emailed me the preliminary EPR data for sustainability. I followed this up with an email inquiry and subsequent phone conversations with Institutional Research staff. Through these conversations I received the final EPR sustainability data and the EPA questionnaire sent to team teaching faculty members. The EPR data includes the Programs that were identified as including sustainability and to what extent. Institutional Research provided the data in an Excel spreadsheet. I modified this spreadsheet to include a columns to include the number of students enrolled and credits offered each quarter, and if the program was sustainability-focused or related. I determined that programs rated as a 1 were sustainability-focused and courses rated 2 and 3 were sustainability-related. This determination was based on a comparison of the

descriptions of extent ratings on the EPR questionnaire and STARS definitions of sustainability-focused and sustainability-related courses (AASHE, 2008c).

The EPR assessment only includes academic programs offered during the regular academic year. I wanted to try and capture all of the programs offered at TESC during the 2007-08 academic year, including summer programs and graduate programs. I reviewed the online catalog for the summer 2008, Masters of Public Administration (MPA), Masters in Education (M.Ed), and the 2007-08 Masters of Environmental Studies (MES) programs, which were provided by the MES Director. I reviewed all program descriptions and determined which ones were sustainability-focused and related, and included them on the spreadsheet.

The **t**otal number of courses offered during the 2007-08 academic year was determined from on-line course catalogs for summer 2008, MES, MPA, M.Ed, and from total number of EPR surveys distributed as provided by Institutional Research. The Percent of sustainability-focused and sustainability-related courses was calculated using Excel.

ER – 7: Sustainability Courses by Academic Department

The Evergreen State College does not have traditional academic departments for formal degree programs so my initial reaction was that this credit was not applicable to TESC. To be sure of this I posted a message on the STARS on-line forum asking about the applicability of this credit to TESC. The STARS Pilot Forum is a place to share information and ask questions about the STARS pilot program (http://www2.aashe.org/stars/forum/). A STARS Intern provided the following response:

"Hi Kyle,

Are Evergreen's organized "areas of study" similar to traditional degree programs? If so, are there department-like bodies associated with each area of study? If you find that Evergreen uses systems or structures that are equivalent to degree programs and academic departments, feel free to use them in these credits.

If a school does not use systems or structures that are equivalent to degree programs and academic departments, these credits would not apply.

If you find that these credits do not apply to Evergreen, do you have any suggestions on how we could change them so that they would include schools like yours?

Thanks for your participation in the forum!

Addie Davis
STARS Intern
addie@aashe.org"

I discussed this response with, the Director of Sustainability and my primary faculty thesis reader and we determined that this credit was not applicable to TESC.

ER – 8: Academic Sustainability Course by Student Credit Hour

The data collection for this credit was carried out at the same time, and followed the same process as for ER-5 and ER-6, using the EPR data, and through a review of online catalogs, and program descriptions provided by the MES Director, to determine the sustainability programs.

In addition I acquired the program credit information that was available through online catalogs. I also contacted the Academic Dean for Evening and Weekend Studies

(EWS), Allen Olson, and was provided with student enrollment numbers for the sustainability EWS programs. I then contacted Registration and Records and asked if they could provide me with enrollment figures for each program. The registrar, Andrea Coker-Anderson, replied that this was possible and I emailed her the Excel spreadsheet with the sustainability programs.

Registration and records returned the spreadsheet with student enrollment and credit information for each program. Using the student enrollment numbers, and credits awarded for each program I was able to calculate the total student credit hours for sustainability course.

To calculate the total student credit hours at TESC I reviewed the Institutional Research enrollment count webpage (www.evergreen.edu/institutionalresearch/enrollmentcounts.htm) and found total graduate and undergraduate full time equivalent (FTE) enrollment data. I assumed for graduate students, an FTE student would take 12 credits per quarter for 3 quarters for a total of 36 credits. I assumed that an FTE undergraduate would take 16 credits per quarter for 3 quarters for a total of 48 credits. Using these assumed FTE credit loads and the FTE enrollment data from the institutional research webpage I was able to calculate the total student credit hours for TESC.

ER – 13: Non Credit Sustainability Courses

I reviewed the 2008-09 Extended Education on-line course catalog (www.evergreen.edu/extendededucation/) and the 2008 summer quarter course catalog (www.evergreen.edu/summer/eeindex.htm). 2008-09 Extended Education course catalog was used because the course catalog for the previous academic year could not be located.

The catalogs identify courses that are offered to non-credit students. I reviewed the descriptions for these courses for sustainability related themes. I recorded the number of courses I determined to be sustainability-related on the STARS credit reporting form. I also reported the total number of non-credit courses offered by TESC as required for the credit reporting form.

ER – 16: Incentives for Developing Sustainability Courses

On October 16th, 2008 I emailed the Academic Dean for Faculty Hiring and Development, Nancy Murray, and inquired about incentives available to TESC faculty to encourage the development of sustainability courses. Nancy emailed back the same day and asked if we could talk on the phone on October, 20th, 2008. I responded through email and we set up a time for me to give her a call. On October 20th, 2008 I called Nancy and we discussed various incentives available to TESC Faculty. Nancy mentioned several incentives available, including financial support for attending conferences and workshops, and the Curriculum for the Bioregion Initiative at the Washington Center for Improving the Quality of Undergraduate Education (Washington Center).

I followed up my phone conversation with Nancy by reviewing the Washington Center webpage (www.evergreen.edu/washcenter/home.asp). On October 20th, 2008 I emailed Lucienne Guyot, Graduate Research Assistant with the Washington Center, and requested a description of the Curriculum for the Bioregion Initiative. I included the description provided by Lucienne Guyot and the other incentives discussed with Nancy Murray on the STARS credit reporting form.

Administration and Finance (AF) Credits

AF – 12: Inter-Campus Collaboration on Sustainability

On November 8th, 2008 I met with John Pumilio, Director of Sustainability and discussed ways in which Evergreen collaborates on sustainability projects with other institutions. John and I discussed various projects and we identified appropriate contacts for this credit. I followed up this discussion by contacting Lucienne Guyot, Graduate Research Associate with the Washington Center for Improving the Quality of Undergraduate Education, and Scott Hollis, Canopy Lab Manager. Lucienne provided information on the Curriculum for the Bioregion Initiative, and Scott provided information on the Green Prisons Project being conducted through the Canopy Lab. I also included information provided by Gaylon Finley with Facilities on Evergreen's partnership with Western Washington University for purchase of green cleaning products.

AF – 14: Community Service Staffing

I reviewed the Annual Report for the Center for Community Based Learning and Action (CCBLA) found on the Center's webpage (www.evergreen.edu/communitybasedlearning/). The Annual Report provided all the relevant information needed for the credit. In addition, I emailed the credit reporting for to Ellen Short-Sanchez, Director of the CCBLA. I received a response from Ellen after the STARS data submission deadline. However, she confirmed the accuracy of the information I had collected.

