SUSTAINABILITY REPORT

Findings and Recommendations

2014

MARICOPA COMMUNITY COLLEGES

*The Maricopa Community Colleges are EEO/AA Institutions.

Welcome to the MCCCD 2014 Survey of Maricopa Sustainability Practices: Executive Summary. The audience for this document includes District and college staff, faculty, students and partners, and others who take interest in the subject.

INSTITUTIONS THAT HAVE BECOME LEADERS IN THE SUSTAINABILITY MOVEMENT IN HIGHER EDUCATION HAVE REACHED THEIR GOALS AFTER DEVELOPING A LONG-RANGE VISION FOR THEIR CAMPUS, ENGAGING IN CAREFUL PLANNING AND INCLUDING A DIVERSE RANGE OF STAKEHOLDERS IN THE PROCESS. College Planning & Management

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The Survey is part of the Maricopa Priorities process of self-assessment, assessment, and prioritization. Results will aid collective realignment of resources. The Survey can also be viewed as a significant step in MCCCD's pursuit of prioritizing sustainability. Responses examine areas of each college's operations, including energy usage, recycling, greenhouse gases, American College & University Presidents' Climate Commitment (ACUPCC) reporting, and student involvement in sustainability efforts. One of the most important aspects covered is energy reduction because of the possible decisions that could be made regarding cost saving measures, leading to overall emission reduction. This was seen in temperature set points as a result of the published works of Environmental Defense Fund's Sudata Ray, at GCC.

Further, the Survey supports our efforts as One Maricopa and the Chancellor's vision: "*What's more important is that each of our colleges is part of one great system, and that together we can be more effective and efficient in serving our communities*". Survey results are not about finger-pointing, the aim is for best practices, lessons learned, and awareness, to benefit all colleges and communities. One Maricopa models the way to influence the behavior of students and other sectors, sending clear signals to the market that sustainable solutions are preferred.

The 2014 Survey Findings section highlights examples of strategies and measures, including:

- Green Building – MCCCD has 27 LEED buildings; Harvard University has 88 certified LEED projects — more than any higher educational institution in the world (2013)[i].
- Travel Reduction - 40% of MCCCD summer 2014 classes were online; in California, nearly 17% of all community college courses offered are through distance education[ii].
- Waste Reduction – three colleges have implemented Zero Waste programs; the Zero Waste strategy offers one of the easiest and cheapest ways of reducing a college's contribution to Greenhouse Gas (GHG) emissions. 42% of the United States GHG emissions are the result of the procurement and disposal of goods[iii].

The information is transparent and balanced with both challenges and achievements. Aggregated survey results are over 100 pages. To view a full version of the Survey, and the compiled responses, please go to http://sustainability.maricopa.edu/.

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Introduction

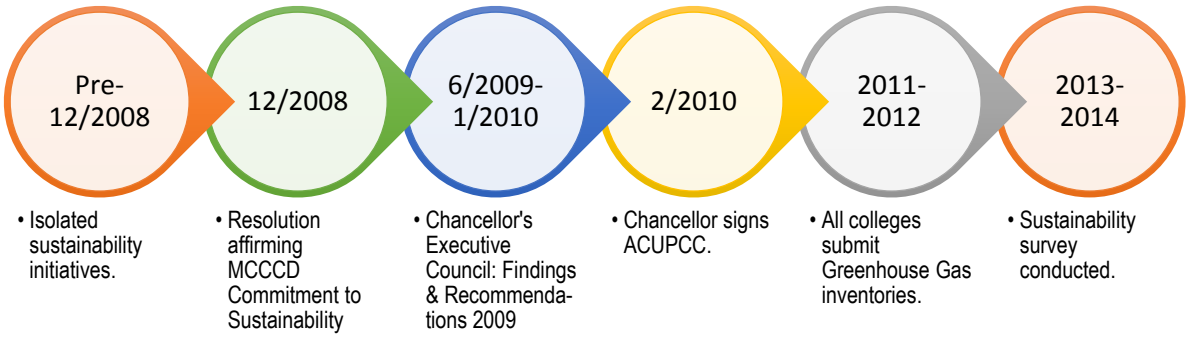
With renewed energy, critical mass and commitment, the MCCCD Governing Board, at its December 2014 meeting, affirmed its 2008 pledge to sustainability through the ACUPCC (the "Commitment"). The purpose of this Executive Summary is to capture the progress made supporting the Commitment over the past five years. The information provided will drive future sustainability initiatives and objectives towards carbon neutrality goals; and ensure alignment with Governing Board Outcomes, the Chancellor's Pillars, and Maricopa Priorities.

