

A Study of the Implementation of the Sustainability
Tracking, Assessment, and Rating System

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Abstract

The Sustainability Tracking, Assessment, and Rating System (STARS) is rapidly becoming the leading sustainability reporting tool for higher education. This research presents an analysis of STARS' strengths, weaknesses, and opportunities for improvement based on a survey of STARS users. The 39 institutions that had submitted a completed STARS report as of March 2nd, 2011 were surveyed using a Likert scale, quantifying experiences with STARS grouped into three thematic categories: STARS as a Sustainability Claim, The Emphasis of STARS, and Conducting a STARS Report. Results of the survey revealed a widespread desire for an improved common baseline to reward early adopters of sustainability initiatives, an opportunity to better involve certain stakeholder demographics, and suggestions for improved credit categories. The paper presents its recommendations in the context of advancing sustainability across higher education in order to help STARS better achieve its goals and gain increased market uptake among institutions worldwide.

Keywords: Sustainability, Development, Higher Education, Self-Reporting, Framework, STARS

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List of Acronyms

AASHE – Association for the Advancement of Sustainability in Higher Education

ACUPCC – American College and University Presidents’ Climate Commitment

BREEAM – Building Research Establishment Environmental Assessment Method

ER – Education and Research

GBCI – Green Building Certification Institute

GHG – Greenhouse Gas

ISSP – International Society of Sustainability Professionals

LEED – Leadership in Energy and Environmental Design

OP - Operations

PAE – Planning, Administration, and Engagement

SEI – Sustainable Endowments Institute

SHEAF – Sustainability in Higher Education Assessment Framework

STARS – Sustainability Tracking, Assessment, and Rating System

UNWCED – United Nations World Commission on Environment and Development

USGBC – U.S. Green Building Council

Introduction

Higher Education plays many critical roles in contemporary society. The sector provides economic mobility for those seeking degrees, produces groundbreaking research in every imaginable field, and acts as a social innovator, often incubating movements and trends long before they become mainstream. It is this last role that this paper will explore as it seeks to determine the effectiveness of the Sustainability Tracking, Assessment, and Rating System (STARS).

Higher Education, as a market sector, holds a unique position in contemporary society in that its principles of intellectual freedom have fostered some of the greatest social movements and economic reforms in history. Graduates of higher education institutions bring the particular philosophies of their respective alma maters with them into whatever industry they enter, allowing higher education to indirectly affect practices and outlooks in every other industry. For this reason, it is critical that higher education holistically integrate sustainability into its operations, policies, and practices.

Sustainability, as a term, has been popularly defined since the United Nations World Commission on Environment and Development as development “that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987). Using this definition allows this paper to remain consistent with existing research, where sustainability is approached through three overlapping dimensions: environmental, social, and economic (Kagawa, 2007; Rusinko, 2009). This “triple bottom line”, as it is often referred to, is the driving philosophy behind STARS, a framework that integrates sustainability in all aspects of higher education.

Over the past decade, the concept of sustainability in the higher education environment has rapidly evolved from disparate theory into highly developed matrices and frameworks for integration into every sector of the industry. This has been driven by the success of certification systems for other sectors, most notably the Leadership in Energy and Environmental Design (LEED) standards set by the United States Green Building Council. In the words of Cameron Sinclair, CEO of Architecture for Humanity, “LEED made sustainability professional” (USGBC, 2011).

This statement is true on many levels, as sustainability has evolved into a full-fledged profession as well. The role of the sustainability professional, in higher education as well as other industries, is just beginning to be truly defined. These professionals are at the forefront of implementing frameworks such as STARS. Over the past decade systems for rating, ranking, and evaluating higher education institutions have propagated, competing to become the defining metric in assessing and promoting value in and public perception of institutions’ sustainability efforts. These systems vary widely in comprehensiveness, methodology, and quality, and this paper posits that STARS is positioned to overtake the competition and become the premier higher education sustainability framework.

The primary factor that give STARS a comparative advantage is that it is comprehensive. STARS is designed to work for both two and four-year institutions across the United States and Canada, and awards credits for integrating sustainability into all aspects of an institution. Other factors that differentiate it include its development by the higher education industry, its avoidance of formal rankings, and its voluntary nature.

While these factors are likely to contribute to a high level of market uptake, they are not without their problems. STARS is a new system, and pilot institutions are just beginning to submit their initial reports. In development since 2006, version 1.0 of STARS was released in 2009, and the first report was not submitted until late 2010. The first substantive update to STARS, version 1.1, was released in February 2011, although no institutions have yet submitted a report under this version. STARS 2.0 is in development, but will not be released any sooner than summer 2012.

This research seeks to evaluate the strengths, weaknesses, and opportunities for improvement of STARS 1.0 from the on-the-ground professionals responsible for its implementation. Individuals from the 39 institutions that had received an official STARS rating as of March 2nd, 2011 were surveyed on three thematic areas of STARS implementation. The results of this survey are used to generate a set of recommendations for future versions of STARS to improve its effectiveness as a tool “for higher education, by higher education” (STARS Overview, 2010).

The implications of STARS’ potential rise in prevalence are explored, both for the immediate higher education and broader development communities. STARS greatest strengths – enabling meaningful comparisons of sustainability practices over time, creation of incentives to integrate sustainability concepts into all facets of an operation, and facilitating information sharing among institutions (STARS Overview, 2010) – have the potential to be carried over into other industries and sectors of society. STARS’ comprehensiveness and inclusivity make it a better candidate for sparking widespread change than its predecessors and competitors, although improvements will have to be made for its full potential to be reached.

Chapter 1: The Necessity of STARS in the Higher Education Landscape & Impact on Sustainable Development

Higher education is an important social and economic force in society. We rely upon it to produce groundbreaking research in engineering and medicine, train political, nonprofit, and business leaders, and foment social movements and innovations. It is the perfect breeding ground for the sustainability movement.

First, the definition of sustainability in the context of this paper must be defined. Consistent with the vast body of literature already dealing with the subject, sustainability is defined as it was in the Brundtland Report from the United Nations World Commission on Environment and Development (UNWCED). The Commission writes, “Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987). This capacity to endure is viewed through three overlapping dimensions – economic, social, and environmental (Kagawa, 2007; Rusinko, 2009). In business terms, this can be referred to as a “triple bottom line.”

It is important to note that the modern view of sustainability goes far past the “green” movement, which focuses primarily on the environmental dimension, but also incorporates economic and financial concerns and social equity. Wals and Jickling (2002) postulate that embracing sustainability as more than an environmental ethos leads to a “false pretense of a shared understanding, set of values, and common vision of the future.” They make the comparison to Orwellian “doublethink”, where contradictory terms are accepted as meanings for single words. Sustainability in this sense is not contradictory, however. The three

dimensions are not mutually exclusive, and in a sustainable system, advances in one should result in advances in the other. Wals and Jickling are correct in identifying that sustainability involves addressing interdisciplinary questions, but there are no prescribed answers. To help find those answers, we need a common system in which to collect data that can be applied to solving the ethical problems faced by resource consumption or social and economic stratification.

This is where STARS comes in, helping to engage the higher education sector in what Wals and Jickling correctly identify as “one of the greatest challenges of our time.” For those unfamiliar, STARS’ goal is to set create a common set of sustainability criteria among higher education institutions of all types that is transparent, voluntary, and encourages stakeholder buy-in. According to the Association for the Advancement of Sustainability in Higher Education (AASHE), the organization that created and manages STARS, this will enable meaningful comparisons over time, information sharing between institutions, and “empower higher education to lead the sustainability transformation” (STARS Overview, 2010). Credits are earned in three major categories, including Operations (OP), Education & Research (ER), and Planning, Administration, and Engagement (PAE), encompassing all aspects of an institution. Within these categories are 139 environmental, economic, and social indicators (as of STARS version 1.1, released February 2011) that address all three dimensions of sustainability.

Going back to the Brundtland definition, it is made apparent that sustainability is a multi-generational issue. The higher education environment is a microcosm of this. As students, faculty, and staff enter and leave the university or college environment, they are directly affected by the work of their predecessors. STARS is built to encourage this thinking at every

level of an institution's operations, and transcends most traditional administrative or institutional boundaries. In this way, higher education serves as an ideal laboratory for the implementation of sustainability initiatives. Merkel and Litten (2007) posit that the sheer size of the higher education industry will also contribute significantly to overall impact on society.

Polk and Knutsson (2008) view transdisciplinary research as the best method through which to change a society "not planned for the complexity and preconditions and effects that sustainability entails." To tackle "individual consumption patterns, prevailing economic worldviews, and short-term focus on political processes", non-academics must become involved in knowledge creation. Science alone cannot solve these problems. This is evidenced by the current bipartisan political entanglement issues like global climate change are trapped in, despite a consensus in the scientific community. Wider discourse must be encouraged that focuses on "new types of knowledge production" (Polk and Knutsson, 2008). Not only should traditional academic boundaries be breached, but so should the walls between academics and non-academics within institutions. STARS does this beautifully, requiring that data be accumulated not just from academics, but from facilities staff, administrators, and students. Sustainability professionals serve as the glue between these often disparate arms of the institution, with STARS the tool they use to breach them. Only with the participation of all these stakeholder groups can all three dimensions of sustainability be addressed.

The purpose of the higher education institution is to create turnover in certain demographics. The goal is to enroll students, have them graduate within a generally fixed period, and recruit new students to take their place. Just as important, then, is what these individuals take away from the higher education environment and how they translate it to the

world at large. This was one critical focus of the 2008 World Bank Conference on Regional Development Economics, where, in a study by Lundvall (2008), he pointed out that graduates of higher education institutions serve as “*innovators* and as *equilibrators*.” By this he means that university graduates are found to be better at both creating and adapting to change than non-graduates. Further, Lundvall finds that higher education institutions need to be able to support “continuous and life-long learning for academics.” This includes continuing education and masters or doctoral-level programs. STARS, in supporting both undergraduate and postgraduate-level educational initiatives, helps to ensure that sustainability-competent graduates are produced and able to return to renew their competencies.

For these graduates to be effective sustainability practitioners, however, they require a solid education. According to a 2008 special issue of *Environmental Education Research* dedicated to sustainability under the accepted working definition used by this paper, there was at the time, “little space in the field” filled by, “empirical inquiry to monitor sustainability in higher education innovations, evaluate initiatives, and/or to support claims of success” (Beringer et al, 2008). This is exactly the space filled by STARS, serving as an evaluator and method to report claims of success within a framework consistent across the industry. What it is not, currently, is a monitor, leaving institutions responsible for their own claims. Some see this as a strength, while others view it as a weakness; this debate will be covered later in Chapter 4 of this paper.

Ultimately, sustainability will have to be a goal of everyone, whether or not they subscribe to any particular philosophy about it or even acknowledge it as something meaningful. In the end, it is about a capacity to endure as humanity comes up against environmental, social, and

economic limits. As is stated in the UNWCED Brundtland Report (1987), these limits are not absolute. In order to overcome the “present state of technology and social organization on environmental resources”, higher education will have to produce leaders capable of an innovative, transdisciplinary approach. Integrating STARS across higher education will help to produce these leaders, serving as a model of sustainability in all facets of daily life for an entire industry.

Methodology

The schools targeted for this study include the 39 institutions that had submitted a STARS report and received a rating of Reporter, Bronze, Silver, Gold, or Platinum by March 2nd, 2011 (Table 1). These schools were chosen so that respondents would have experience with the entire STARS process, including initial registration, data collection, the submittal process, and the receipt of a rating. Despite this restriction, this list of schools was still nationally representative (including two institutions from Canada), with exactly 1/3 of the institutions being private and 2/3 public (Table 1).

As not every STARS credit is applicable to every type of institution, and many opt out of certain credits that do not pertain to their educational mission, organizational structure, size, or student population, institutions were further categorized by their Carnegie Foundation for the Advancement of Teaching Classification. According to the Carnegie Foundation, “The Carnegie Classification has been the leading framework for recognizing and describing institutional diversity” and, “has been widely used in the study of higher education...in the design of research studies to ensure adequate representation of sampled institutions, students, or faculty” (Carnegie Foundation, 2010).

Of the target institutions, the most (39%) were categorized as Research/Very High Research Activity. However, institutions categorized as Associate's, Master's, and Baccalaureate were well represented with between 13 and 15% of the target institutions respectively. Some more specific classifications, such as Doctoral/Research and Special Focus: Business, had fewer representatives but were still present.