AF -15: Student Participation in Community Service

I reviewed the Annual Report for the CCBLA found on the Center's webpage (www.evergreen.edu/communitybasedlearning/). This document reports on the total number of students participating in community service through the CCBLA. I also reviewed the 2004 and 2006 Student Experience Surveys found on the Institutional Research and Reporting webpage (www.evergreen.edu/institutionalresearch/studentexperiencesurvey.htm). This report contains information on the percentage of respondents that participated in community service and volunteer work. The information for 2004 is found on page 44 of the 2004 Student Experience Survey, and is question number 22 in the 2006 survey report. I then reviewed the survey methodology documents for each survey to determine the total number of respondents. The document for the 2004 survey is found at www.evergreen.edu/institutionalresearch/pdf/Surveys/eses/StudentExperienceSurveyFinalReport.pdf and the number of respondents is found on page 3 of the Executive Summary. The methodology document for the 2006 survey is found at www.evergreen.edu/institutionalresearch/pdf/Surveys/eses/studentexperiencesurvey2006methodology.pdf, the number of respondents is found in the table on page 2.

From the survey results, and the total number of respondents I was able to calculate the total number or respondents who participated in community service. I included the data from the CCBLA Annual Report, and the data calculated from the 2004 and 2006 student surveys on the credit reporting form.

AF-16: Student Hours Contributed to Community Service

The CCBLA Annual Report provides data on the hours of community service contributed by Evergreen students that participate through the CCBLA. I calculated the total number of student hours, based on the number of students as reported by the CCBLA, and based on the total enrollment figures found in the institutional normalization data that was reported to AASHE.

AF – 18: Community Sustainability Partnerships

On November 7th, 2008 I met with Scott Hollis, Canopy Lab Manager. Scott and I discussed the Green Prisons Program, which is a partnership between the Canopy Lab and the State of Washington Department of Corrections to provide practical experience in sustainability to prison inmates. Scott provided me with a written description of the program for the credit reporting form.

On November 8th, 2008 I met with John Pumilio, Director of Sustainability. John and I discussed the climate change symposium partnership being developed between Evergreen and several local community members. I consulted the Climate Action Series webpage (www.evergreen.edu/sustainability/climateactionseries.htm) for a written description to include on the credit reporting form.

AF – 19: Public Policy Engagement

At our meeting on November 8th, 2008 John Pumilio and I discussed ways in which Evergreen is engaged in public policymaking. After our conversation I reviewed the Evergreen Office of Government Relations webpage (www.evergreen.edu/president/govrelations/home.htm) and reviewed the list of

legislative bills the college has been tracking and engaged in during the past two years. I listed these bills and the information from my discussion with John on the credit reporting form.

AF – 21: Diversity and Equity Officer, AF-23: Diversity and Equity Plan

John Pumilio spoke with Paul Gallegos, the Diversity and Equity Officer and informed him that I would be contacting him regarding the STARS framework. I followed up after John's initial with an email to Paul that included the data needs for AF-21 and AF-23. Paul emailed back the necessary data and I transferred it to the appropriate credit reporting forms.

AF – 22: Diversity and Equity Attitudes Assessment

I reviewed the President's Diversity Fund webpage (www.evergreen.edu/diversity/fund/home.htm), the President's Diversity Disappearing Task Force (DTF) Charge (www.evergreen.edu/diversity/docs/appendices.1.pdf), the Diversity DTF report to the President (www.evergreen.edu/diversity/docs/presidentreport.pdf), and the President's response to the Diversity DTF report (www.evergreen.edu/diversity/docs/Presidentsresponse.pdf). Reviewing these documents allowed me to summarize the programs, procedures, and policies in place at Evergreen related to diversity and equity.

As discussed in the description for credits AF-21 and AF-23 I contacted Paul Gallegos and emailed him the data needs for credit. Paul directed me to the Institutional Research and Assessment (IR) program. I then contacted Laura Coghlan, Director of IR

about the data needs. Laura directed me to the diversity reports on the IR webpage (www.evergreen.edu/institutionalresearch/diversityatevergreen.htm). I found the required data on the above listed site under the Student Experience heading.

AF – 26: Affordability and Access Programs

Using the search function on the Evergreen webpage I typed in "low-income students" and found an archived new release highlighting the KEY and Upward Bound programs (http://www.evergreen.edu/news/archive/2006/03/key.htm). I reviewed the webpage for each of these programs and found program descriptions, description and program results. This information was found on the following pages for the Upward Bound Program:

- Program description and mission, www.evergreen.edu/upwardbound/mission.htm
- Program success, www.evergreen.edu/news/archive/2006/03/key.htm, this information covers the previous 29 years from 2006.

The necessary information for the KEY program was found on the following pages:

- Program description, www.evergreen.edu/key/home.htm
- Program success, www.evergreen.edu/news/archive/2006/03/key.htm. This page does not indicate how many years the data covers.

I then sent inquiries to the Director of Upward Bound, Felix Braffith, and the Director of Key Student Services, Stacy Schwenke inquiring about program success for past three to five years. Stacy responded back with same data found on website. She indicated she could get more detailed information at the end of the fall 2008 quarter. I reported the information I had on the credit reporting form.

Appendix C

Data Tracking Spreadsheets

Table 5. Complete Institutional Normalization Data Tracking Spreadsheet

Basic Information

	Response	Contact
Intitution Name	The Evergreen State College	
Address	2700 Evergreen Parkway NW, Olympia, Washington 98505	
Carnegie Classification		
Control	Public	
Community Type	Urban/Suburban	
Athletic Conference	Cascade Collegiate Conference	
Other Affiliations		
Sustanability Website	www.evergreen.edu/sustainability/	
Contact Information for Primary Contact Person		
Description of property boundaries covered by STARS Submission		

Common Time Frames for Reporting

	Start Date	End Date
12-month Academic Year	September 2007	Aug-08
12-month Fiscal Year	July 1, 2007	30-Jun-08

Population Information

Insitutional Population	2007-08	2006-07	2005-06	Contact	Source of Information
Total Enrollement	4586	4416	4470	http://www.evergreen.edu/institutionalresearch/factpage.htm	Institutional Research, Laura Coghlan
Residential Students	**902**	842	865		Institutional Research, Laura Coghlan
Full-time non-resident students	3050	2919	2951		Institutional Research, Laura Coghlan
Part-time non-resident students	634	655	654		Institutional Research, Laura Coghlan
non-credit students	811	643	325		
Full-time faculty	158	158	158		
Part-time faculty	84	74	63		
Full-time staff	471	455	456		
Part-time staff	46	47	49		