> WE BELIEVE COLLEGES AND UNIVERSITIES MUST EXERCISE LEADERSHIP IN THEIR COMMUNITIES AND THROUGHOUT SOCIETY BY MODELING WAYS TO MINIMIZE GLOBAL WARMING EMISSIONS, AND BY PROVIDING THE KNOWLEDGE AND THE EDUCATED GRADUATES TO ACHIEVE CLIMATE NEUTRALITY. Excerpt from the American College & University Presidents' Climate Commitment Text

Sequence of Progress

On the heels of a vision for One Maricopa, the Governing Board's December 2008 Resolution signaled a system-wide mindset for encouraging and supporting strategic economic, social, and environmental responsibility. Research by the American Council on Education indicates action beginning with a commitment and translated into policies and procedures by those in power, encourages participation and trust from stakeholders. This action reinforced sustainability as a MCCCD core value of One Maricopa and "one great system"[iv].

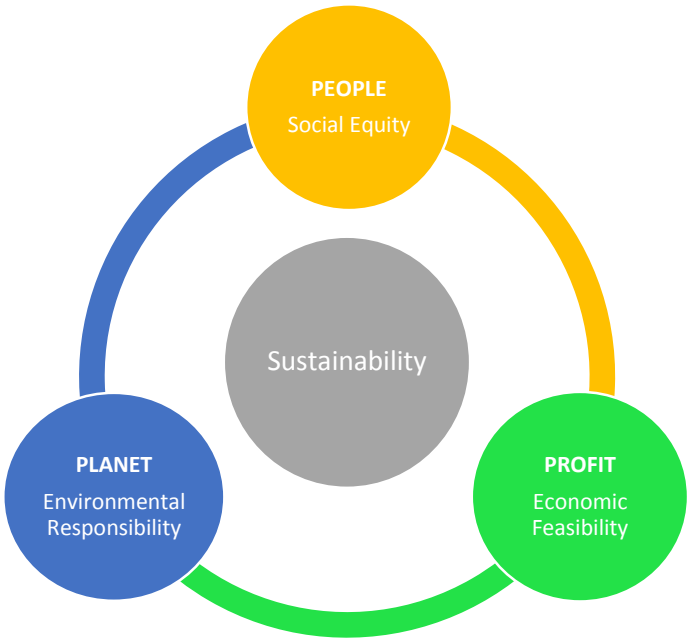
Figure 1. Sustainability Timeline Overview



Signing the ACUPCC was a pledge to eliminate the District and colleges' net greenhouse gas emissions in a reasonable period of time, as well as to promote respective research and educational efforts. As leader of the country's largest community college district (2010), Glasper, joined more than 605 institutions at the time, in-signing the ACUPCC in early 2010, a milestone for MCCCD, and a national statement promoting the efforts of higher education to

accelerate society's progress toward climate neutrality and sustainability. All MCCCD colleges have also signed the pledge as an added commitment to the work of carbon neutrality. Today, 685 institutions, nationally, have signed on to the work of achieving climate neutrality.

Figure 2. Triple Bottom Line Model



Methodology

MCCCD is dedicated to meeting the reporting benchmarks and completing the terms of the Commitment (See How do we measure up: ACUPCC Framework?, page 25). Continuing a vision to diminish the District's carbon footprint and to be exemplars of such for the community long-term requires initiatives that will take root in MCCCD. To facilitate planning, implementation and continuous improvement of sustainability initiatives while ensuring high-quality educational services, decisions are strategically guided by the Triple Bottom Line (TBL) model.