One problem with the Carnegie Classification system for this set of institutions was that it only contains data on institutions in the United States. As no classification system for Canadian institutions with the same research prevalence as the Carnegie Classification could be identified, the two Canadian institutions were categorized as "N/A (Canadian)". As of the time of this study, AASHE has not yet chosen a categorization system for Canadian institutions, although it has been informally indicated that both the Globe Campus and Maclean's systems are under consideration (Buckholz, 2011). The small number of targeted Canadian institutions prevents this from having a detrimental effect on the quality of the data in this study.

A database of these 39 schools was created which included the following information: school name, Carnegie Classification, location, STARS Rating, and phone and e-mail contact information for between one and five sustainability-related staff, faculty, or students who were listed as a responsible party for at least one credit category in their institution's STARS report. This information, with the exception of Carnegie classifications, was taken either from the publically-available STARS reports located on the AASHE website for institutions who have received a rating, or school's individual websites. Sustainability-related staff were primarily sustainability or facilities coordinators/directors (or the equivalent title), whenever possible.

A 10-question online survey was prepared using the SurveyMonkey tool, and distributed to the contacts from each institution via e-mail on March 9th, 2011. An option to complete the survey by phone was offered, but all surveys were completed on the internet. The questions in the survey were divided into three thematic categories: STARS as a Sustainability Claim, The Emphasis of STARS, and Conducting a STARS Report. The questions asked in each category are listed in Tables 2-4, and a breakdown and analysis of the findings is located in Chapter 4.

Questions one through eight used a Likert scale to quantify reaction to a statement about STARS on a scale of 1 (strongly disagree) to 5 (strongly agree). Question nine used a larger rating scale to quantify the impact of ten different stakeholder demographics. Each answer was weighted on a scale of 0 (no impact) to 5 (very high impact), with the mean providing an indication of the given stakeholder's perceived impact across all survey takers. Question ten was completely open-ended with answers left in comment form. All questions had an "additional comments" option as well that was frequently utilized for additional feedback and considered in the findings section in Chapter 4.

For those targeted schools that had not completed a survey after a full week, a second e-mail was sent, and phone calls were made to select institutions after an additional week. The survey was also posted on the public AASHE Discussion Forums, and sent over the Green Schools Listserv operated by Brown University. Due to these more public postings, six institutions not originally targeted completed the survey as well. All six institutions are members of AASHE and STARS participants currently in the process of data collection. Their initiative in completing the survey serves as a proxy of sufficient progress in data collection that their results were included in the final tally.

The survey was kept live for one month. As of April 8th, 37 complete responses were received. Partial responses were discarded. Of the 39 institutions originally targeted, responses were received from 23 (multiple responses were received from eight institutions), as well as six institutions not originally targeted. Breakdowns of quantitative answers to each question, with the exception of Question 10 which was open-ended, can be found in Figures 3-11.

Chapter 2: Integrating Sustainability in Higher Education: Review of Relevant Literature

Introduction

The purpose of this research is to determine strengths, weaknesses, and opportunities for improvement of the Sustainability Tracking, Assessment, and Rating System (STARS) based on its initial implementation on college and university campuses across the United States and Canada. A primary component of this study is a survey to gain feedback directly from higher education sustainability professionals. However, without a solid grounding in existing scholarship, this feedback does not have the necessary context to be truly useful.

This literature review covers three primary categories of scholarship: technical documents that form or complement the framework of STARS or engage directly with STARS as a subject of inquiry, literature that deals with challenges of implementing sustainability in higher education, and finally, using literature as a way of tracking the growth of sustainability in higher education. As STARS as a framework is still in its infancy, there is a dearth of scholarship that studies it directly, although comparable studies of more developed systems such as LEED are abundant.

In this review, each of these categories will be further broken down and analyzed. The characteristics, implications, and validity of literature that represents areas applicable to this research will be contextualized. Then, with this context, the original data can be made useful within an eye to application of theory.

Literature Review Part 1: Technical Documents/Literature Directly Engaging STARS

The most obvious, yet most important text to this research is the STARS technical manual itself. Having undergone its first incremental upgrade from version 1.0 to version 1.1 in February 2011, the *Stars Technical Manual* lays out the methodology of the entire framework. An important clarification to make early on is that the STARS manual is structured to be a fully functional rating system, and not a method to rank colleges and universities against each other. It is important to clarify this distinction between a “rating system” and a “ranking system”, as this characteristic sets STARS apart.

Each section provides standards and formulas through which institutions are able to set common baselines, giving STARS its value as a comparative tool. However, credits vary widely and institutions can opt out of categories that are not applicable to them, rendering the framework of little use as a way to rank order institutions as a whole, although this is never a stated intent.

The way that the STARS technical manual organizes its credits also is indicative of its goal to be comprehensive. Credits are organized into three broad sections: Education and Research, Operations, and Planning, Administration, and Engagement, which are then broken down into 67 individual credits. An additional four credits can be earned for Innovation, allowing a small level of customization.

Many independent groups have released supplementary guides to the STARS Technical Manual, which go through approval by the Association for the Advancement of Sustainability in Higher Education (AASHE), which manages STARS. These include the Sustainable Investment Guide published by the Responsible Endowments Coalition in partnership with AASHE. STARS awards points to institutions that invest their endowments in socially and environmentally

responsible business practices, companies, and funds (STARS Technical Manual, Investment section). This was published in order to better guide institutions on how to make these investments and how to make them transparent, a major focus of STARS.

Also of great relevance to this research is a study defining what knowledge sustainability professionals should have to conduct their jobs. This is important to this project for many reasons. First, most professional sustainability positions are relatively new and the skill set for the profession is still being actively defined. More importantly, sustainability professionals are a primary source of data for this project, and awareness of what they are expected to know speaks volumes as to how useful STARS will be to them.

This report, *The Sustainability Professional: 2010 Competency Survey Report*, conducted by the International Society of Sustainability Professionals (ISSP), approaches the question of “what should sustainability professionals know how to do?” It involved a survey of over 400 individuals that was based on researched assumptions of starter skill sets. The report found that the most important issues facing sustainability professionals were “promoting an understanding of the value of sustainability”, and “dealing with climate change and related energy needs” (Willard 2010). At the moment, the first concern was cited as more challenging than the latter, but over the next five years that is projected to reverse as people become increasingly aware of the concept and more hard challenges arise. Additional challenges include building support and financing sustainability. This data is supported by a review of similar studies by the Environmental Defense Fund, International Institute for Sustainable Development, and others (Willard 2010).

Many of the professionals surveyed in this report were in business, where awareness of the value of sustainability may be lower than in higher education. Therefore that issue may be suppressed slightly in a college or university setting, while finding financing may be more difficult due to the primarily nonprofit nature of the sector. Regardless, these challenges provide a baseline to which this data can be compared to reports from professionals solely in the higher education industry, as thematic area one of the survey questions deals with this. Ideally, as the profession grows and evolves, future versions of ISSP's report can break down data by sector.

Literature Review Part 2: Challenges for Sustainability Implementation

A piece of literature of great value to this research is a 2009 doctoral dissertation written by Dominique-Claude Laroche of Arizona State University. Laroche (2009) tracked the "development and use of sustainability indicators in campus planning and management." This is the closest material found to this study, as it also deals with nascent frameworks such as STARS and conducted a survey of higher education professionals. The challenges facing measurement of sustainability initiatives and progress were tracked and defined, utilizing both a survey and case studies of California State University-Chico, the University of Florida, and Arizona State University. All three institutions are participating in STARS, with the University of Florida already receiving a rating of STARS Silver, and are founding signatories of the American College and University Presidents' Climate Commitment (ACUPCC).

The results of Laroche's survey, which dealt with sustainability more broadly (not defined by a single framework), showed that while many institutions are engaging in sustainable activities, these are inconsistent among institutions. This is one of the issues that

STARS is intended to resolve by providing a common set of criteria that still allow for levels of innovation. Laroche found that strategies including strategic planning, communication, hiring of sustainability professionals, and feedback mechanisms all increase the chance for the “full integration of sustainability principles in campus planning” (Laroche 2009). These are all challenges to implementation that STARS seeks to enhance, correct, or provide.

It is also important to define what sustainability indicators are. According to Laroche, “indicators provide a way for interested parties to have information in improving standards through changes in their processes or procedures” (Laroche 2009). Therefore STARS acts as an indicator, rather than a provider of indicators. Other important findings by Laroche include town/gown relationships being an integral part of sustainability efforts, and that operational units are often quicker to adopt sustainability than academic units, likely due to the financial benefits.

Another challenge is developing additional indicators for sustainability in higher education. Cohen (2007) writes that three things are required to develop meaningful indicators: systems thinkers, an academic and practical grounding, and ethical motivation. Higher education institutions will have to train individuals who can think in terms of a system – how every piece of a system can have an effect on every other piece. The second requirement somewhat mirrors Polk and Knutsson’s (2008) requirement for transdisciplinarity, in that a grounding in academic disciplines must be coupled with practicality to ensure that theory and application work in harmony. Finally, training graduates to not just be practical, but ethical – what Wals and Jickling (2002) claimed was disparate and confusing to the mission of sustainability – must be integrated into the three dimensions of sustainability.

Wilk (2010) finds that challenges such as overconsumption of resources are so embedded into our culture and language that it's difficult to craft practical messages for educational purposes. The gulf between popular knowledge and the "formal models used in professional analysis" (Wilk 2010) will have to be bridged, and university graduates with Cohen's prescribed academic, practical, and ethical grounding will provide a new generation of effective communicators that can accomplish this. When universities are able to produce graduates able to understand and communicate these things, developing more advanced indicators of sustainability, such as STARS, will cease to be as much of a challenge.

Also challenging are some of the views of students in higher education. Kagawa (2007) conducted an online survey of University of Plymouth students to determine their "perceptions and understandings of, and attitudes towards, sustainable development and related concepts and issues." Kagawa found that a majority of students think of sustainability (under the same Brundtland definition as used by this paper) as a positive. This positive response did not necessarily correlate with their familiarity of sustainability concepts, including development.

However, students did strongly correlate environmental sustainability as working against, not with, the social and economic aspects of sustainability. Students were most likely to integrate sustainability into their daily lives by doing what Kagawa terms "light green" actions, such as "changing purchasing habits, recycling, and saving energy and/or water" (Kagawa 2007). Finally, he found that although sustainability was generally seen as positive, there was skepticism toward society's ability to overcome sustainability-related challenges. This was an important study, as it highlights what frameworks such as STARS must overcome. For example, the definition of sustainability must be refined so that students do not view its three

dimensions as conflicting, and a sense of optimism needs to be instilled so that actions greater than “light green” become more commonplace in lifestyle choices.

Literature Review Part 3: Literature as a Method of Tracking Sustainability’s Growth in Higher Education

In recent years sustainability in higher education has become an increasingly explored area of academic inquiry. This includes sustainability, defined broadly, as a topic of study, method of governance, and extracurricular pedagogical tool. This is evidenced by the recent creation of peer-reviewed journals including the *International Journal of Sustainability in Higher Education* and *Sustainability: The Journal of Record*, the latter of which is marketed to the higher education market and often features relevant thematic issues.

Many notable pieces of literature on the subject can be found in these particular journals, and the questions posed by researchers in these journals can be used to track the development and growth of sustainability in higher education over the past decade. Wals and Jickling’s 2002 paper on doublethink and newspeak referred to the “murky term” of sustainability, revealing just how nascent the concept was only nine years ago. This is contrasted against a paper by Cathy Rusinko, published in the *International Journal of Sustainability in Higher Education* in 2010. Rusinko proposes a complete matrix for applying sustainability to higher education management. This shows how rapidly the idea of sustainability in higher education has really taken hold and evolved in just the past decade: in a span of eight years researchers advanced from wondering whether sustainability can challenge prescriptive knowledge to proposing an idea not too far removed in sophistication from STARS itself.

Rusinko's (2010) matrix features four potential scenarios for implementing sustainability into the academic portion of higher education. Rusinko's suggestions, including integrating sustainability education into common core requirements and creating new sustainability-focused academic programs, are all methods that can be used to achieve credits within the Education and Research category of STARS. Rusinko's study is written from a management approach and places emphasis on combining theory with practice.

Chapter 3: History and Purpose of Higher Education Sustainability Rating Systems

Formal sustainability rating and certification systems first began to take shape about two decades ago, coinciding with major events in the global environmental and sustainable development movements such as the 1992 United Nations Earth Summit in Rio de Janeiro and the development of Agenda 21. The systems most similar to STARS, in that unlike Agenda 21, they focused on sustainability as multi-dimensional as opposed to purely environmental, focused on buildings.