Facilities Infrastructure

	Response	Contact
Year Institution was founded	1967	Paul Smith
Percentage of Buildings with Historical Designation	0.00%	Paul Smith
Percentage of Buildings constructed before 1900	0.00%	Paul Smith
Percentage of Buildings Constructed between 1901-1950	0.00%	Paul Smith
Percentage of Buildings Constructed between 1951-2000	99.00%	Paul Smith
Percentage of Buildings Constructed after 2000	1.00%	Paul Smith
Description of any circumstances related to the age of the buildings that may influence STARS Performance		

Campus Space

	This Reporting Period	One Year Prior	Two Years Prior	Contact
Total Area Included in STARS Boundary (acres)	1,003.00	1,003.00	1,003.00	Paul Smith
Area of Campus Lawn, Outdoor Athletic Fields, and Gardens (Acres)	380.00	380.00	380.00	Paul Smith
Area of Undeveloped Land and/or Natural Area (acres)	548.00	548.00	548.00	Paul Smith
Area of Campus that is Paved or Built (acres)	75.00	75.00	75.00	Paul Smith
Total Campus Conditioned Building Area (gross square feet)	1,145,166.00	1,145,166.00	1,145,166.00	Paul Smith
Teaching and Research Lab Space (gross square feet)	83,789.00	83,789.00	83,789.00	Paul Smith
Medical/Clinical Space (gross square feet)	5,291.00	5,291.00	5,291.00	Paul Smith

Financial Information

	US Dollars	Contact	Notes
Operating Budget	$149,173,000.00	Steve Trotter	FY2007-09
Endowment	$2,658,847	Laura Coghlan	end of FY 2007
Total Research Expenditures	$66,093	Laura Coghlan	FY 2007
Administration-allocated Funding for Sustainability Officer, Office, or Committee	$120,000.00	John Pumilio	
Discretionary Funding for Sustainability Officer, Office or Committee	$3,000.00	John Pumilio	
Student Fees Allocated to Sustainability Officer, Office or Committee	$0.00	John Pumilio	
Sustainability Revolving Loan Fund Value	$0.00	John Pumilio	

Table 6. Example Education and Research Category Tracking Spreadsheet

Credit #	Description	Reporting Time Frame	Contact	Date of Contact	Notes on Status	Deadline	Reviewed	Required Documentation
Co-Curricular Education								
ER Credit-1	Student Sustainability Educators Program	2007-08						Program Name
								Date Program Started
								Brief Description of Program
								Name, title and department of program coordinator or supervisor
								URL for program
ER Credit - 2	Student Sustainability Outreach Campaign	2007-08						Description of Campaigns, names, start and end dates, website URL
								Description of how campaigns have advanced sustainability and results from campaigns
ER Credit-3	Sustainability in New Student Orientation	2007-08						Description of how sustainability is incorporated into new student orientation
								URL where new student orientation outreach materials are posted
Curriculum	**Description**	**Reporting Time Frame**	**Contact**	**Date of Contact**	**Notes on Status**	**Deadline**	**Reviewed**	**Required Documentation**
ER Credit-4	Sustainability Course Identification	2007-08						Website where sustainability courses are listed
								brief description of how the list of sustainability courses is shared with the campus community
								Description of methodology used to identify sustainability courses
ER Credit-5	Sustainability-Focused Academic Courses	2006-07, 2007-08						Total number of sustainability-focused academic courses
		2006-07, 2007-08						Total number for for-credit academic courses held
								URL where course descriptions, and/or course catalog is posted
ER Credit-6	Sustainability-Related Academic Courses	2006-07, 2007-08						Total number of sustainability-related academic courses
								Total number for for-credit academic courses held

Table 7. Example of Operations Category Tracking Spreadsheet

Credit #	Description	Reporting Time Frame	Contact	Date of Contact	Notes on Status	Deadline	Reviewed	Required Documentation
Prerequisite 1	Recycling Program							Description of program & materials collected
								URL for recycling program
Buildings	**Description**	**Reporting Time Frame**	**Contact**	**Date of Contact**	**Notes on Status**	**Deadline**	**Reviewed**	**Required Documentation**
OP Credit 1	New Construction, Renovations & Commercial Interiors	Past 3 years						URL for green building policy
								Date policy was adopted
								Description w/square footage & budget of each new building, renovation & interior improvement that was completed during the last three years.
								Date and level of LEED certification for each applicable project.
								LEED scorecard for certified projects & documentation to demonstrate the achievement of LEED criteria for non-certified projects.
OP Credit 2	Building Operations and Maintenance							A brief description of each building LEED-EB certified, or meets LEED-EB standards.
								Name and primary function of each building
								Square footage of each building
								Data and level of LEED-EB certification if applicable
								LEED-EB scorecard for certified building, and documentation of achievement of criteria for non-certified buildings.
								Description of tools, strategies, policies in place to encourage the adoption and maintenance of LEED-EB criteria
OP Credit 3	Potable Non-Irrigation Water Consumption Trend	2000-01 & 2007-08						Gallons of potable non-irrigation water consumed in 2000-01
								Gallons of potable non-irrigation water consumed 2007-08
								Total square feet of floor area in 2000-01
								Description of policies, practices and programs implemented to reduce potable, non-irrigation water consumption.
OP Credit 4	Green Cleaning Services							Date of Green Seal Certification, if applicable
								Documentation indicating Green Seal criteria are met, if not certified.
								Description of how institution ensures compliance with Green Seal's standards.

Table 8. Example of Administration and Finance Category Tracking Spreadsheet

Credit #	Description	Reporting Time Frame	Contact	Date of Contact	Notes on Status	Deadline	Reviewed	Required Documentation
AF Prerequisite 1	Sustainability Committee							Charter or mission statement of committee or brief description of the committee's purview or activities
								Committee membership, including affiliations
								Committee meeting schedule
Investments	**Description**	**Reporting Time Frame**	**Contact**	**Date of Contact**	**Notes on Status**	**Deadline**	**Reviewed**	**Required Documentation**
AF Credit 1	Investment Transparency							Website URL where investment information is located.
Af Credit 2	Committee on Investor Responsibility							Charter or mission statement of committee or brief description of the committee's purview or activities
								Committee membership, including affiliations
								Committee meeting schedule
								Summary of committee's activities or annual report
								URL of committee's website, if applicable
AF Credit 3	Screening for Negative Investments	Past 3 years						The date of the most recent screening
								Industry or industries excluded from investments
								The divestment efforts in which school participated in the past 3 years
								Copy of letters sent to fund managers encouraging divestment or negative screening
								Value of holdings identified and sold due to screening (optional)
AF Credit 4	Positive Sustainability Investments							The investment pool's total value
								The amount invested in sustainability investment funds, including CDFIs, and the names of the funds
								The amount invested in positively screened mutual funds and names of the funds
AF Credit 5	Shareholder Engagement	Past 3 years						Copy of correspondence with the companies that was sent during the previous 3 academic years
								Copy of the relevant shareholder resolutions that were filed or co-filed during the previous 3 academic years