> THE TRIPLE BOTTOM LINE "CAPTURES THE ESSENCES OF SUSTAINABILITY BY MEASURING THE IMPACT OF AN ORGANIZATION'S ACTIVITIES ON THE WORLD…INCLUDING BOTH PROFITABILITY AND SHAREHOLDER VALUES AND ITS SOCIAL, HUMAN AND ENVIRONMENTAL CAPITAL." Andrew Savitz

The TBL merges the elements that need to exist for sustainable development, i.e. economic feasibility, social equity and environmental responsibility (Figure 2.). Also referred to as the three Ps: People, Planet, and Profit.

The recent Survey of Maricopa's sustainability practices, used consistent touch points to assess progress to-date on ten different categories:

- Reduction
- Personnel
- Curriculum / Co-Curricular Activities
- Community
- Communication
- Administrative Support
- Facilities
- Green Building Design
- Green Purchasing
- College

The Sustainability Committee (See Personnel, page 10.) created and administered the survey to gauge sustainability expansion. Relevant site staff at each of the ten colleges and the District Office contributed responses (See Appendix A for a complete list of contacts). Survey results are and will be a critical part of Maricopa's future work, supporting college and district level planning including system-wide prioritization, resource realignment and optimization.

This executive summary compiles current survey responses, outlining baseline qualitative and quantitative economic, environmental (e.g. energy consumption, solid waste, etc.) and social (e.g. education, health and well-being, etc.) measurements. The intent is to provide both a conceptual understanding of initiatives, site variables (i.e. older facility challenges, college setting, etc.) and a survey of best practices thus creating a pragmatic foundation for establishing a customized sustainability measurement process within MCCCD. As a result, a more rapid and/or widespread transition towards sustainable processes can be achieved.

2014 Survey Findings

The 2014 Survey of Maricopa Sustainability Practices results were compiled, and subsequently summarized. Each category of the Survey is represented in the following pages with respective activities, challenges and accomplishments identified for each college/facility.

REDUCTION

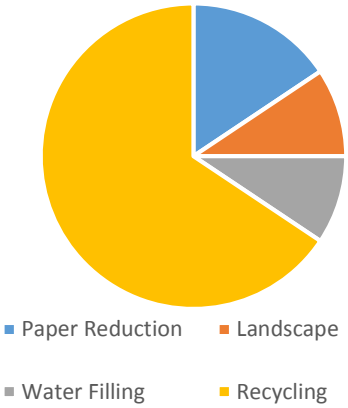
Reduction: Waste

MCCCD's biggest opportunity for reducing waste is not generating it. Surveys indicate each site is committed to recycling and participates in local municipal recycling services. Wherever solid waste measurements were recorded surveys indicate a reduction in tons of solid waste – the most significant being a 28% reduction at MCC. Simultaneously as solid waste has been reduced, the survey indicates an increase in recyclable material, most notably at CGCC with a 20% increase.

All respondents are participating in recycling efforts, yet, measuring reduction is a challenge as municipalities co-mingle waste of colleges/sites with other customers. All colleges are working independently to streamline their recycling disposals, this means a variety of vendors are used. Cooperation between colleges on such waste disposals could be beneficial when creating reports and comparisons among district-wide waste initiatives. SMCC is working with Waste Management (WM) to develop measuring and reporting processes, which has the potential to be replicated at other sites served by WM.

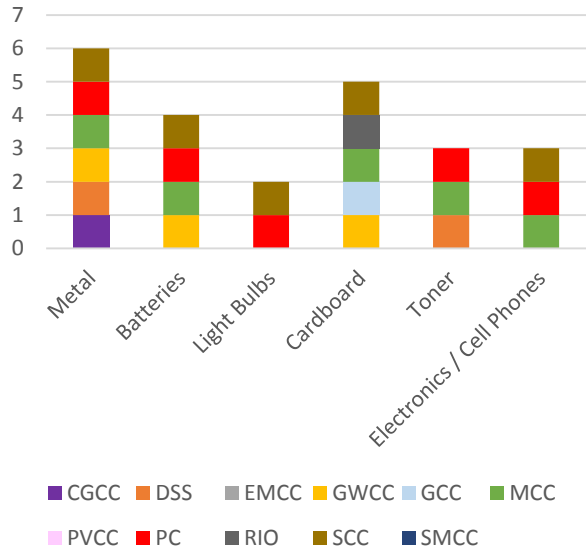
Figure 3. shows the share of a recycling initiative compared to the total initiatives recorded.