The UK's Building Research Establishment Environmental Assessment Method (BREEAM) was the first major system for certifying buildings as environmentally sustainable, although it was not well-adopted in North America. That problem was solved with the 1998 introduction of the US Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) standards for buildings. Over the past 13 years, LEED has grown into one of the most prestigious and well-known rating systems for sustainability in the United States. It is similar to STARS in that it functions as a two-tiered credit checklist, and in its 2009 update, branched into multiple versions covering new construction, existing buildings, neighborhood development, and others. LEED is dissimilar to STARS, however, in that it focuses solely on buildings, and often fails to recognize them as a sense of place to their occupants. It requires extensive external auditing for certification to be achieved, and to manage this separate organization, the Green Building Certification Institute (GBCI) was formed in 2009.

Buildings, although very single-faceted in comparison to STARS, are a fine place to begin to implement sustainability. Building construction and use is a major contributor to energy

consumption, waste production, and resource use. In higher education alone, educational facilities spend an estimated \$7.1 billion on energy costs annually (Kennedy 2001). The Department of Energy estimates that higher education institutions could potentially reduce their energy bills by 25% through more sustainably-designed buildings, improved maintenance, renewable energy, and technological upgrades (Kennedy 2001). However in an industry like education, buildings are only a single factor, although STARS does draw upon LEED as a way to certify buildings.

Although it is well-regarded today, LEED faced much criticism in its early years, particularly in that it was accused of encouraging green washing, or the false impression of sustainability, in buildings purely as a selling point. In response, LEED implemented external audits of its data to verify accuracy. This proved to be problematic as well, as initially finding an approved commissioning authority added a high level of challenge to constructing a LEED building (Dispenza 2011). This was amplified in areas where green buildings were far from mainstream. Splitting the GBCI from USGBC helped to resolve this issue, although it added entirely new levels of administrative overhead. Developing enough administrative capacity to meet demand is now a challenge for LEED (Dispenza 2011), and one that STARS might one day be lucky enough to have.

A 2000 study by Todd found that a major differentiating factor of LEED from its competition was that it required *all* prerequisites and credits to be documented in order to receive points, and that ultimately, this approach is more effective in “encouraging and assisting a team to design and build a green or higher performance building” (Todd 2000). STARS functions

similarly, although it does provide the option of opting-out of credits not applicable to certain institutional types.

In 2010, USGBC began an initiative to enhance sustainability in both K-12 and higher education with the founding of the Center for Green Schools. The stated mission of the Center is to “expand [USGBC’s] efforts to drive change in how we design, construct and operate our schools and campuses so they will enhance student learning experiences” (Fedrizzi, 2010). The Center represents the importance of the education industry to sustainability across all sectors. Although this initiative, including a specialized LEED for Schools system, does represent a more formal foray of USGBC into education, it is not direct competition to STARS. Instead it is complementary, as STARS draws upon LEED as a reliable way of certifying the physical plant as sustainable.

Outside of USGBC, many rating and ranking systems have developed over the past decade by non-profit and advocacy organizations to either advance or take advantage of the sustainability trend in higher education. Most are very dissimilar to the structure of LEED or STARS, in that they are based on survey results or even the “impressions of staff members” (Carlson, April 2011). These include published lists by *Grist*, the *Sierra Club*, *The Princeton Review*, and *Current* magazine of top green schools. These lists do not necessarily rank order institutions, but often do not explain methodologies and list institutions primarily on external opinions rather than internal data.

The Sierra Club, for example, determines levels of student activism by interviewing students, then assigning a number on a 1-10 scale relative to other schools (Carlson, August

2008). It also discounts two-year institutions, claiming that they do not reach “a significant enough body of people to really be worth taking into consideration” (Carlson, August 2008).

The Sustainable Endowments Institute (SEI) goes a bit further, asking institutions to self-report on a survey and then assigning an A-F grade to their sustainability efforts in a well-known “Sustainability Report Card”. This is not optional, however, for the 300 institutions with the largest endowments. This past year, St. Olaf College in Minnesota did not fill out their survey and requested not to be included. SEI, viewing this as compromising the entire report, included St. Olaf anyway (Carlson, April 2011).

Others, such as the *Princeton Review’s* annual Guide to Green Colleges, are less controversial. The *Princeton Review* first published this volume in 2010 in conjunction with the USGBC’s Center for Green Schools, signifying an important partnership between a higher education ranking group and a sustainability certification organization. Although it does not formally rank schools, the Green Guide is meant to serve as a resource to prospective students who wish to take sustainability into account in their decision of where to attend (Princeton Review, Guide to 311 Green Colleges).

The 2011 edition of the Guide features 311 institutions, although the methodology for selecting these institutions seems to be largely based on the perception of them as sustainable (as well as participation in frameworks such as STARS). A common set of eight sustainability indicators are listed as being present or not present at each institution, although six go no further in depth than a simple “yes/no”, while two provide percentages. Despite its lack of depth, the Guide also provides lists of schools belonging to what it considered the three

primary sustainability indicators: institutions with LEED-certified buildings, STARS participants, and American College and University Presidents' Climate Commitment (ACUPCC) participants.

In 2005, AASHE was established with over 200 institutional or system members, and a year later formed a Consortium with eight other higher education associations (Merkel and Litten 2007). One of the purposes of AASHE was to develop a comprehensive self-evaluation tool for higher education institutions that was more beneficial than existing systems. Early trials in developing common sustainability frameworks included the regional Sustainability in Higher Education Assessment Framework (SHEAF), which was regionally based in universities surrounding Puget Sound in Washington State. Frameworks such as SHEAF directly led to the initial development of STARS, from which version 1.0 was born in 2009.

AASHE also led to the development of other important higher education sustainability indicators, including most prominently the ACUPCC. The ACUPCC, which requires signatory institutions to develop comprehensive plans for reducing Greenhouse Gas (GHG) emissions to set an industry-wide example for combating climate change, was developed at the AASHE Conference in 2006. Twelve presidents/chancellors served as the initial signatories, which increased to 152 charter signatories by March 2007, and to 284 when the ACUPCC formally launched that June (ACUPCC, Mission and History). To date, 677 institutions have become signatories. Although this is almost three times as many participants as STARS currently has, it indicates the potential that STARS has for wide market adoption. AASHE manages the online reporting system for ACUPCC, as it does for STARS.

While the ACUPCC is not a framework for implementing sustainability, it serves as an important indicator for the industry. Unlike STARS, it also deals exclusively with the

environmental dimension of sustainability, having little to do with the other two. However, like LEED, it does not compete with STARS, but complements it.

STARS, being a more comprehensive and complex system than its competitors, has the potential to push them out of the market due to its comparative advantages. First, its two-tiered credit checklist format makes it much more comprehensive than others. Second, its voluntary nature makes it much more attractive to institutions, as no one is forced to participate. Third, it is a tool meant to spark conversation between institutions, set common standards, and provides a rating in a common framework: no institution is formally ranked against another. Finally, it incorporates the entire industry, including community colleges, which form a sizeable portion of the higher education landscape. Existing and well-developed systems, such as LEED, complement STARS, and are drawn upon, adding further relevance and potential for market uptake.

Chapter 4: Evaluation of STARS' Strengths, Weaknesses, and Implementation

An evaluation of STARS' strengths, weaknesses, and opportunities for improvement was conducted by surveying sustainability professionals whose institutions had received a STARS rating. This allowed insights to be gained from the entire submittal process. The survey developed for this study assessed sustainability professionals' opinions of STARS in three thematic categories. The first, STARS as a Sustainability Claim, evaluated the perception of sustainability professionals as to whether STARS is a valid sustainability claim, and to whom this claim is being made. The second, The Emphasis of STARS, tried to ascertain which projects are valued by STARS the most, what STARS has inspired, and conversely what should inspire STARS. Finally, the Conducting a Stars Report category asked about experiences in on-the-ground implementation of STARS, including major stakeholder groups and primary challenges. It is felt that these three categories succinctly cover the major areas in which either STARS could be improved or hidden strengths could be revealed. This chapter summarizes the findings of the survey, organized by the same thematic categories as the survey itself. Recommendations based on the results of the survey can be found in Chapter 5.

Findings

Thematic Area 1: STARS as a Sustainability Claim

Question 1: STARS helped earn my campus' sustainability efforts public recognition.

Almost three out of four respondents (73%) answered "Agree" or "Strongly Agree" to this statement. The additional quarter of respondents were heavily weighted toward neutral, with only 5.4% answering "Disagree", with 0 "Strongly Disagree" responses.

This is a question that directly assesses the intended audience of STARS. As the framework was in development, its uses for internal higher education audiences were carefully defined and refined. STARS is designed to facilitate information sharing and enable meaningful comparisons within and across higher education institutions. Its uses to external audiences – including perceptions of institutions by the media, other industries, and prospective students, staff and community members is a greater variable. While STARS makes it easier to communicate sustainability initiatives, the value and understanding of sustainability varies widely across outside audiences and is bound to change over time. For the purpose of this question, “external” recognition is defined as recognition given by an individual or organization not directly affiliated with an institution of higher education.

Respondents noted in the comments section of this question that public recognition was not their primary reason for participating in STARS, and that knowledge of sustainability practices is much higher in the campus community and in higher education than in the general public. AASHE supports this as STARS’ primary purpose, stating in its STARS Overview document, available on its website, that “STARS was created by the higher education community for the higher education community” (STARS Overview, 2010), clearly indicating its focus is internal industry use.

It must be remembered, however, that one of the ways STARS is held accountable for the accuracy of its claims is the public nature of the reports and the reporters they are tied to. As the general public becomes more aware of STARS and its value to institutions, the greater the level of scrutiny reporters would face in ensuring their data is accurate. This would, ideally, result in data that if questioned, would be found to be accurate. However, if instead greater

public scrutiny promoted attempts to misrepresent data for the benefit of a wider external audience, then this might necessitate new levels of auditing data – increasing cost, but also benefits if external recognition and prestige is a greater factor. This then ties in to Question 3, which asks about data verification.

Other responses to this indicate that at this early stage of STARS reporting, the most recognition is achieved within the higher education community, and that the goal of sharing knowledge, experiences, and practices with other institutions and within individual campuses is being achieved. For those respondents who did indicate that they are achieving external recognition, it is for efforts that were pursued prior to receiving a STARS rating, and would be pursued regardless. Due to this, it is difficult to judge at this point the impact of STARS in this recognition, as it is assumed that it would be achieved without the particular framework in place. This does lead to synergy with Question 5, however. If STARS inspires a given campus to pursue a sustainability initiative they would not have otherwise, then it is much easier to attribute the framework, at least partially, to any external recognition achieved, proving additionality.

This is not to say that many institutions are not advertising their participation in STARS to external audiences. In an article published the day after the first STARS reporting deadline of January 31st, 2011, *The Chronicle of Higher Education* noted that some institutions “capitalized on the rating – like American, which trumpeted its score under the headline ‘The Greenest University in the Nation’ (Carlson, 2011). Although this story was published by American University on its website, no external media sources outside of *The Chronicle* picked up on the story, making its impact difficult to determine at this time.

Due to these factors, it was hypothesized that a higher percentage of respondents would disagree with the statement. It is possible that the question was not worded clearly enough to indicate that it was not asking about recognition within the higher education community, although it is notable that 73% of respondents agreed with the statement. It is prudent to continue to ask this question as more institutions submit reports and the geographic footprint of rated institutions grows wider. Whether or not external recognition becomes a greater focus of STARS will have to be further evaluated. A graph charting the responses to this survey question can be found in Figure 3.

Question 2: STARS helps provide positive recognition for sustainability achievements, but there is also a need for public awareness about colleges and universities that are falling behind.

Slightly less than half of respondents agreed or strongly agreed with this statement (48.6%), while 37.8% were neutral. 13.5% disagreed, while no respondents strongly disagreed. The results indicate that while respondents did have an interest in creating public awareness about institutions that are lacking, many are OK with the status quo. Whether or not the 48.6% that agree would still agree if the question suggested that STARS would be responsible for creating this awareness is also highly debatable.

STARS is designed to only provide positive recognition and ratings to institutions. As participation is optional, it is also self-selecting, in that institutions that would score poorly are less likely to participate. STARS does have a solution for this that does not break its current philosophy with its Reporter status. Institutions rated as Reporters make their data available – and gain the recognition of participating without making any of their actual scores public. The primary purpose of this, outside of the recognition, is to provide baseline data from which

improvements can be made, which is commendable. What about those institutions, however, who would perform poorly and have no interest in improving?