Table 9. Example of Tier Two Credits Tracking Spreadsheet

Credit #	Description	Contact	Y/N
Curriculum & Research			
Co-Curricular Education	**Description**	**Contact**	**Y/N**
1	Institution has a wilderness or outdoors program that organizes hiking, backpacking, kayaking, and other outings for students and follows Leave No Trace principles		
2	Institution has active student organizations focused on sustainability		
3	Institution has sustainability-theme housing (residential hall, floor, or theme house)		
4	Institution has an on-campus, organic garden where students are able to gain farming and/or gardening experience.		
5	Institution has a formally designated model dorm room that is open to students during regular hours and demonstrates sustainable living principles		
6	Institution produces outreach materials for students about on-campus sustainability efforts, such as electronic newsletters, signage about sustainability features, information kiosks, sustainability websites, and sustainability maps.		
7	Institution has a student-run sustainable enterprise, such as a café, through which students gain sustainable business skills.		
8	Institution has a student publication focused on sustainability		
9	Main student newspaper covers sustainability regularly		
10	Institution holds major events related to sustainability, such as conferences, speaker series, or symposia that have students as the intended audience		
11	Institution has held sustainability-themed quarter or year during the past three academic years.		
Curriculum	**Description**	**Contact**	**Y/N**
1	Institution's common book is sustainability related		
2	Institution's first year experience is sustainability themed		
Operations			
Buildings	**Description**	**Contact**	**Y/N**
1	Institution has systems in place to detect and repair water leaks		
2	Institution has a green building policy		
Dining Services	**Description**	**Contact**	**Y/N**
1	Institution does not use trays in its dining services operations		
2	Institution offers complete-protein vegan and vegetarian dining options for every meal		
3	Institution does not sue trans fats or ingredients that include trans fats in its dining operations		
4	Institution has a sustainable food buying policy		
5	Institution has sustainability policies for franchisees operating on campus		
6	Institution has guidelines for seafood buying		
7	Institution participates in The Real Food Challenge		

Table 10. Evergreen Community Member Contacts Tracking Spreadsheet

Name	Relevant Credits	Method of Contact	Notes	Date of Initial Contact	Date of Follow Up	# of Contacts to Date

Appendix D

Outreach Email

Reply Reply to all Forward Close Help

Attachments can contain viruses that may harm your computer. Attachments may not display correctly.

From: Murphy, Kyle Sent: Sat 9/20/2008 2:52 PM

To: Coghlan, Laura

Cc: Pumilio, John (staff)

Subject: AASHE STARS Pilot Project Informational Needs

Attachments: Annual Normalization Data Needs.doc(32KB)

View As Web Page

Hello Laura

My name is Kyle Murphy and I am currently a 3rd year MES student. I am doing a thesis project on the sustainability indicators framework pilot project being conducted by the Association for the Advancement of Sustainability in Higher Education (AASHE). Part of my project entails me completing this pilot framework for TESC and submitting it to AASHE by the end of this year.

The reason I am contacting you is because the pilot framework requires some general information about TESC and John Pumilio suggested I could get this information from Institutional Research. I was able to find information about faculty and staff employement numbers on the website, but the information they want on student enrollment needs to be broken down by on-campus residential students and full-time and part-time communter students. There are also a few questions about the size of the campus, and the operating budget, endowment and other similar questions.

I have attached a word document that includes all of the general institutional questions that I need to answer. I was hoping that you could help me identify this information for my project.

Thank you

Kyle Murphy
3rd year MES

Appendix E

Follow-up Interview Questions and Response Summary

STARS Follow-Up Questions

1. How much time and effort was required by you in this process.

2. What, if anything, did you learn about your areas of responsibility through this exercise?

3. Aside from the time commitment needed, does an effort such as STARS make your unit's work easier or harder?

4. Would you find it necessary or useful to share credit documentation or results for you area of responsibility with other sectors of the institution? How are you or will you use the information gained through this process?

5. What do you see as a benefit for participation, at the unit level, and above?

6. Is there are time of year when this exercise would be best to implement?

7. Do you think TESC should participate in STARS in the future?

8. Do you have any recommendations on how future efforts should be conducted?

9. Have you already made provisions to ensure the information or process needed for each credit is available in the future?

Table 11. Follow-Up Interview Response Summary

Follow-Up Question	Resource Commitment	Learned about area of responsibility	work (other than increased work load)	lesson with other units seen as useful
STARS Participant				
Purchasing	10 hours by two employees	Confirmed need for additional staffing in Purchasing office. Current Staffing levels don't allow for detailed search of most sustainable products for	Fortunate that Evergreen has lots of policies in place that ensure progress towards sustainability. Main impact on work unit was increased work load.	Yes - Informs senior staff and decision makers
Facilities	7 employees for total of 16 hours	Learned about different methods for determining conditioned building space. Increased knowledge about	Allowed for a different way to look at the same data, but added work load.	Yes - assists Director of Sustainability with furthering sustainability work at Evergreen.
Residential and Dining Services (RAD)	3 employees 85 hours total. 80 hours by one employee.	Improved process for tracking local and organic food purchases. Expanded understanding of the food industry and the complexities around sustainable food purchasing.	Evergreen's working definition for local food purchasing is different than STARS criteria. Next person who tracks local purchasing for STARS will have to be aware of this in the future. ASSHE definition of local resulted in smaller percentage of local food purchases than previously calculated for TESC. This lead to a little tension within the community. New process for tracking local and organic food purchases, developed for STARS made work easier, breaking local and	Yes - process improvement developed through STARS will be used at other locations served by Food services provider. Informs campus community in Evergreens commitment to sustainability.
Business Services	1 employee 1 hour total	Expanded knowledge of Evergreen sustainability work.	Sustainability investing and purchasing can have a positive and negative affect on overall costs. But plenty of opportunities exist for improving economic well being of college while pursuing sustainability.	Yes - informs community about costs sustainable practices.
Registration	1 employee 16 hours total.	Learned about the wide variety of disciplines that include sustainability in courses, and the large number of courses that include sustainability.	This is good information to school to have. Does not create a burden on the registration staff. Raises lots of good questions and its part of our value system at Evergreen.	Yes - helps convey commitment to sustainability to prospective students.
Institutional Research & Reporting (IR)	2 employees 25 hours total	Learned about another need for data being collected by IR. Began thinking about how to improve efficiency of STARS data collection in relation to other data collection needs and	It generates data needs, and questions, which generates more work. STARS could be a way to standardize a lot of the data collection and reporting done by IR and at Evergreen.	Yes - facilitates discussion and learning about sustainability.