Figure 3. Ratio of Recycling Initiatives



Colleges/sites are practicing a variety of means to divert waste, shown in Figure 3. Source separated recycling is the most widely used practice; Figure 4. breaks down recycling practices by site. Three colleges (GCC, MCC, RIO) are working on or piloting discard management initiatives. GCC's initiative is a Zero-Waste Program in which employees use small, unlined trash bins which they must empty themselves. As a result, GCC has reduced waste and reduced the use of resources in cost savings of 15,000 liners per month and custodial time.

Figure 4. Recycling Practices by Site



Specific sites complement and/or promote these means through campaigns to teach and highlight recycling activities, including: high-traffic recycling receptacle placement, at CGCC, PC, PVCC and SMCC; bring your own cup coffee discounts, and the Dumpster Dive trash audit, at MCC; and a used item donation event and the fifth annual RECYCREATION Scholarship, a recyclable material art challenge, at SCC, a $2,500 scholarship available to all MCCCD students.

The first One Maricopa district-wide sustainability initiative focused on encouraging people to reduce their paper consumption. This one-year campaign (2011-2012), showed a reduction of 6.8% or 45,000lbs of paper, but most importantly, it resulted in a behavior change that has outlived the original campaign efforts and created a lasting impact in how students and employees handle and think of paper.

Through recycling efforts, the colleges are not only reducing waste, they are also saving money and the environment by keeping this material out of the landfill waste stream. Colleges are also leveraging recycling to generate income:

- CGCC earned $5,000 and SCC earned $3,142 in scrap metal sales (2013).
- MCC saved $40,000 since 2010 through their Office Redistribution Program.

- RIO has created a consistent revenue stream by baling and selling cardboard generated internally and by local businesses (GCC, MCC and SCC are also doing this).
- Dumpster Dives, such as the fall/spring events at GCC, visibly support awareness and knowledge about one day of waste and which of those items in "trash" are really recyclable.

Reduction: Energy

> NO ATTEMPT AT CARBON NEUTRALITY CAN SUCCEED WITHOUT ADDRESSING AND MAXIMIZING THE ENERGY EFFICIENCY OF CAMPUS BUILDINGS. Clinton Climate Initiative

Building energy use contributes a major proportion of a college's carbon footprint. All respondents are practicing the District's standard that new building and/or renovation design and construction be equivalent to at least the U.S. Green Building Council's LEED Silver level. For instance, SCC's newly constructed Film School Hub's LEED Silver framework consists of energy and water monitor features. Surveys indicate within existing facilities, new and old alike, colleges are implementing comprehensive and incremental (small-scale) activities to improve energy efficiency and reduce energy consumption and/or for its offset (Figure 5. and 6.). This includes:

- SMCC is using chemical additives to treat pre-chiller filters resulting in a 75% reduction of water used to flush the filters;
- SCC implemented 93,500 square feet of Xeriscape which will save as much as 290 million gallons of water per year;
- CGCC's Environmental Tech learning center projects the generation of 13-kilowatts of energy which will be used to offset utility costs; and
- PC's Hannelly Center's solar panels create approximately 30,000 kw/h of energy per month offsetting utility costs.