The results of this question show that there should be some method of raising awareness about those who lag behind, but no consensus on whether STARS should be the tool to do so. Comments received for this question indicate that external pressure on these institutions would serve as an important leverage point, although a distinction should be made between leverage and punitive measures. A graph charting the responses to this survey question can be found in Figure 4.

Question 3: As a public sustainability claim, STARS would be more credible if it required data to be verified.

The majority of respondents to this question (56.7%) answered neutral or disagree, while 43.2% answered agree or strongly agree, one of the larger splits among all survey questions. The results indicate that this is an issue respondents are divided on, although those that outright disagree are in the minority (nearly the same number of respondents answered “neutral” as they did “agree”).

A common criticism of sustainability rating or certification systems is the validity and accuracy of their data. STARS advertises itself as a transparent, open, and *self-reported* framework (STARS Overview, 2010). In Chapter 3, it was noted that one of the greatest challenges of LEED, one of the more developed sustainability frameworks, was in verification of its data. The US Green Building Council chose to use third party verification of its data, certifying organizations outside of USGBC to perform audits of buildings during a required performance period prior to receiving certification. Although not a perfect system, it does

prevent criticism that LEED is a form of green washing, or that it is not a valid sustainability claim.

If STARS begins to achieve the same level of public awareness that LEED has, then it will surely fall under similar criticism. However, it also faces different challenges. Whereas LEED certifies buildings for a variety of clients and industries, STARS works exclusively within higher education. This allows STARS' strategy of requiring individuals to act as responsible parties for each individual credit much stronger than it would be for LEED, as there is more accountability within a single industry. Respondents indicated that they took this responsibility very seriously. Furthermore, the transparency associated with STARS reports makes it easier to contest claims, whereas most LEED reports are not made publically available, as a point of comparison.

The harshest criticism of external audits or outside verification would be the additional cost added to the program, which could potentially price smaller institutions out of using the system. Although suggestions ranged from making an external audit optional, or that it should be phased in within the decade, there was far from a consensus. What was agreed upon in responses was that this extra level of data verification would add significant amounts of overhead to the program and time to submitting a report, and would likely reduce voluntary participation.

A graph charting the responses to this survey question can be found in Figure 5.

Question 4: Without a transparent methodology and criteria, a sustainability evaluation lacks necessary credibility.

The majority of respondents to this question (78.3%) answered agree or strongly agree. 13.5% answered neutral, 5.4% disagreed, and 2.7% strongly disagreed. A clear consensus

formed that one of STARS' most valued features was its transparency, and that this was sufficient.

This question ties in closely to Question 3, which asked about external verification of data. This question, on the other hand, asks about one of the features of STARS that could be said to serve as a substitute for this verification. Overwhelmingly, respondents agreed that the transparency of STARS added to its credibility, although this was not a universal view.

Respondents noted that the criteria for most credits was clear enough to provide information that would generally not be questionable. It was also noted that if STARS is viewed primarily as a self-evaluation tool, then transparency was more than enough to ensure validity of data. However, if used as a tool to make public claims, then it might not be.

If this question were to be asked again, it would be rephrased so as to not imply that transparency alone can make a report credible. A graph charting the responses to this survey question can be found in Figure 6.

Thematic Area 2: The Emphasis of STARS

Question 5: STARS inspired me or other campus members to pursue sustainability initiatives that were not otherwise planned.

A majority of respondents (83.7%) answered agree or strongly agree to this question. The remaining 16.2% were neutral, with no respondents disagreeing. This indicates that STARS is accomplishing more than providing a framework through which to track and set baselines for existing initiatives.

It was hypothesized that many of these new initiatives would be achieved through STARS' primary method for encouraging this, Innovation Credits. Institutions can be awarded up to four credits, each worth a single point, for "new, extraordinary, unique, ground-breaking, or uncommon outcomes, policies, and practices that greatly exceed the highest criterion of an existing STARS credit or are not covered by an existing STARS credit" (STARS Technical Manual 1.0, 2010). Additionally, these credits are also intended to award institutions for pursuing initiatives unique to regions or school types, adding nuance to the system that compensates for the wide variety of institutions it serves. Thirty of the thirty nine institutions that had received a rating as of this writing had either achieved all four innovation credits, or none, with the mean being 2.02 credits. Only nine had achieved between one and three credits, indicating that institutions that utilize these credits are likely to try to achieve them all.

However, this question did not directly specify whether unplanned initiatives were being submitted as innovation credits. The comments left by respondents indicate that most of the unplanned initiatives inspired by STARS are covered by existing STARS credits or are a necessary part of the data collection process for these credits. Examples include:

- Inspiring a campus to define sustainability in curriculum and research
- Organizing existing initiatives in a logical fashion
- Providing better documentation of policy and practice
- Integrating sustainability into staff orientations and performance reviews

Moreover, respondents indicated that although they did not actively seek to begin projects because they would provide either Tier 1 or 2 points in STARS, they now possess a pool of possible initiatives that will allow them to exceed the baselines set with the "first pass" through the system.

The true value of this question will likely be seen as it is asked again in three years, when initial STARS rating begin to expire and institutions will seek to exceed the baselines set with version 1.0 of STARS. A graph charting the responses to this survey question can be found in Figure 7.

Question 6: STARS overemphasizes sustainability projects that are highly visible and have quick financial payback.

The majority of respondents did not feel this statement was accurate. Although almost half (48.6%) of respondents were neutral, 45.9% either disagreed or strongly disagreed, while only 5.4% agreed and no respondents strongly agreed.

This question was asked to ascertain whether there was a perception that STARS, through its point distribution, had a real or perceived bias toward high visible projects or projects that have a quick return on investment. It was hypothesized that this might exist, even subtly, so as to increase market uptake of the framework through early demonstration that it featured quick payback and high publicity for areas with high public salience. STARS works to emphasize certain credits by assigning them to two tiers. Tier 1 credits are worth between 2 and 32 times the points of Tier 2 credits, giving them various levels of emphasis within the framework, but with the constant theme that Tier 1 is valued over Tier 2 across all categories.

For example, climate change is an environmental issue highly salient with external audiences who may not even be familiar with the definition of sustainability. Some of the most points in the Operations category are for Greenhouse Gas Emissions (16.5 points), and Energy (16.5 points), together comprising almost exactly third of the entire category. While there are a wide variety of strategies that can be utilized to score points in these areas, whether large

projects such as on-site renewable energy (generally included in Tier 1 credits) were being emphasized over equally important, but less visible strategies such as increasing energy efficiency (generally included in Tier 2 credits) was unknown.

According to the STARS Dashboard tool (AASHE 2011), of the institutions having received a Gold rating (as of this writing there were no Platinum ratings yet awarded), no institution received more than 7.12 points in the Climate sub-category, or 9.40 in the Energy sub-category. These numbers echo the findings of the survey, where respondents felt that large, visible projects were not overemphasized. Respondents pointed out that it is very difficult to score highly in those credit categories where large numbers of points are possible, such as climate and energy. It is much easier, on the other hand, to obtain Tier 2 credits emphasizing efficiency of existing building components.

Respondents commented that even Tier 2 credits, such as LED Lighting (Tier Two Credit 3), are highly visible, although not overemphasized as they provide only a quarter of a point. Although some respondents pointed out that high-profile initiatives such as achieving LEED Certification for existing buildings (Operations Credit 1) can yield seven points, no school currently receiving a STARS rating has achieved more than 2.66 points toward this credit, less than half the total available points.

If this survey question were to be repeated, the two parts of the question (quick-payback and highly visible projects) would be disambiguated for greater clarity. A graph charting the responses to this survey question can be found in Figure 8.

Question 7: I have been working on sustainability efforts that are not reported in STARS, but should be.

Just over half (51.3%) of respondents answered agree or strongly agree, while just under half (48.6%) were neutral or disagreed, while no respondents strongly disagreed.

This question parallels Question 5 somewhat: whereas Question 5 inquired about how STARS inspired sustainability initiatives, this question inquires about how sustainability initiatives should inspire STARS.

To reiterate, STARS does have a built-in mechanism for reporting these initiatives in its Innovation Credits. Innovation Credits do have some restrictions, however. Foremost, only four of them could be achieved at maximum. This is not a problem in itself, as it allows for creativity but still keeps the framework uniform across institutions. However, it does restrict institutions that could potentially have more than four projects that are not already included in STARS. As the majority of institutions that submit innovation points use the maximum of four, it is likely that they could exceed four. Second, Innovation Credits are only worth one point each, so they contribute minimally to overall scores.

This question also reveals initiatives that are only partially covered by existing STARS credits. For example, Operations Credit 17: Waste Reduction requires reduction of a baseline set from 2005. If an institution has had a comprehensive waste reduction plan in place for a decade or longer, reductions from a 2005 baseline will not be significant, and the actual effects of their policy will not be accurately reflected in their score. Problems with tracking positive change for initiatives considered non-innovative must be solved using another method. A graph charting the responses to this survey question can be found in Figure 9.

Thematic Area 3: Conducting a STARS Report

Question 8: The STARS Reporting Tool is useful for data collection and ratings.

The vast majority of respondents (97.2%) answered agree or strongly agree to this question. A small minority (2.8%) answered strongly disagree, with no respondents answering neutral or disagree.

A high level of satisfaction with the online reporting tool is expressed, including data entry, calculations, and how data is made publically available (with the name of a responsible party attached to each credit). Institutions are able to provide their own descriptions of the limits and boundaries of their institutions that STARS is covering, and signed letters from Presidents are available as well. A graph charting the responses to this survey question can be found in Figure 10.

Question 9: Please select the impact that the following stakeholder groups had on earning points in STARS.

Question 9 was the most complex question included in the survey. It asked that the impact of the following ten stakeholder groups be assessed:

- Administrators
- Faculty
- Undergraduates
- Graduate Students
- Facilities Staff
- Housekeeping Staff
- Other Staff
- Local Government(s)
- State Government(s)
- Neighboring Communities

Survey takers were asked to rate each group on a weighted scale, with options including No Impact (0), Very Low Impact (1), Low Impact (2), Medium Impact (3), High Impact (4), and Very

High Impact (5). Ratings were then averaged, and the mean ratings are listed in descending order in Figure 11.

The ten stakeholder groups were selected based on common administrative affiliations of responsible parties for institutions having already received a rating, as well as large demographic groups common on many campuses, as well as some specialized groups relevant only to certain types of institutions. Distinctions were made between sub-groups that play a role in on-the-ground STARS implementation, such as facilities staff (general Operations credits), housekeeping staff (green cleaning, waste reduction credits), and other staff.

Two categories, state and local governments, are going to be relevant primarily to public institutions. Unsurprisingly, they received some of the lowest weighted ratings (1.40 and 1.50 respectively). These ratings reflect the internal nature of STARS – even for institutions that rely on greater levels of public support, implementation of STARS did not require their involvement for the most part.

Similarly, Neighboring Communities have an impact primarily on urban and semi-urban institutions, where populations are denser and non-institutionally zoned property may be directly adjacent. Even considering this, this demographic received the third lowest rating (1.58).

Graduate students are the fourth category that is not universal across most institutions, with Carnegie-classified Associate's and Baccalaureate institutions not having any on campus. However, research-intensive institutions, which were the majority of targeted institutions, have high levels of graduate (masters and doctoral level) students on campus. This group received the fourth lowest score (2.07).

After these four groups, scores rise significantly, with all but one of the remaining six demographic groups receiving a rating of 3 or above. Staff in general were, unsurprisingly, rated very highly, as in most cases they are responsible for managing STARS implementation. Facilities staff received the highest overall score (4.09), likely due to their involvement with the Operations category of credits, which proved the greatest challenge for institutions overall, receiving the lowest average score of any of the credit categories for all rated institutions.

Undergraduate students were also rated as having a much higher impact than their graduate counterparts. This is likely due to not having a teaching load, as many graduates do, and being more involved with extra-curricular activities such as environmental clubs that are often able to assist with Co-Curricular Education credits.

The support of institutional administration is also crucial, receiving the second-highest score (3.49). This is unsurprising, as a requirement of STARS data verification is a signed letter from an institutional President-level position verifying the data. However, it is encouraging to see that implementation of sustainability initiatives is being supported by university administration. An important distinction to make as well is that at many institutions, professional sustainability staff positions are being created at administrative levels as high as Vice President, which may contribute to this high rating.