Follow-Up Question	Benefit of participation	best time of year to implement	Should TESC Participate	Recommendations for future coordination	Ensure process and data available in future
STARS Participant					
Purchasing	Sharpens knowledge of the benefits and impact of our work. Helps us think about what we should or could be doing differently.	Winter	Yes - questions about how STARS will be standardized across institutions.	Good to have one individual coordinate the process. If left to individual staff in different areas, it would probably get pushed to	Not applicable
Facilities	Important to measure level of sustainability to support verbal and written	Fall	Yes - necessary to track sustainability work.	Should be coordinated through sustainability office, need someone to coordinate	Not applicable
Residential and Dining Services (RAD)	Facilitates discussions around concept of "local food". Resulted in TESC developing a more comprehensive definition of local food. Good tool for communicating goals around campus community. Allows for benchmarking of	Summer	Yes - Third party standardized review of campus sustainability is necessary for advancing sustainability in HE	Standardized monthly reporting could be implemented at TESC. It was good to have a coordinator foster the process along.	Developing a training manual that will have STARS process in it.
Business Services	Keeps people informed of the issues that are important to them.	Anytime but Spring	Yes- good to have standardized reporting to compare Evergreen to other institutions, as well as to itself over time.	Need to take a harder look at investment credits next time and try to get some more credits. Good to have a STARS coordinator,	Not applicable
Registration	Information helps better us as individuals and solidify our commitment to our community. Adds and enriches the value of our institution. Good for	Depends on how data is captured.	Yes- how will STARS be standardized for institutions of similar size. If Evergreen is going to be committed to STARS it must be supported by institution.	Need to capture all curriculum data for STARS not just that reported in EPR. This could be done through the "Cataloger" process.	If sustainability courses are already identified it is easy, just a searchable element in a database.
Institutional Research & Reporting (IR)	Helps reaffirm importance of our work. Puts data behind verbal sustainability commitment.	Spring - not Fall or Winter	Yes - will be interesting to see what AASHE does with all the data they are collecting for this framework.	Include Research credits in the next go around. Possible fellowship to ensure consistent coordination of next process. Conduct a	STARS is now on IR annual reporting calendar.

Appendix F

STARS Recognition Matrix

Table 12. Evergreen to STARS Effectiveness Matrix

TESC Sustainability Component	Relevance Rating	Rationale
Sustainability Vision		
##	Partially Recognizes	The STARS Framework tracks sustainability indicators for curriculum, operations and several aspects of that speak to the quality of life of students, faculty and staff.
2006 Sustainability Report		
Establish a curricular pathway in sustainability	Fully Recognizes	Credits ER-9, ER-10, ER-11 and Tier 2-Curriculum captures Evergreens work to establish a curricular path in sustainability.
Increase opportunities for a practical education in sustainability	Fully Recognizes	Credits ER-9, ER-10, ER-11, ER-13, Er-14 and Tier 2-Curriculum award points for practical education in sustainability.
Initiate a robust plan for the reduced and efficient use of resources	Fully Recognizes	Credits OP-3, OP-8, OP-9, OP-19, OP-13 and OP-14 capture efficiency and sustainable resource use.
Examine and implement best sustainable practices/purchases policies	Fully Recognizes	Credits OP-19, OP-20, OP-21, OP-22, OP-23, OP-24 and Tier 2-Purchasing capture the sustainable purchasing policies and practices at Evergreen.
Increase communication and assemble the history behind Evergreen's sustainability goals, achievements, and indicators	Does not Recognize	Participation in the STARS framework could address this aspect of Evergreen's sustainability work by providing a venue to track the history of sustainabiliy goals, achievements and indicators. But it is not a component of the framework
Strengthen bonds and relationships among all Evergreen's programs	Does not Recognize	Participation in the STARS framework could address this aspect of Evergreen's sustainability work if the implementation is coordinated correctly.
Strengthen bonds & relationships with Evergreen's neighbors & greater community region	Fully Recognizes	Credits AF-14, AF-15, AF-16, AF-17, AF-18, AF-19 and Tier 2 - Community Relations and Partnerships capture this aspect of Evergreen's Sustainability work.
Improve campus spirit and internal wellness and foster healthy relationships	Fully Recognizes	Credits AF-27, AF-28, AF-32 and Tier 2-Human Resources credits all relate in part to campus spirit and internal wellness.
Become carbon neutral by 2020	Fully Recognizes	Credits OP-9, OP-10, OP-11, Tier 2- Energy & Climate all address energy usage, and green house gas emissions and will help Evergreen track progress towards carbon neutrality.

Become a zero waste college by 2020	Fully Recognizes	Credits OP-14, OP-15, OP-16, OP-17, OP-18, Tier 2-Materials, Recycling & Waste Minimization are all directly related to waste minimization and will allow Evergreen to track progress towards zero waste goal.
Increase our locally produced food purchases to 40% by 2010	Fully Recognizes	Credits OP-5, and Tier 2-Dining Services directly track purchase of locally produced food. These credits will help Evergreen track progress towards goal of 40% local food purchases.
Reduce our energy consumption by 30%, on a per full time equivalent basis, by 2010	Fully Recognizes	Credits OP-8, OP-9,and OP-10 all track energy consumption and could assist Evergreen in tracking the progress towards energy reduction goals.
Reduce our paper consumption to 50% by 2010	Fully Recognizes	Credits OP-22, and Tier 2-Materials, Recycling & Waste Minimization don't directly track paper consumption, but they do look for policies and procedures that relate to Evergreen's goal of 50% reduction of paper consumption.
Reduce the number of computers per capita by 15% by 2010	Partially Recognizes	The STARS framework does not track or award points for reduction in number of computers, OP-17, OP-20 and OP Tier 2-Materials, Recycling and Waste Minimization are related to the purchase and recycling of electronic material.
Reduce the number of individual desktop printers by 50% and photocopiers by 10% by 2010	Partially Recognizes	The STARS framework does not track or award points for reduction in number of computers, OP-17, OP-20 and OP Tier 2-Materials, Recycling and Waste Minimization are related to the purchase and recycling of electronic material.
Evergreen Sustainability Practices		
Sustainability Planning and Leadership	***Relevance Rating***	***Rationale***
Talloires Declaration	Fully Recognizes	Credit AF Tier 2 - Sustainability infrastructure awards points for institutions that have signed the Talloires Declaration.
American College and University Presidents Climate Commitment	Partially Recognizes	The STARS framework does not award points based on the Presidents Climate Commitment, but credits OP-11 and OP -28 relate to goals and objectives that are included in the climate commitment.
2007 Strategic Plan Update	Fully Recognizes	Credit AF-06 awards points based on the institutions Strategic Plan including sustainability goals and objectives
Campus Master Plan	Fully Recognizes	Credit AF-07 awards points based on the institutions Campus Master Plan including sustainability goals and objectives.
Evergreen Investment Portfolio	Fully Recognizes	STARS credits AF-1 and AF-4 capture the transparent and sustainable nature of Evergreens investment portfolio.
Academics, Education and Student Activities	***Relevance Rating***	***Rationale***
Integrating Sustainability Across the Curriculum	Fully Recognizes	Credits ER-9, ER-10, ER-11 and Tier 2-Curriculum captures sustainability in the curriculum
Sustainability and Justice Academic Planning Unit	Fully Recognizes	Credit ER-4 recognizes this work and awards points for sustainable course identification.
Environmental Studies	Partially Recognizes	Many but not all of the ES programs met the criteria for Credits ER-4, ER-5, ER-6, and ER-8
Evergreen Ecological Observation Network	Fully Recognizes	The research on carbon sequestration by the Evergreen forest conducted by the EEON was captured by one of the STARS Innovation credits during the pilot project.
Sustainable Agriculture Programs	Fully Recognizes	The Sustainable Agriculture Program was captured by Credits ER-5, Er-6, ER-8 and Tier 2 - Co-Curricular Education