Figure 5. Ratios of Electric & Gas Energy Reduction Measures

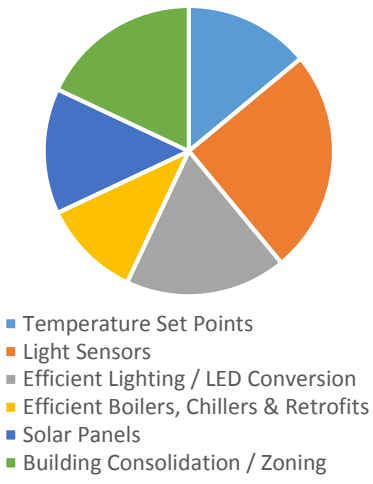
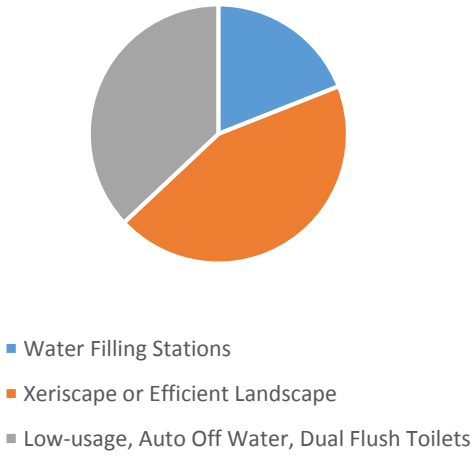


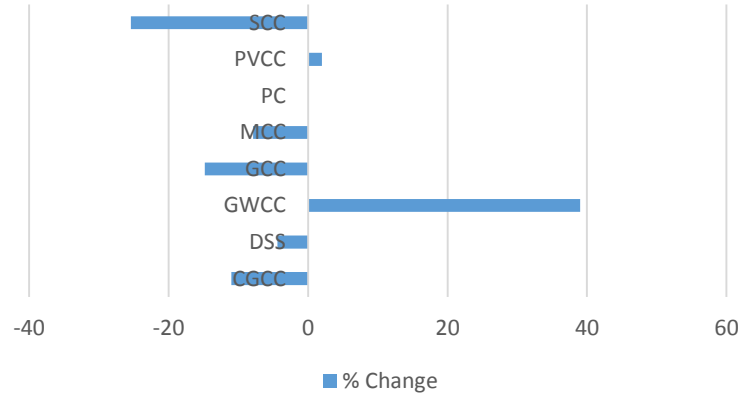
Figure 6. Ratios of Water Energy Reduction Measures



All MCCCD sites are being attentive to building operations and maintenance upgrades by changing out equipment/components, hardware and fixtures with more efficient models, as they need replacing; and are installing various digital control systems for optimal energy and cost performance. Further, as a district, MCCCD is looking at habit changes like temperature set points that can yield significant results, in cost savings and reduced emissions. All colleges have made the commitment to establish uniform temperature set points endorsed by the Chancellor's Executive Council (CEC) and the Faculty Executive Council (FEC). This decision is based on research conducted by Environmental Defense Fund's Sudata Ray[v].

By tracking utility use, reduction measures can be validated and compared for district-wide consideration. Further, tracking utility use can help discover poor energy use, opportunities for low- and no-cost changes, and according to ENERGY STAR, can reduce energy use and costs by 2-3% per year[vi]. For example, PC's homegrown software automatically retrieves data from the College's energy meters, which allows for analysis against historical data and is then publicly displayed as part of transparency and awareness. Mixed tracking methods are currently being used at sites: purchase orders (SCC); software (DSS, GWCC, PC); billing records (DSS, RIO, SMCC); and the Greenhouse Gas Inventory (EMCC).