Finally, faculty receive a high rating as well (3.14). At many institutions, faculty were listed as responsible parties for most of the Education and Research credit category, and at some, doubled as professional sustainability staff or directed sustainability-related research institutes.

If this question were to be asked again, additional categories for classifying students as two-year or commuter-heavy institutions do would be added (ex: full-time students). An unintended

bias toward classifying students as four-year, residential institutions often do was later identified.

Question 10: What was the greatest challenge for your campus in conducting a STARS report?

This question was completely open-ended and had no quantitative component. The areas that respondents indicated as being challenging included:

- Collecting data using the same metrics by which it is tracked in STARS
- Involving a wide variety of campus offices, especially those not related to sustainability
- Surveying sustainability-focused and related courses, as sustainability as an administrative department can separated from the academic arm of the institution
- A lack of a detailed methodology for the course inventory
- Finding adequate time to complete the report & completing report by deadlines; collection very labor intensive
- Institutional data systems not designed to provide data of the type required by STARS; particular problem with facilities data
- Lack of a centralized data collection system
- Difficulty using the baseline year of 2005
- Promoting student involvement in the process
- Lack of consistent and reliable data for certain criteria
- Too many points being inaccessible to 2-year institutions
- Gathering data on investments run by state governments, unions, or larger university systems
- Involving groups to work on just one credit area

Chapter 5: Recommendations for Improvement in Future Versions of STARS

Based on the results of the survey, particular strengths and weaknesses of STARS within the three thematic areas became apparent. Some came with relative consensus, others were more divisive. Below are the recommendations this report is making in each of the three thematic areas. Not every survey question resulted in a recommendation, and some recommendations are a result of multiple survey questions. Additionally, some thematic areas overlap, much as the three dimensions of sustainability itself.

These recommendations are not supposed to be absolute, but are meant to highlight areas that AASHE may want to consider when developing future versions of STARS. Additionally, institutions still in the process of gathering data under STARS 1.0 or STARS 1.1 may want to heed some of these recommendations as potential challenges that they may be able to creatively overcome.

Before the survey results are covered, it is first recommended that these questions continue to be asked as more institutions submit their reports. As of this writing, only 44 of the 258 STARS participants had submitted a final report and received a rating (17%). As of the time the survey was taken, only 39 had received a rating. The sample size of the survey was therefore smaller than what would have been ideal, although it is still felt it provides a wide enough variety of institutions that the results hold weight.

Thematic Area One: STARS as a Sustainability Claim

1. Inclusion of Tier II credit for utilizing marketing strategy: 73% of respondents to Question 1 felt that STARS was providing a level of public recognition, yet most indicated via comments that their primary purpose for participation was for setting

baselines, self-evaluation, and facilitating information sharing with other institutions.

This raises the question of whether sustainability in higher education should be responsible for promoting itself – is that the job of a sustainability professional, or a professional marketing team? To bridge the gap between results and intent it is proposed that STARS integrate a credit using a marketing strategy to promote sustainability initiatives, beyond the outreach campaign covered by ER credit 2. This cred could be located as a Tier II credit, worth 0.25 points, in the Planning, Administration, and Engagement category. This would make it a valid option, but prevent it from carrying too much weight for those who opted out. Credit could be awarded for either marketing internally within the campus or to external audiences. Having a responsible party take credit for this effort is likely enough to prevent green washing, but some additional restriction or limitation to discourage this may need to be considered.

2. Creation of a “buddy system” as alternative to Reporter status: As a voluntary system, it can be difficult to encourage institutions lagging in sustainability to participate. The Reporter status is one way to encourage participation, but the positive recognition for many institutions may not be enough at this point to attract many lagging institutions until there is more prestige behind the STARS rating. As an alternative to the Reporter status, it is proposed that a “buddy system” be created. In this system, institutions having already received a rating volunteer to partner with other institutions considering Reporter status to assist them in conducting a STARS report in a consulting role. Rated institutions would be recognized and rewarded in some way, such as by receiving

additional points in their next STARS report. The institutions they are assisting would find this an opportunity to better improve their STARS rating by receiving consulting services, lifting some of the burden of conducting a report. As the decision to become a Reporter is not made until after an institution is scored, the option would still be available to receive a rating of Bronze or higher, and in fact their chances of doing so may be increased due to the professional collaboration with the other institution.

3. External data verification is not necessary at this time: Although response to Question 3 was not overwhelmingly negative, the list of challenges to implementing external data verification is long and complex enough it is felt that at this time it would hinder increased adoption and market uptake of STARS. At this time, this should be a priority. Furthermore, results of Question 4 indicate that for the time being, STARS' transparency in reporting is strong enough to provide a competitive advantage, fulfill STARS' mission as a self-reporting tool, and curb criticism and potential accusations of green washing. While external data verification may still be an attractive option for future versions of STARS, as far as STARS 2.0 is concerned, the priority should be attracting a majority of US and Canadian higher education institutions to adopt STARS, and the current priorities, mission, and practices of STARS are strong enough to do this as far as data verification is concerned.

Thematic Area Two: The Emphasis of STARS

1. Education and Training Programs should be further emphasized by changing credit criteria: For ER credits 1-3 and PAE credits 13-15, the criteria for implementing education and training programs should be enhanced in order to further emphasize the

importance of these initiatives. Providing education and training programs for students, staff, and faculty, from orientation to continuing professional education and outreach campaigns, is an important way in fostering a culture of sustainability throughout campus. Currently, these credits are awarded for making these programs available to all of a respective campus demographic. This requirement of being available to all should remain, but the criteria should go further and scale the number of points awarded based on the percentage of students, faculty, or staff participating in or reached by the program. This would reward institutions for not just implementing programs, but implementing *successful* programs. This incentive would further emphasize the importance of these credits.

2. Use a rolling baseline to reward early adopters: The STARS baseline year of 2005 for collecting data is convenient for many institutions that have only begun to integrate sustainability programs over the past five or six years. Based on trends of sustainability in higher education, this is the case for many institutions. However, pioneers in the field are hurt, as although in absolute terms they may be performing well on credits that require reduction from the 2005 baseline, such as recycling, their change since 2005 is minimal. An optional, rolling baseline of 10 years or more, in addition to the existing 2005 baseline, would be optimal to reward early adopters. In thematic area three, it is recommended that STARS not use punitive measures. Although not directly punitive, providing incentives for early adopters of sustainability would turn what could be seen as punitive into an incentive and reward structure.

3. Increase use of quantitative metrics: Currently, it is too easy to obtain points for initiatives such as Diversity and Affordability, where credits are primarily obtained by titles of employees and descriptions of committees. Implementing a quantitative metric that measures actual success in pre-defined goals would make these credits more meaningful and make STARS more results-driven. A variety of goals supporting many institutional types should be made available.

Thematic Area Three: Conducting a STARS Report

1. Credits should be awarded for involving less engaged stakeholder groups: Question 9 revealed that there are many stakeholder groups on campuses that are very engaged in the STARS process, fulfilling its goals of bringing sustainability to the entire campus. However, results show that certain demographics, including graduate students, neighborhood groups, and state and local governments, are under-utilized. A list of “less engaged stakeholders”, based on a similar survey question with a larger sample size, should be published under this credit. A strategy to engage a certain percentage of these populations would result in additional points. Institutions with none of these stakeholder groups on campus would be exempt from this credit. Alternatively, a list of all stakeholder groups could be published, with a requirement to include a baseline percentage of all applicable groups based on a survey of all STARS 1.0 and 1.1 submissions. For example, private institutions would not be required to involve state governments, but public institutions would (this would also bleed into other credits, and may provide better data on potentially state-held assets like investments). Similarly, Baccalaureate institutions would not be required to engage graduate students, but

instead would aim for a higher percentage of the undergraduate population. Two-year or commuter-heavy institutions might instead use full-time students as a proxy for traditional undergraduates. Increasing involvement by stakeholders such as neighborhood groups will have benefits consistent with the findings of Laroche (2009) that town/gown relations are an integral part of implementing sustainability in higher education.

Observations

In addition to these recommendations, it was also observed that the greatest challenge to conducting an initial STARS report was collecting decentralized data, finding the time and personnel to do it, and connecting disparate offices and departments. While this did not result in a formal recommendation, it is recognized that these problems will decrease with each subsequent STARS report. As the data collected by STARS becomes more formalized (as is the intent of STARS), the particular metrics it emphasizes will ideally become the norm for data collection systems. Similarly, connecting disparate parts of campus will become easier as previously under-connected parts of campus begin to connect with the initial report. In its first STARS annual review report, AASHE quotes a representative of Indiana University – Bloomington:

“[STARS will] test your networks and show where you lack lines of communication and where you are missing key stakeholders. The value of completing a STARS submission goes beyond compiling a comprehensive assessment of institutional sustainability and receiving a STARS Rating. Engaging in the STARS program creates an opportunity to strengthen and accelerate sustainability efforts” (STARS, A Year in Review, 2011).

This is, of course, dependent on market adoption, which would not occur if the process of conducting a report is seen as too burdensome. Although this was a common challenge,

it is not felt that it is a limiting factor in STARS' market adoption. It certainly should not be too easy to complete a report, as that would render it less meaningful and useful in the long-term. For those institutions, particularly smaller ones with fewer resources, who see it as too difficult to conduct a report, the implementation of the suggested "buddy system" may make STARS more appealing.

Summary

Implementing sustainability into higher education holds many implications for both the industry and greater society. Producing leaders trained in sustainability concepts will advance the goals of sustainable development worldwide, and the size and influence of the higher education industry will help its spread to other domestic industries (Merkel and Litten 2007).

Over the past decade, the role of sustainability in higher education has grown significantly, although it still faces many challenges. STARS, as a transparent and voluntary framework developed for and by higher education, serves as both a common framework and sustainability indicator for the industry.

This survey has shown that STARS' greatest strengths are also some of its most perceived weaknesses – such as its transparent methodology taking the place of external data verification in other systems such as LEED. It was found that STARS is inspiring institutions to employ new sustainability initiatives and policies through its two-tiered credit system and reporting tool. Some problems, such as not involving critical stakeholder groups such as graduate students and neighboring communities, prevents STARS from reaching its full potential.

The next version of STARS, 2.0, is going to be released no sooner than summer 2012. In that time, it is prudent that AASHE continue to survey institutions that have gone through the full process of receiving a rating under the initial 1.0 and 1.1 versions of STARS. If certain recommendations are heeded to increase involvement and make the framework more attractive across the entire higher education industry, then STARS has the potential to overtake

its competition and become the premier sustainability reporting and rating tool in a critically important industry.

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Table 1

Institutions Receiving an Initial STARS Rating On or Prior to March 2nd, 2011

Institution	Rating	Carnegie Classification	Type
American University	Gold	Doctoral/Research	Private
Babson College	Silver	Special Focus: Business	Private
College of Lake County	Silver	Associate's (2-year)	Public
DePauw University	Bronze	Baccalaureate	Private
Delta College	Silver	Associate's (2-year)	Public
Duke University	Gold	Research/Very High Research Activity	Private
Earlham College	Reporter	Baccalaureate	Private
Estrella Mountain Community College	Bronze	Associate's (2-year)	Public
Furman University	Silver	Baccalaureate	Private
Goshen College	Bronze	Baccalaureate	Private
Grand Valley State University	Silver	Master's	Public
Indiana University Bloomington	Silver	Research/Very High Research Activity	Public
Kankakee Community College	Bronze	Associate's (2-year)	Public
Middlebury College	Gold	Baccalaureate	Private
Moraine Valley Community College	Bronze	Associate's (2-year)	Public
New York University	Gold	Research/Very High Research Activity	Private
Orange County Community College	Bronze	Associate's (2-year)	Public
Oregon State University	Gold	Research/Very High Research Activity	Public
Pacific Lutheran University	Silver	Master's	Private
Portland State University	Gold	Research/Very High Research Activity	Public
Royal Roads University	Silver	N/A (Canadian)	Public
Santa Clara University	Silver	Master's	Private
St. John's University	Silver	Doctoral/Research	Private
State University of New York at Fredonia	Bronze	Master's	Public
University of Arkansas	Silver	Research/Very High Research Activity	Public
University of Colorado at Boulder	Gold	Research/Very High Research Activity	Public
University of Colorado at Colorado Springs	Silver	Master's	Public
University of Florida	Silver	Research/Very High Research Activity	Public
University of Houston	Silver	Research/Very High Research Activity	Public
University of Illinois, Chicago	Bronze	Research/Very High Research Activity	Public
University of Louisville	Silver	Research/Very High Research Activity	Public
University of North Carolina at Chapel Hill	Silver	Research/Very High Research Activity	Public
University of Northern Iowa	Gold	Master's	Public
University of Oregon	Silver	Research/Very High Research Activity	Public
University of South Florida	Gold	Research/Very High Research Activity	Public
University of Texas at Arlington	Silver	Research/High Research Activity	Public
University of Texas at Austin	Silver	Research/Very High Research Activity	Public
Wake Forest University	Silver	Research/High Research Activity	Private
Wilfred Laurier University	Bronze	N/A (Canadian)	Public