Sustainability related Learning Centers	Fully Recognizes	Two of the learning centers were recognized by various STARS credits. Learning centers included the CCBLA and Washington Center.
Community Outreach	Fully Recognizes	Credits AF-14, AF-15, AF-16, AF-17, AF-18, AF-19 and Tier 2 - Community Relations and Partnerships capture this aspect of Evergreen's Sustainability work.
Clean Energy Initiative	Fully Recognizes	Credits OP-8, OP-9, OP-10, OP-11 and Tier 2 - Energy and Climate are capture the work of the Clean Energy Initiative
Public Transportation	Partially Recognizes	Credits OP-26, and OP-27 capture this aspect of Evergreen's work in sustainability.
Bus Shelter Improvement Project	Partially Recognizes	Aspects of Credit OP-27 relate to the Bush Shelter Improvement Project.
Late-Night Public Transit	Partially Recognizes	Credits OP-26, and OP-27 capture this aspect of Evergreen's work in sustainability.
Flaming Eggplant Café	Fully Recognizes	Credit Tier-2 Co-Curricular Education awards 0.25 points for a student run sustainable enterprise, such as the Flaming Eggplant Café.
CAB Green Building Redesign	Partially Recognizes	Evergreen did not receive points during the pilot project for the CAB Redesign, future versions of STARS would recognize the LEED Gold certification of the CAB once it is complete.
Operations, Facilities and the Built Environment	***Relevance Rating***	***Rationale***
Seminar II LEED Gold Certification	Partially Recognizes	Credit OP-1 awards points based on the LEED certification of buildings on campus. Institutions receive increased points for LEED Gold certification
Longhouse Leed Silver Renovation	Partially Recognizes	Credit OP-1 awards points based on the LEED certification of buildings on campus. LEED Silver certification recieves points, put not maximum points.
Energy Savings Plan	Partially Recognizes	Many of the STARS credits recognize aspects of the Energy Savings Plan.
Chiller Plant	Fully Recognizes	The energy reductions realized by the installation of the Chiller Plant are capture in credit OP-8.
Building Monitoring	Fully Recognizes	Credit Tier-2 Energy and Climate awards points for central monitoring of energy usage.
Electric Vehicles	Fully Recognizes	Credit OP-25 awards points for reductions in fleet greenhouse gas emissions.
Solar Energy Production - Dan Evans Library	Fully Recognizes	Credit OP-9 awards points for on-site renewable energy generation.
Pesticide and Herbicide Free Landscaping	Fully Recognizes	Credits OP-12, and Tier 2-Grounds awards points for Evergreen's commitment to Integrated Pest Management and pesticide and herbicide free landscaping.
Single Stream Recycling	Fully Recognizes	Credits OP-Prerequisite 1, OP-14, and OP-15 awards points for Evergreen's recycling efforts, and waste minimization results.
Irrigation System Monitoring	Partially Recognizes	Credit OP-13 does not award points for reduction in potable irrigation water usage, but it does recognize policies and procedures in place to reduce potable water used for irrigation.
100% Recycled Paper Purchasing	Fully Recognizes	Credits OP-22, and Tier 2-Purchasing award points for sustainable paper purchasing policies and practices.
Green Cleaning Products	Fully Recognizes	Credits OP-4, and OP-21 award points for use and purchase of green cleaning products.

Appendix G

STARS Summary Scoring Sheets

*Yellow Indicate less than full points awarded, red indicates no points awarded.

Table 13. ER Category Summary Scoring Sheet

Category 1: Education & Research (ER)			
Credit Number	**Credit Title**	**Possible Points**	**Estimated Points**
	Co-Curricular Education		
ER Credit 1	Student Sustainability Educators Program	1	1
ER Credit 2	Student Sustainability Outreach Campaign	1	1
ER Credit 3	Sustainability in New Student Orientation	1	1
Tier Two	*Co-Curricular Education Tier Two Credits*	3.75	2
	Total	**6.75**	**5**
	Curriculum		
ER Credit 4	Sustainability Course Identification	1	1
ER Credit 5	Sustainability- Focused Academic Courses	6	6
ER Credit 6	Sustainability - Related Academic Courses	6	6
ER Credit 7	Sustainability Courses By Academic Department	NA	NA
ER Credit 8	Academic Sustainability Courses by Student Credit Hour	6	6
ER Credit 9	Sustainability Learning Outcomes	NA	NA
ER Credit 10	Sustainability-Focused Undergraduate Program	NA	NA
ER Credit 11	Sustainability - Focused Graduate Academic Program	NA	NA
ER Credit 12	Sustainability Immersive Experience	1	0
ER Credit 13	Non - Credit Sustainability Courses	3	3
ER Credit 14	Non - Academic Sustainability - Focused Certificate Program	2	0
ER Credit 15	Sustainability Literacy Assessment	2	0
Tier Two	*Curriculum Tier Two Credits*	0.25	0.00
	Total	**27.25**	**22.00**
	Faculty and Staff Development and Training		
ER Credit 16	Incentives for Developing Sustainability Courses	1	1
ER Credit 17	Staff Professional Development in Sustainability	1	1
ER Credit 18	Sustainability in New Employee Orientation	1	0
ER Credit 19	Employee Sustainability Educators Program	1	0
	Total	**4**	**3**
	Research		
ER Credit 20	Sustainability Research Inventory	NA	NA
ER Credit 21	Faculty Involved in Sustainability Research	NA	NA
ER Credit 22	Departments Involved in Sustainability Research	NA	NA
ER Credit 23	Internal Funding for Sustainability Research	NA	NA
ER Credit 24	External Funding for Sustainability Research	NA	NA
ER Credit 25	Sustainability Research Incentives	NA	NA
ER Credit 26	Interdisciplinary Research in Tenure and Promotion	NA	NA
Total Points		**38.00**	**29.00**