Figure 7. % Change in Kwh/Ksf FY11/12 to FY12/13



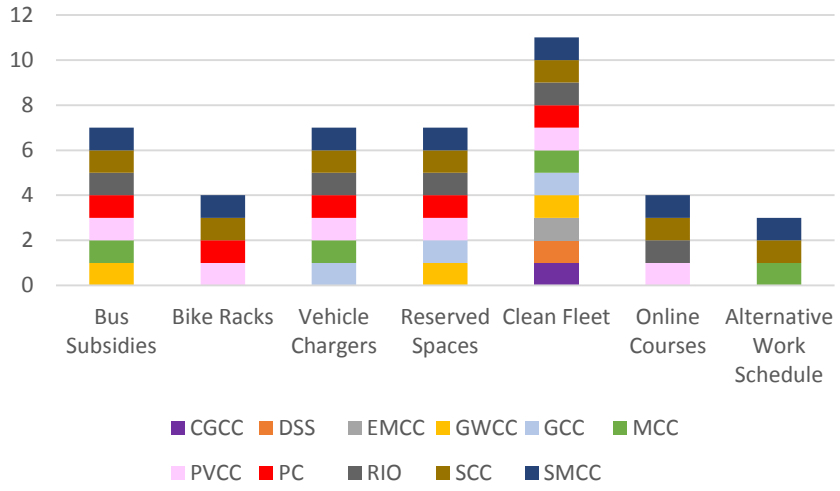
In a one-year (FY11/12-FY12/13) usage comparison (Figure 7.) by those recording measurements, one site had no change, three sites experienced an increase in energy usage, and four sites reduced usage – the most significant being a 25.4% reduction at SCC. Two of the three colleges (GWCC and PVCC) with increases also grew in size, affecting year to year energy comparisons. GWCC's increase is two-fold as the two buildings (150,500 square feet) added (2012) increased energy, yet both were submitted as Gold LEED buildings designed to save energy and resources. Additional LEED design and construction projects, for the past two years, are detailed in Green Building Design, page 22.

Reduction: Travel

The ACUPCC recommends that air travel, and staff, faculty and student commuting be a reduction priority and target. Colleges' air travel is inherently low as opposed to commuting which makes up 75% of MCCCD's greenhouse gas emissions (GHG). There are already a number of alternative transportation modes available, yet sites consider commuting to be the hardest component to track, and consequently reduce. Compounding this, reduction can be

affected by variables not initiated by MCCCD (i.e. available alternatives). In order to have a sizable impact on transportation emissions, the District strives for a multi-faceted, scalable program that encourages and educates the entire community on alternative transportation options. A step in this direction is MCCCD's installation of over 50 grant-funded electric vehicle charging stations, at seven colleges, which can be used by college users and the community.

Figure 8. Travel Reduction Initiatives



Each college/site plans and prioritizes site-specific travel reduction initiatives (Figure 8.) which includes proven strategies of the Maricopa County Trip Reduction Program (TRP), a county-wide program which aims to reduce single occupant vehicle (SOV) use to 60%. One strategy used by seven colleges is to incentivize drivers away from SOVs through subsidized bus and rail passes – at SCC alone, they have served 2,040 students and 113 employees in the past five years. A reduction of SOVs driven on college sites, translates into fewer vehicle miles traveled, and is one metric for success in reducing transportation emissions.

MCCCD's TRP progress is tracked through an annual commute survey conducted at each site. County survey results are combined with other effectiveness data to provide information useful for decision-makers to weigh the advantages and disadvantages of various strategies, as well as used to develop annual reduction plans. Higher survey participation increases SOV rate accuracy and best practices improving the continuous improvement of plans – PC reports an annual 60% participation rate. GCC's TRP practices (e.g. adding a Share-A-Ride link on their website) gained the college multiple recognitions in 2012-2013 from Valley Metro for their TRP achievements, including the 2012 Valley Metro Outstanding Trip Reduction Program award.

Student travel. MCCCD colleges are positioned to serve their surrounding communities, yet, transportation demand management is more challenging for student commuting than student air travel, because of frequency. At this time student air travel is only reported by CGCC which annually finances a study abroad trip to Belize and PVCC which had students travel to Vietnam or Peru for service learning projects. Online learning and hybrid courses reported by 40% of MCCCD colleges are one of the positive steps made to reduce commuting. RIO by design is an online provider and PVCC, SCC, SMCC report they are working to increase online enrollment.

At PVCC, this not only includes aiming to increase the number of courses each semester (15 added each semester in FY11/12), it also includes adding new disciplines and expanding availability to summer and fall semesters, and offering condensed formats.