Table 2

Survey Questions and Possible Answers Thematic Area One: STARS as a Sustainability Claim

Instructions: Please indicate the degree to which you agree with the statement, unless open-ended.						
Question Number	Question	Option 1	Option 2	Option 3	Option 4	Option 5
1	STARS helped earn my campus' sustainability efforts public recognition.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
2	STARS helps provide positive recognition for sustainability achievements, but there is also a need for public awareness about colleges and universities that are falling behind.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
3	As a public sustainability claim, STARS would be more credible if it required data to be verified.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4	Without a transparent methodology and criteria, a sustainability evaluation lacks necessary credibility.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Table 3

Survey Questions and Possible Answers Thematic Area Two: The Emphasis of STARS

Instructions: Please indicate the degree to which you agree with the statement, unless open-ended.						
Question Number	Question	Option 1	Option 2	Option 3	Option 4	Option 5
5	STARS inspired me or other campus members to pursue sustainability initiatives that were not otherwise planned.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
6	STARS overemphasizes sustainability projects that are highly visible and have quick financial payback.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
7	I have been working on sustainability efforts that are not reported in STARS, but should be.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Table 4

Survey Questions and Possible Answers Thematic Area Three: Conducting a STARS Report

Instructions: Please indicate the degree to which you agree with the statement, unless open-ended.							
Question Number	Question	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
8	The STARS Reporting Tool is useful for data collection and ratings.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
9	Please select the impact that the following stakeholder groups had on earning points in STARS:						
9.1	Administrators	No Impact	Very Low	Low	Medium	High	Very High
9.2	Faculty	No Impact	Very Low	Low	Medium	High	Very High
9.3	Undergraduates	No Impact	Very Low	Low	Medium	High	Very High
9.4	Graduate Students	No Impact	Very Low	Low	Medium	High	Very High
9.5	Facilities Staff	No Impact	Very Low	Low	Medium	High	Very High
9.6	Housekeeping Staff	No Impact	Very Low	Low	Medium	High	Very High
9.7	Other Staff	No Impact	Very Low	Low	Medium	High	Very High
9.8	Local Government(s)	No Impact	Very Low	Low	Medium	High	Very High
9.9	State Government(s)	No Impact	Very Low	Low	Medium	High	Very High
9.10	Neighboring Communities	No Impact	Very Low	Low	Medium	High	Very High
10	What was the greatest challenge for your campus in conducting a STARS report?	Open-ended					

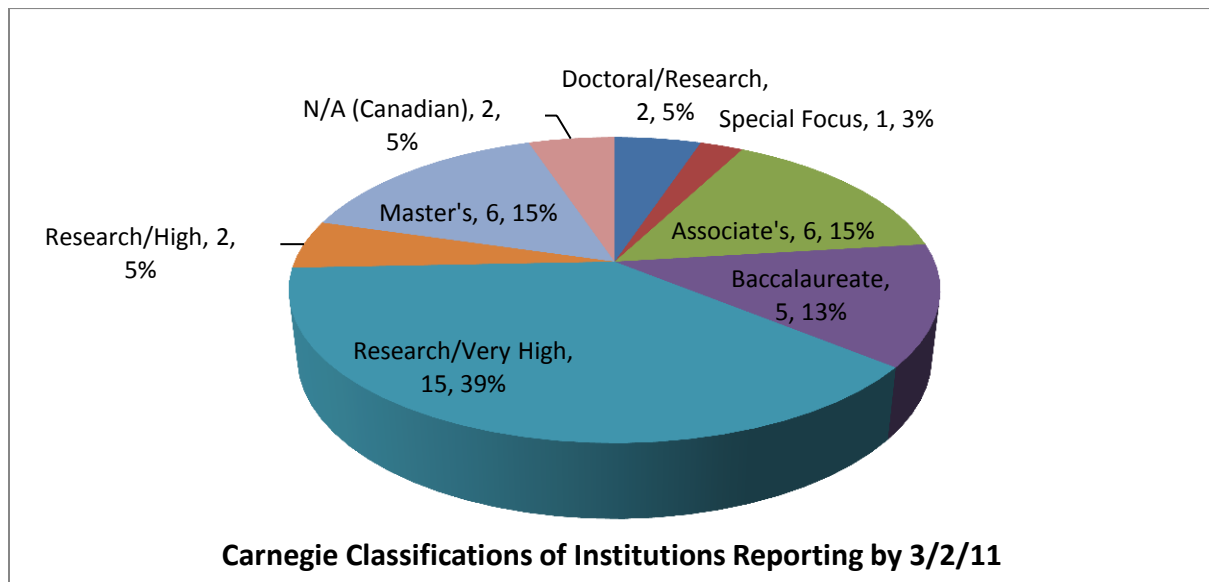


Figure 1. Pie chart showing the number and percentage of Carnegie Classifications held by STARS Institutions having received a rating by March 2nd, 2011.

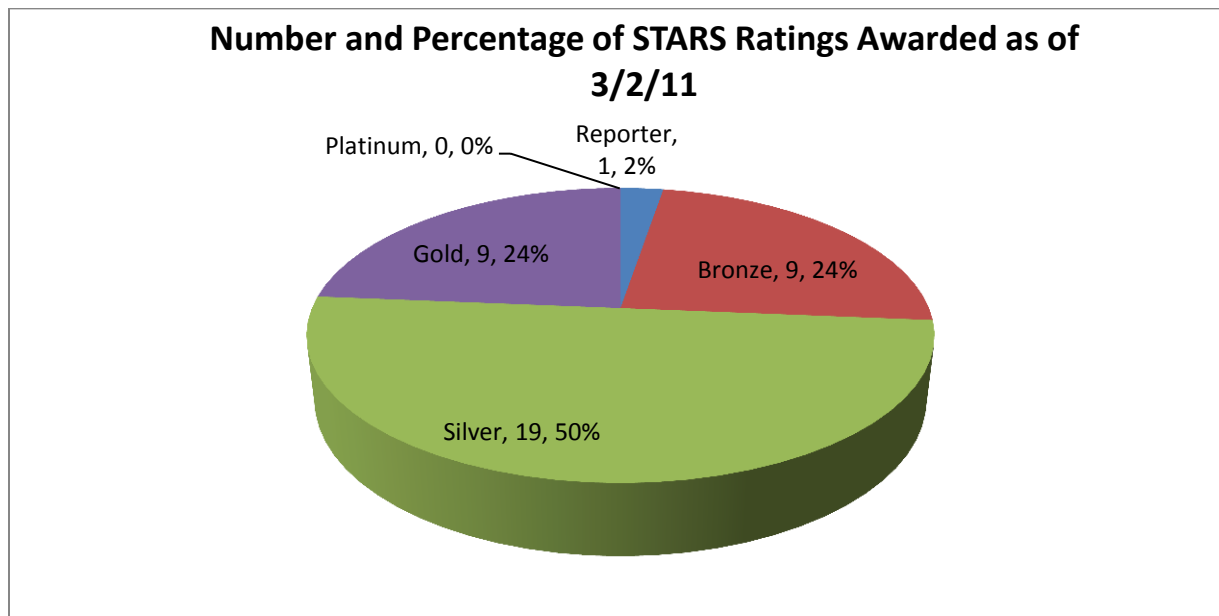


Figure 2. Pie chart showing the number and percentage of each possible STARS Rating awarded as of March 2nd, 2011.

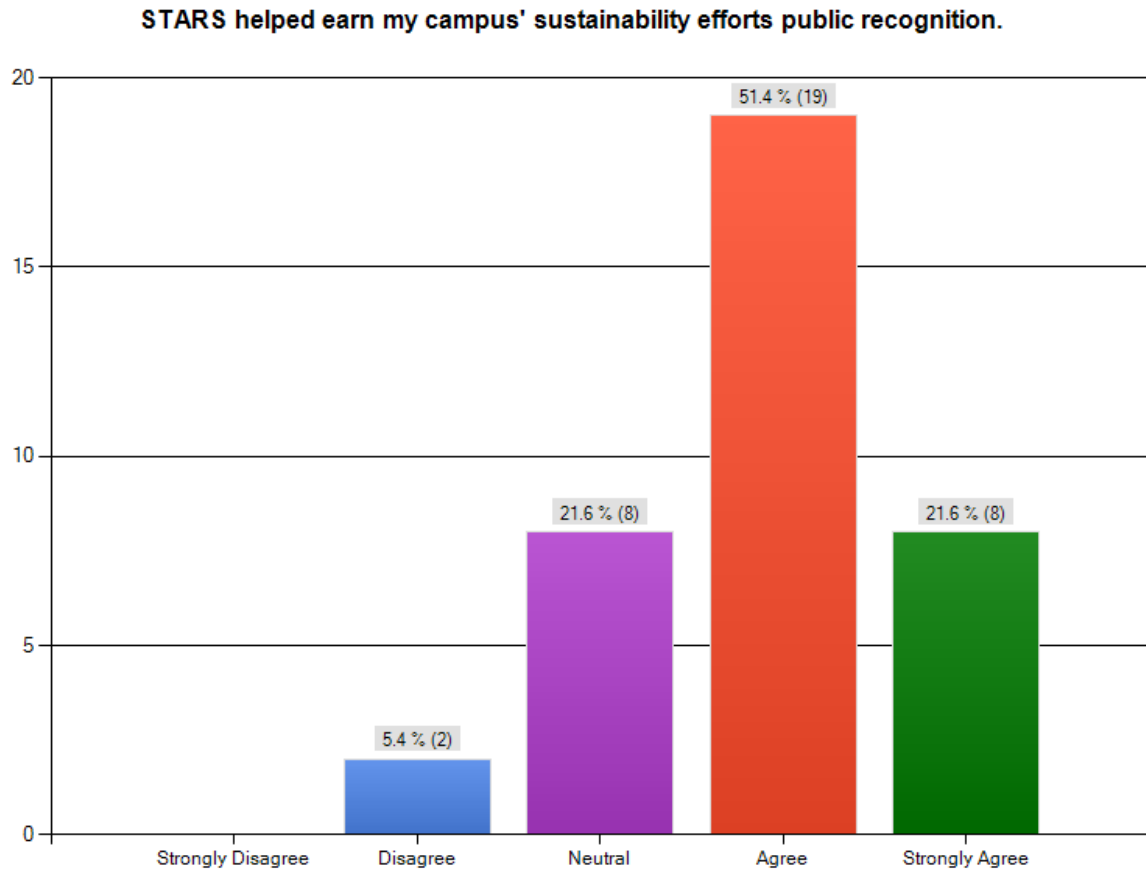


Figure 3. Column graph showing number and percentage of responses to answers for Question 1.