Indicates Less than Full Points

Indicates No Points

Category	Percentage
Co-Curricular Education	74.07%
Curriculum	80.73%
Development & Training	75.0%
Research	Not Applicable
Total	**76.32%**

Table 14. AF Category Summary Scoring Sheet

Category 3: Administration and Finance (AF)			
Prerequisite 1	Sustainability Committee	YES	Y
Investment			
AF Credit 1	Investment Transparency	1	1
AF Credit 2	Committee on Investor Responsibility	1	0
AF Credit 3	Screening for Negative Investments	4	0
AF Credit 4	Positive Sustainability Investments	1	0
AF Credit 5	Shareholder Engagement	1	0
Tier Two	*Investment Tier Two Credits*	0.50	0.25
	Total	**8.50**	**1.25**
Planning			
AF Credit 6	Strategic Plan	1	1
AF Credit 7	Master Plan	1	1
AF Credit 8	Sustainability Plan	1	1
AF Credit 9	Climate Plan	1	1
	Total	**4**	**4**
Sustainability Infrastructure			
AF Credit 10	Sustainability Officer	3	3
AF Credit 11	Sustainability Recognition Program	1	0
AF Credit 12	Inter-Campus Collaboration on Sustainability	1	1
AF Credit 13	Specialized Sustainability Staffing	1	1
Tier Two	*Sustainability Infrastructure Tier Two Credits*	1.25	0.25
	Total	**7.25**	**5.25**
Community Relations and Partnerships			
AF Credit 14	Community Service Staffing	1	1
AF Credit 15	Student Participation in Community Service	3	1
AF Credit 16	Student Hours Contributed to Community Servic	3	1
AF Credit 17	Financial Incentives for Public Service Careers	3	0
AF Credit 18	Community Sustainability Partnerships	1	1
AF Credit 19	Public Policy Engagement	1	1
Tier Two	*Community Relations and Partnerships Tier Two Credits*	2.25	2.00
	Total	**14.25**	**7.00**
Diversity, Access and Affordability			
AF Credit 20	Diversity and Equity Committee	1	1
AF Credit 21	Diversity and Equity Officer	1	1
AF Credit 22	Diversity and Equity Attitudes Assessment	1	1
AF Credit 23	Diversity and Equity Plan	1	1
AF Credit 24	Support for Under-Represented Groups	1	1
AF Credit 25	Support Programs for Future Faculty	NA	NA
AF Credit 26	Affordability and Access Programs	1	1
Tier Two	*Diversity, Access and Affordability Tier Two Credits*	1.50	1.50
	Total	**7.50**	**7.50**
Human Resources			
AF Credit 27	Sustainable Compensation	1	0
AF Credit 28	Faculty and Staff Health Care	3	3
AF Credit 29	Graduate Student Employee Health Care	NA	NA
AF Credit 30	Family Leave	1	1
AF Credit 31	Domestic Partner Benefits	1	1
AF Credit 32	Employee Satisfaction Survey	1	0
Tier Two	*Human Resources Tier Two Credits*	*1.75*	*1.75*
	Total	**9**	**7**
Trademark Licensing			
AF Credit 33	Independent Monitoring of Logo Apparel	1	1
AF Credit 34	Designated Suppliers Program	1	0
	Total	**2**	**1**
Total Points		**52.25**	**32.75**

Indicates Less than Full Points

Inidcates No Points

Category	Percentage
Investment	14.71%
Planning	100.00%
Sustainability Infrastructure	72.41%
Community Relations & Partnerships	49.12%
Diversity, Access & Affordability	100.00%
Human Resources	77.14%
Trademark Licensing	50.00%
Total Points	**62.68%**

Table 15. OP Category Summary Scoring Sheet

Category 2: Operations (OP)			
Credit Number	**Credit Title**	**Possible Points**	**Estimated Points**
Prerequisite 1	Recycling Program	Y/N	Y
	Buildings		
OP Credit 1	New Construction, Renovations, and Commercial Interiors	4	1
OP Credit 2	Building Operations and Maintenance	5	0
OP Credit 3	Potable Non-Irrigation Water Consumption Reduc	3	1
OP Credit 4	Green Cleaning Services	1	1
Tier Two	*Buildings Tier Two Credits*	0.50	0.50
	Total	**13.50**	**3.50**
	Dining Services		
OP Credit 5	Local Food	3	1
OP Credit 6	Food Alliance and Organic Certified Food	3	1
OP Credit 7	Fair Trade Coffee	1	1
Tier Two	*Dining Services Tier Two Credits*	1.75	1.25
	Total	**8.75**	**4.25**
	Energy and Climate		
OP Credit 8	Energy Intensity Trend	3	3
OP Credit 9	Renewable Electricity	5	2
OP Credit 10	On-Site Combustion with Renewable	3	0
OP Credit 11	Green House Gas Emissions Reductions	5	1
Tier Two	Energy and Climate Tier Two Credits	2.75	2
	Total	**18.75**	**8**
	Grounds		
OP Credit 12	Organic Campus	1	1
OP Credit 13	Irrigation Water Consumption	2	0
Tier Two	Grounds Tier Two Credits	2.50	2.25
	Total	**5.50**	**3.25**
	Materials, Recycling, and Waste Minimization		
OP Credit 14	Waste Minimization	1	1
OP Credit 15	Waste Diversion	3	3
OP Credit 16	Construction and Demolition Waste Diversion	1	0
OP Credit 17	Electronic Waste Recycling Program	1	1
OP Credit 18	Hazardous Waste Minimization	1	1
Tier Two	*Materials, Recycling, and Waste Minimization Tier Two Credits*	2.50	2.00
	Total	**9.50**	**8.00**
	Purchasing		
OP Credit 19	ENERGY STAR Purchasing	1	1
OP Credit 20	EPEAT Purchasing	1	1
OP Credit 21	Purchasing Green Cleaning Products	1	1
OP Credit 22	Environmentally Preferable Paper Purchasing	1	1
OP Credit 23	Environmentally Preferable Furniture Purchasing	1	0
OP Credit 24	Vendor Code of Conduct	1	0
Tier Two	*Purchasing Tier Two Credits*	0.75	0.75
	Total	**6.75**	**4.75**
	Transportation		
OP Credit 25	Fleet Greenhouse Gas Emissions	2	0
OP Credit 26	Commute Modal Split	3	1
OP Credit 27	Commuter Options	1	1
OP Credit 28	Air Travel	1	1
Tier Two	*Transportation Tier Two Credits*	1	0.25
	Total	**8**	**3.25**
	Total Points	**70.75**	**35.00**