Staff travel. Reducing staff travel does not specifically center on daily commuting, it also must address fleet and company vehicle travel, personal vehicle travel between sites, and air travel, although limited. Colleges/sites track travel through college fleet mileage, mileage reimbursements and airfares. Currently, the majority of colleges focus on incentives, alternatives and education to deter travel and save the emissions, rather than methods that discourage vehicles on college grounds. This includes: promoting webinars vs. seminars and workshops (GCC, PC, SCC, SMCC); train-the-trainer training formats rather than sending multiple travelers (SMCC); conferencing systems to attend district meetings (PVCC); a Biking Challenge sponsored by faculty, encourages staff to bike to work (GCC) – GCC has received the "Bike to Work" award from the Department of Transportation three years in a row; and increasing the number of electric or hybrid fleet vehicles (all sites).

PERSONNEL

Leading change requires significant support and buy-in at many levels of an organization. MCCCD utilizes a system and college/site approach to champion sustainability; this allows for employees, students and community members to have meaningful involvement in sustainability initiatives that represent TBL elements.

Roles of the following system-level leadership continue to evolve to better meet emerging sustainability needs and to address district cohesion:

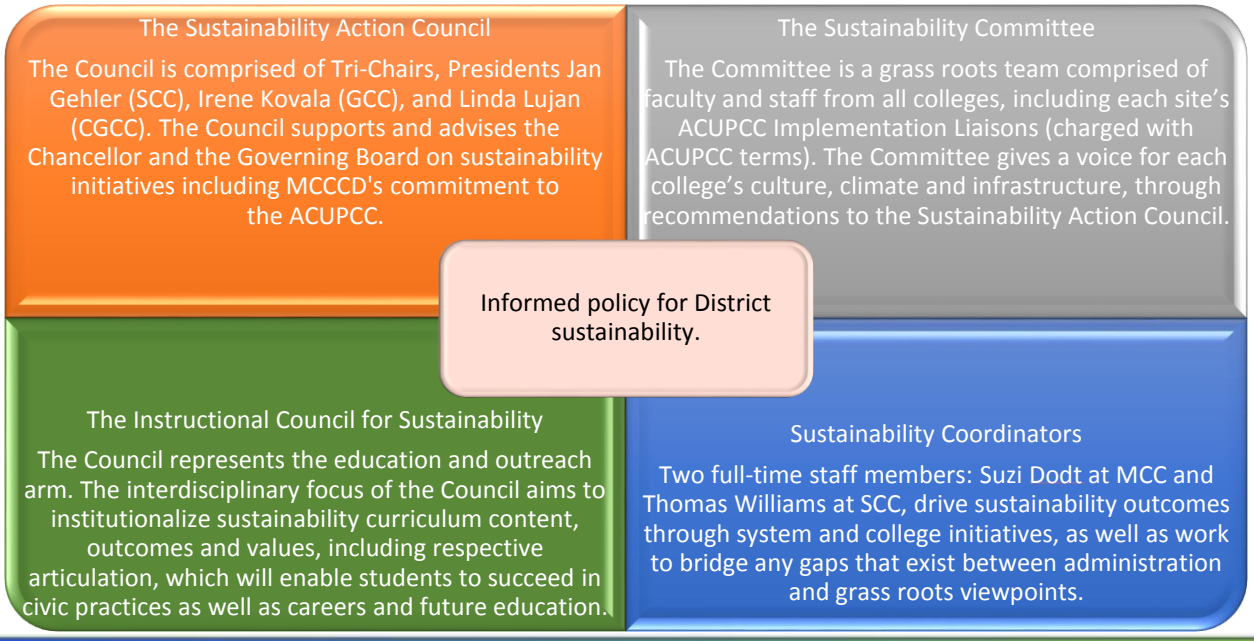
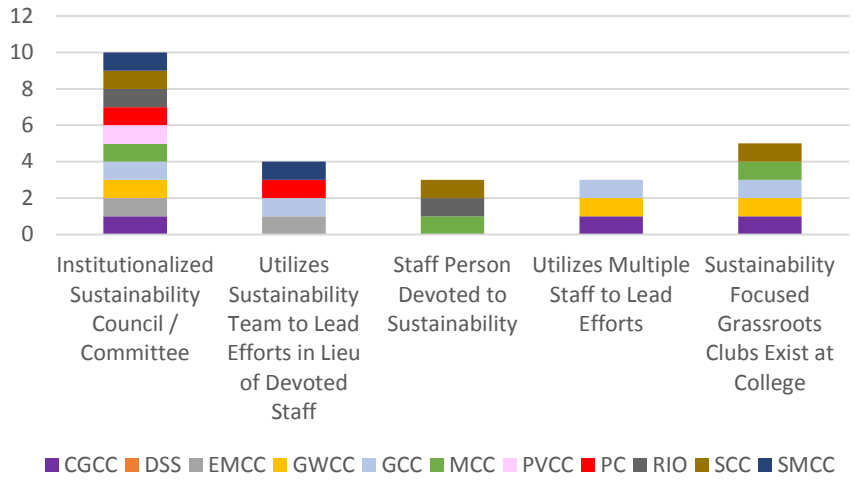