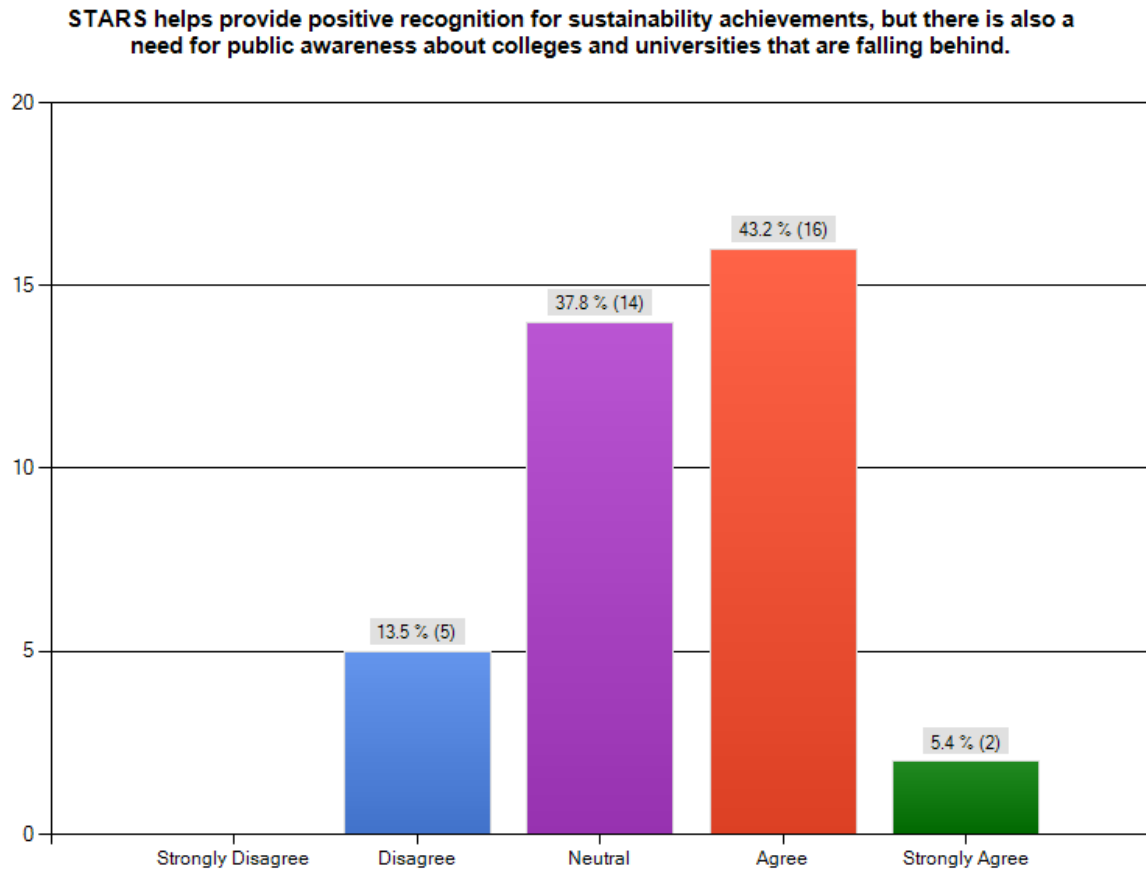


Figure 4. Column graph showing number and percentage of responses to answers for Question 2.

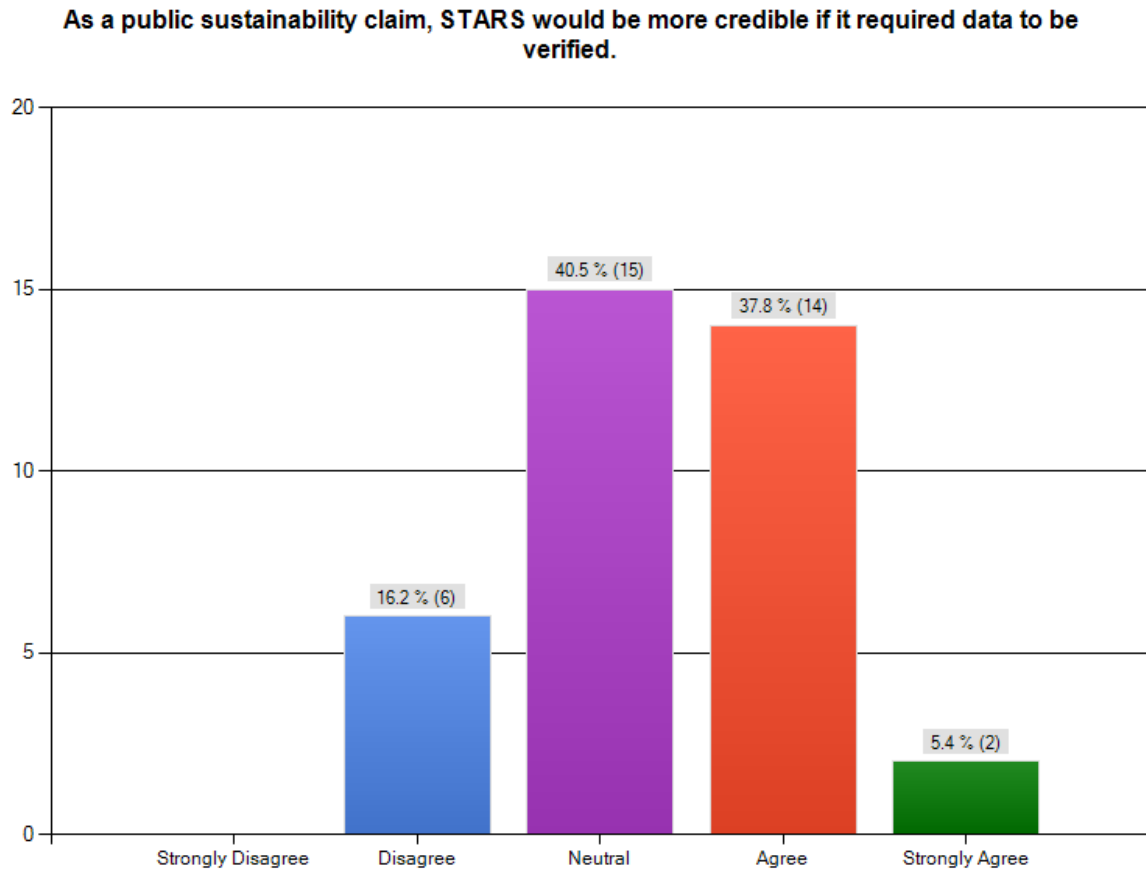


Figure 5. Column graph showing number and percentage of responses to answers for Question 3.

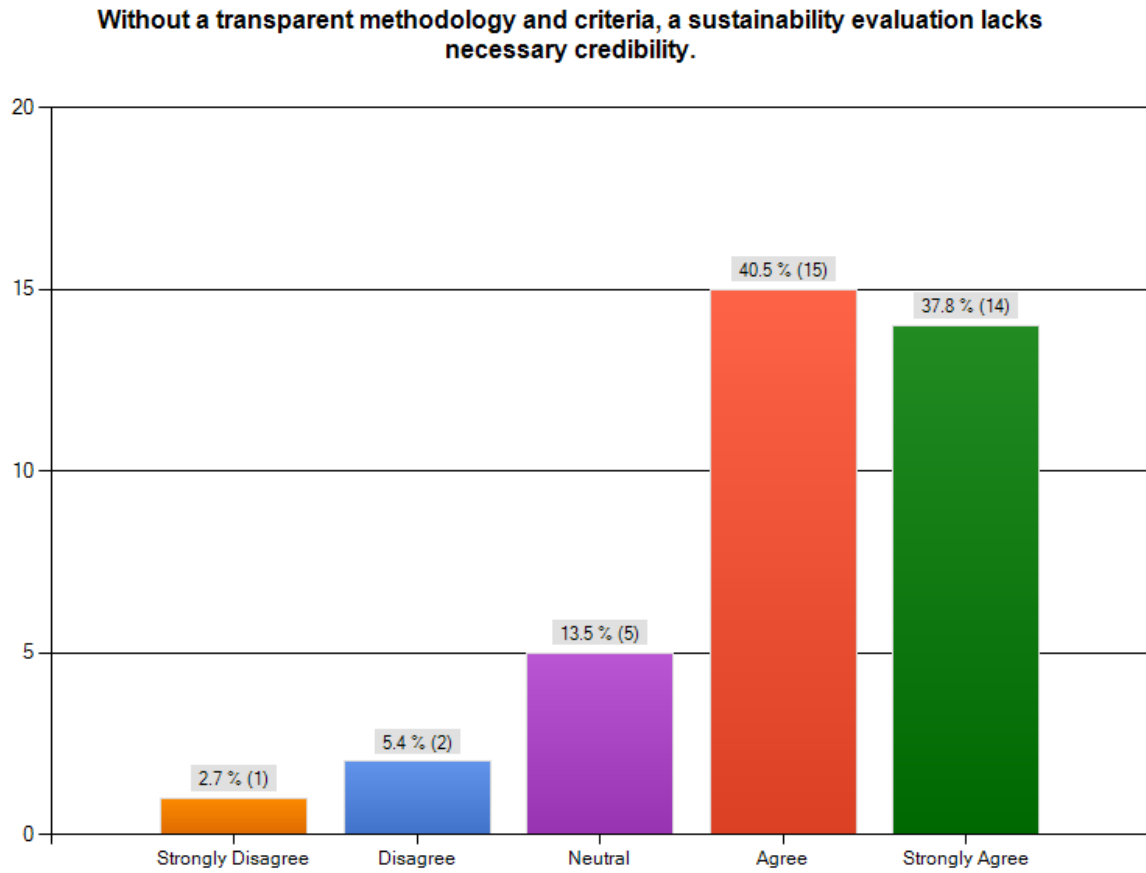


Figure 6. Column graph showing number and percentage of responses to answers for Question 4.

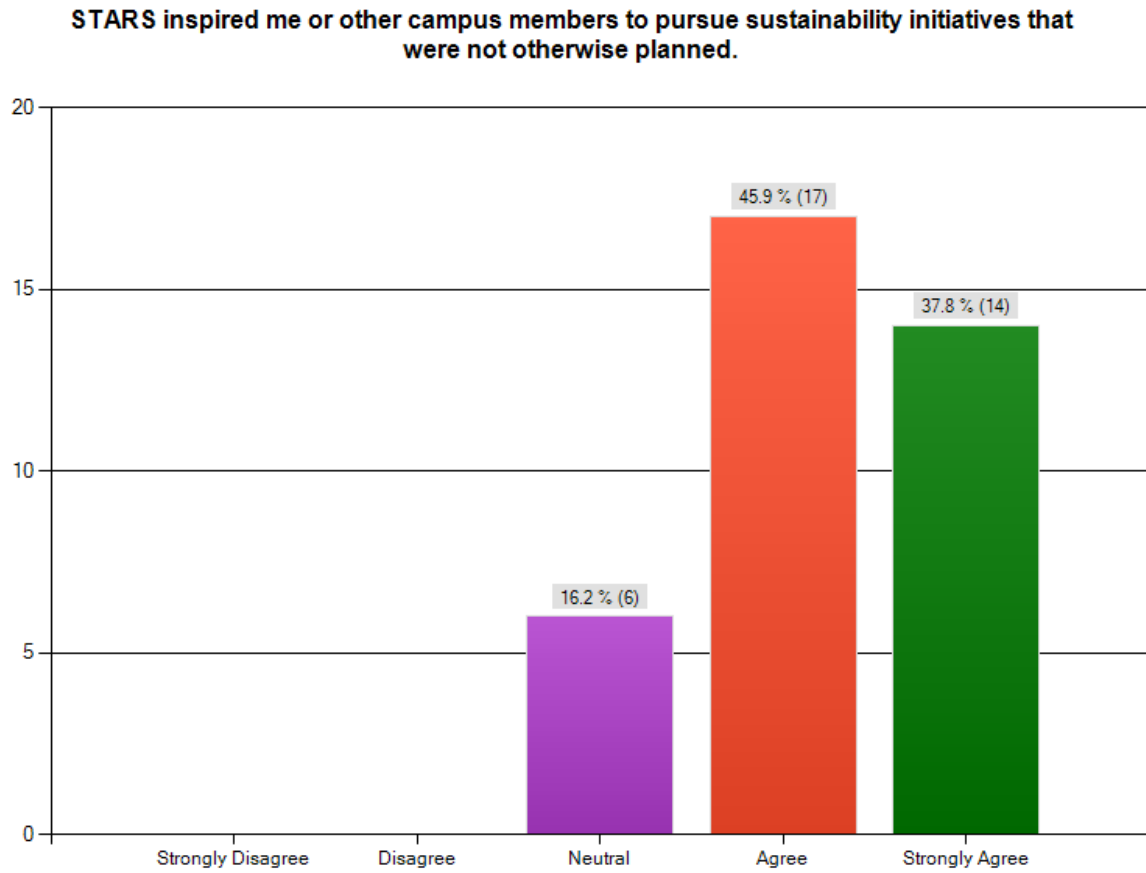


Figure 7. Column graph showing number and percentage of responses to answers for Question 5.