Category	Percentage
Buildings	25.93%
Dining Services	48.57%
Energy & Climate	42.67%
Grounds	59.09%
Materials, Recycling, & Waste Minimization	84.21%
Purchasing	70.37%
Transportation	40.63%
Total	**49.47%**

Indicates Less than Full Points

Indicates No Points

Appendix H

STARS PDF Reporting Form

Please use Adobe Reader (version 7 or higher) to complete and submit this form in a paperless fashion. Other PDF Readers may not work properly. Adobe Reader is **free**.

STARS Reporting Form

OP Credit 8: Reduction in Energy Intensity

Criteria

Institution has achieved a three-year downward trend in energy intensity, normalized for heating or cooling degree days. For this credit, energy intensity is calculated by dividing total energy consumption (electricity plus temperature control) by the amount of conditioned floor space.

- 1 pt: Institution reduced energy intensity up to two percent.
- 2 pts: Institution reduced energy intensity by more than two percent.
- 3 pts: Institution reduced energy intensity by more than four percent.

Guidance

This credit recognizes institutions that have reduced their energy usage per gross square foot of conditioned floor space. The credit is measured as a trend to allow for tracking improvements over time without penalizing institutions in particular climates or with significant energy-intensive activities, such as laboratories. Energy consumption is normalized by conditioned floor space in order to enable fairer comparisons and avoid penalizing institutions for growth in their physical plants.

Documentation

	Total Electricity Consumed (kWh)	**Non-electric Building Energy Consumption** (BTU)	**Heating and Cooling Degree Days**	**Conditioned Floor Space** (gross square feet)
This reporting period				
One year prior				
Two years prior				

Notes about the information submitted above. Please include information about timeframe and boundary differences (i.e., if a boundary or timeframe other than those specified in the introductory section was used), incomplete or estimated data, and anything else that may help AASHE understand the submission for this credit.

Feedback on this Credit

If you did not attempt this credit, please select a reason.

If other, please specify.

How difficult was it to obtain the data necessary to complete the submission for this credit?

Which of the following would you recommend?

If in the previous question you recommended changing this credit, how would you recommend changing it? If you indicated that the credit should be eliminated, please explain why.

Please describe any circumstances unique to your institution that may have affected your ability to obtain this credit.

Appendix I

STARS Pilot Project Participating Institutions

Institutions are listed below according to their basic Carnegie Classification and student population.

Associate's Colleges

Large (more than 12,500 students)
Cedar Valley College – Lancaster, Texas
De Anza Community College – Cupertino, California
Eastfield College – Mesquite, Texas
Grand Rapids Community College – Grand Rapids, Michigan
Monroe Community College – Rochester, New York
Mountain View College – Dallas, Texas
North Lake College – Irving, Texas
Richland College – Dallas, Texas
Santa Barbara City College – Santa Barbara, California
Santa Fe Community College – Gainesville, Florida

Medium (3,000 to 12,500 students)

Delta College – University Center, Michigan
Northwest State Community College – Archbold, Ohio

Districts

Dallas County Community College District – Dallas, Texas
Eastern Iowa Community College District – Davenport, Iowa

Baccalaureate Colleges

Small (fewer than 3,000 students)

College of St. Benedict – St. Joseph, Minnesota
Dickinson College – Carlisle, Pennsylvania
Gustavus Adolphus College – St. Peter, Minnesota
Middlebury College – Middlebury, Vermont
Mount Union College – Alliance, Ohio
Northland College – Ashland, Wisconsin
Randolph College – Lynchburg, Virginia
St. John's University – Collegeville, Minnesota

University of Minnesota, Morris – Morris, Minnesota
Williams College – Williamstown, Massachusetts

Canadian Institutions

Large (more than 12,500 students)
Concordia University – Montreal, Quebec
McGill University – Montreal, Quebec
University of British Columbia – Vancouver, British Columbia

Medium (3,000 to 12,000 students)

Acadia University - Wolfville, Nova Scotia

Doctorate-granting Universities

Large (more than 12,500 students)

Arizona State University – Tempe, Arizona
Ball State University – Muncie, Indiana
Colorado State University – Fort Collins, Colorado
Illinois State University – Normal, Illinois
Iowa State University – Ames, Iowa
New York University –New York, New York
Portland State University – Portland, Oregon
Rutgers, The State University of New Jersey – New Brunswick, New Jersey
Syracuse University – Syracuse, New York
University of California, San Diego – San Diego, California
University of California, Santa Barbara – Santa Barbara, California
University of Central Florida – Orlando, Florida
University of Colorado at Boulder – Boulder, Colorado
University of Florida – Gainesville, Florida
University of Illinois at Chicago – Chicago, Illinois
University of Kansas – Lawrence, Kansas
University of New Hampshire – Durham, New Hampshire
University of Texas at Austin – Austin, Texas
Worcester Polytechnic Institute – Worcester, Massachusetts

Medium (3,000 to 12,000 students)
Case Western Reserve University – Cleveland, Ohio
Emory University – Atlanta, Georgia

Small (fewer than 3,000 students)

State University of New York, College of Environmental Science & Forestry – Syracuse, NY

Master's Colleges and Universities

Large (more than 12,500 students)

Appalachian State University – Boone, North Carolina
Boise State University – Boise, Idaho
California State University, Chico – Chico, California
California State University, Sacramento – Sacramento, California
Eastern Kentucky University – Richmond, Kentucky
Grand Valley State University – Allendale, Michigan
University of Nebraska at Omaha – Omaha, Nebraska

Medium (3,000 to 12,000 students)

Florida Gulf Coast University – Fort Meyers, Florida
Pacific Lutheran University – Tacoma, Washington
Santa Clara University – Santa Clara, California
Seattle Pacific University – Seattle, Washington
The Evergreen State College – Olympia, Washington
University of Colorado at Colorado Springs – Colorado Springs, Colorado
University of Wisconsin - River Falls – River Falls, Wisconsin

Small (fewer than 3,000 students)
Monterey Institute of International Studies – Monterey, California

Special Focus Institutions

Small (fewer than 3,000 students)

Rose-Hulman Institute of Technology – Terre Haute, Indiana