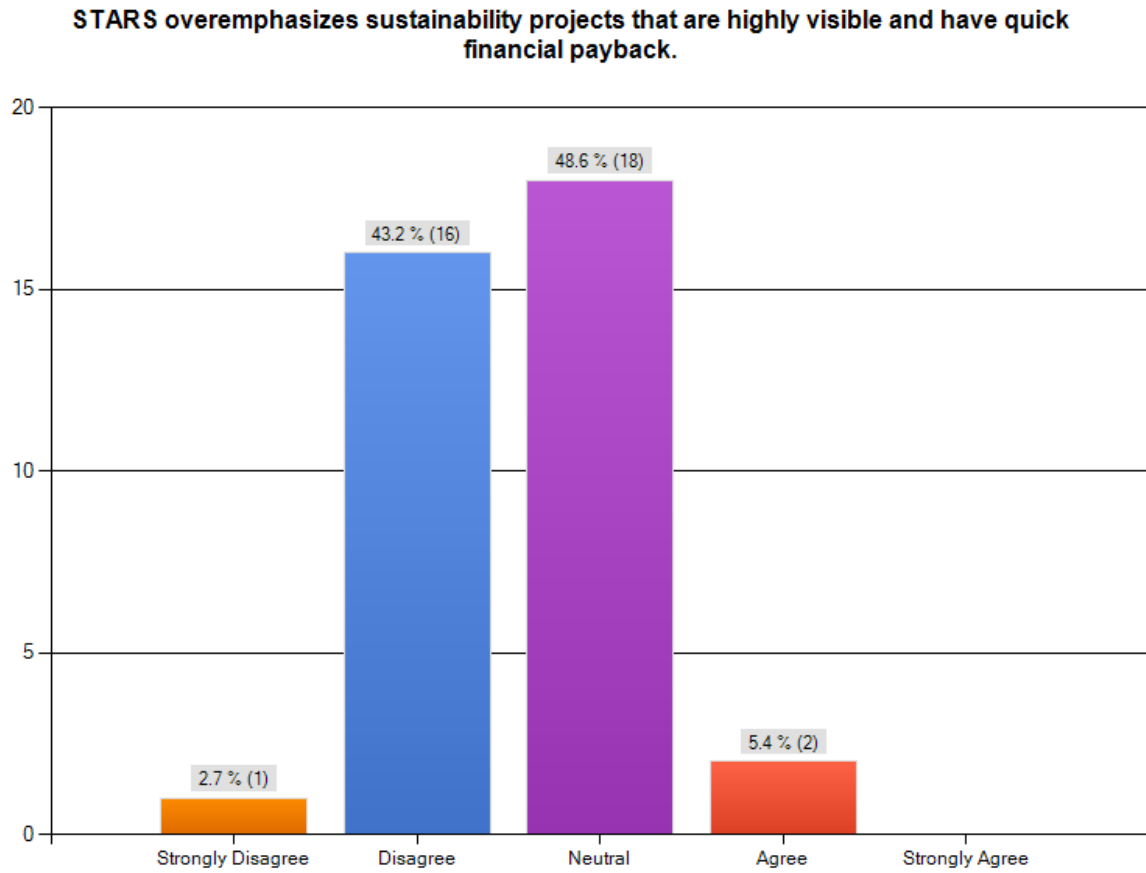


Figure 8. Column graph showing number and percentage of responses to answers for Question 6.

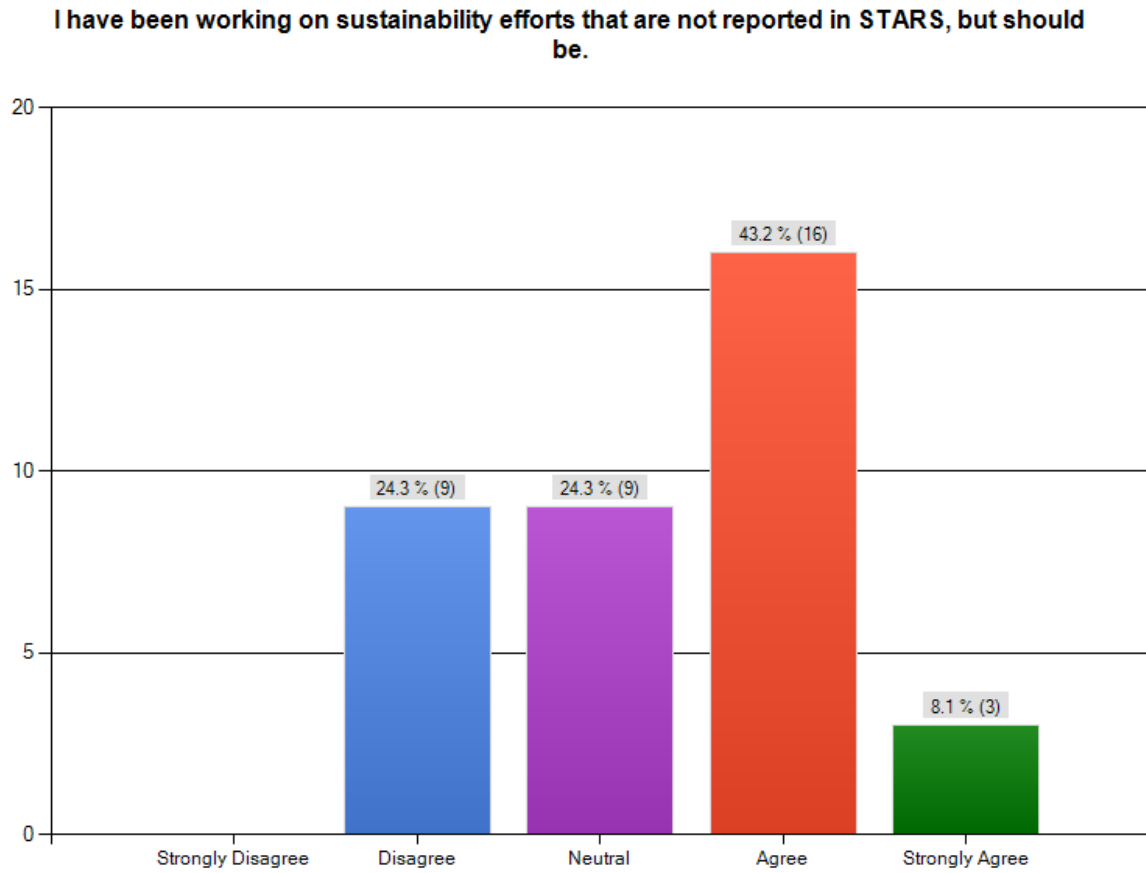


Figure 9. Column graph showing number and percentage of responses to answers for Question 7.

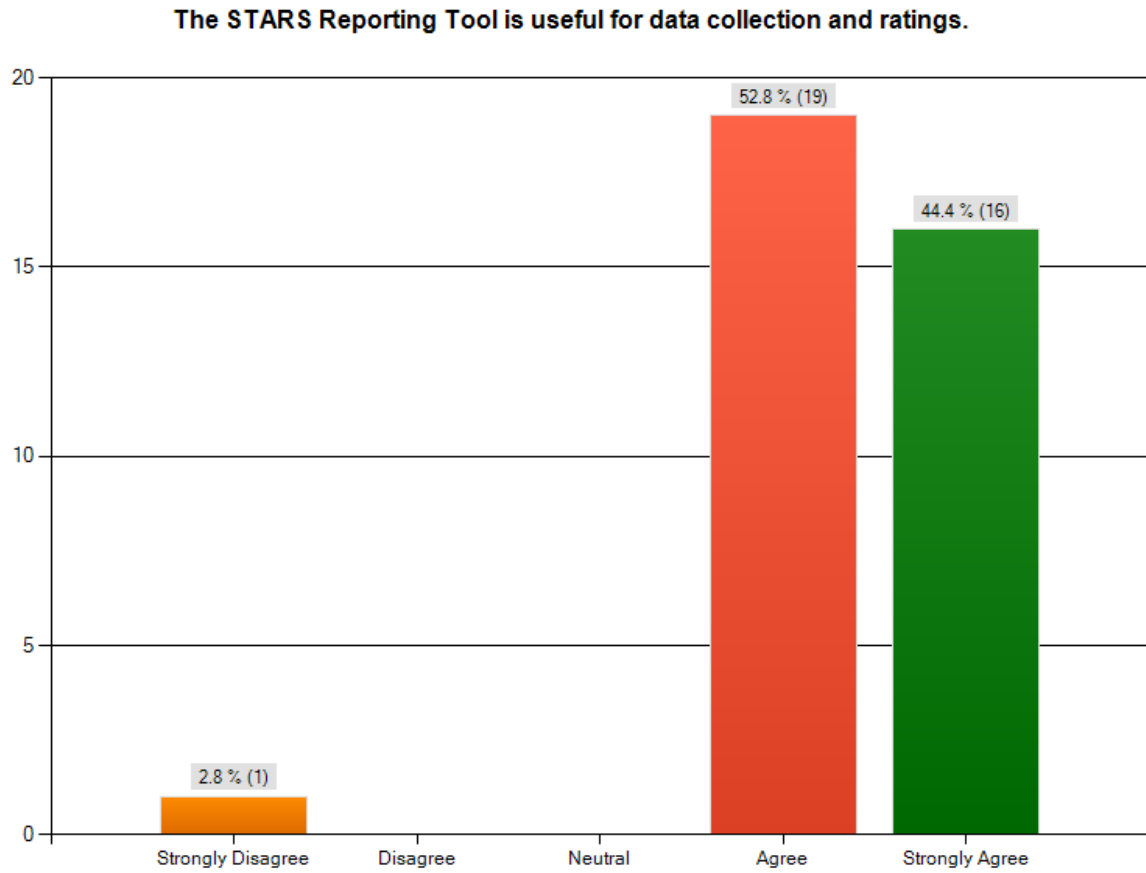


Figure 10. Column graph showing number and percentage of responses to answers for Question 8.

Please select the impact that the following stakeholder groups had on earning points in STARS.

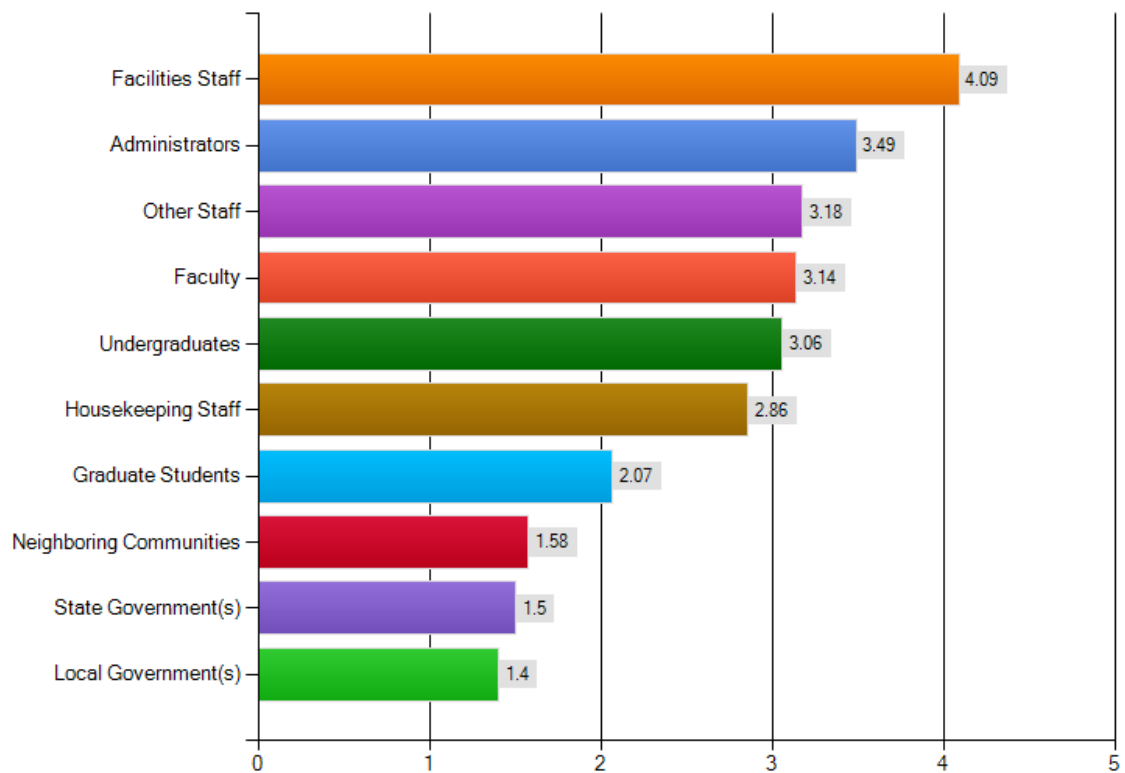


Figure 11. Bar graph showing number and average weights of responses (on a 0-5 scale) to answers for Question 9.