Figure 9. Sustainability Personnel



System-level leadership is complemented by teams and/or staff at each of the ten colleges charged with creating a culture of sustainability, i.e. establish focus areas, coordinate resources, and cultivate initiative awareness and motivation, at individual sites (Figure 9.). For example, SCC's Coordinator of Sustainability Programs co-chairs SCC's Sustainability Action Council; is responsible for ACUPCC reporting; sits on several committees to ensure fiscally sound, effective and sustainable use of energy, water and other resources; and teaches sustainability courses. At seven colleges, it is economically more feasible to have existing positions assume responsibilities consistent with those of the other sustainability coordinators, or to distribute responsibilities among multiple staff. GCC is unique in that they have implemented a Recycle Program Coordinator.

Members of sustainability committees/councils represent a broad range of college experiences providing a diversity of perspectives and a resource pool to further objectives. Although the composition may differ slightly (i.e. SMCC's committee is the only student-led group and GCC's Green Efforts Committee includes community members), and respective objectives are site-specific, these committees are the leadership arm for site event coordination, sustainability recommendations, and implementation of strategic and operational plans reflecting the TBL. Currently, colleges report providing release time for faculty to participate on these committees/councils, and/or that they consist of volunteers.

College grassroots groups/clubs whose missions are devoted to finding solutions for various local environmental and social sustainability concerns or interests provide different interpretations of sustainable development. For instance:

- CGCC's Humanitarian Environmental Action Team's (HEAT) mission is to inform, inspire, and ignite individuals regarding environmental issues and humanitarian disasters;
- GCC Green Efforts Committee joins students, faculty, staff and community members to work toward a more sustainable college in order to meet the needs of the present without compromising the needs of future generations;

- MCC's Environmental Action Club's goal is to promote environmental awareness through student outreach programs and service learning activities;
- SCC's Global Artichokes Club provides experiences in living and working together as an international/intercultural community; and
- PVCC and SMCC do not have groups with this mission specifically, they identified classes/clubs that occasionally drive sustainability events and goals.

All levels of sustainability stakeholders, whether with a mission devoted to sustainability or not, have supported myriad accomplishments at MCCCD's colleges consisting of fundraising, clean-ups, trainings, awards, grants, and other events. Examples of the various accomplishments in the past two years includes:

- CGCC's HEAT club Families of American Soldiers in Iraq fundraiser.
- MCC's Peervention Group cigarette butt clean-up.
- CGCC's Global Learning Committee Human Rights Day.
- GWCC's Lights Out Wednesdays.
- PVCC's Healthy Communities Fair.
- SMCC's Chemistry and Society and Biology students use a greenhouse to grow native flowers, flowers for home-made fragrances, and wax myrtle for candles.
- MCC's Student Life Department with PVCC's Diversity Inc. Maximizing Our Strengths as An Inclusive Community workshops.
- SCC's Center for Native and Urban Wildlife (CNUW) fellowship project.
- GCC's ACUPCC/Second Nature Climate Leadership Award finalist (2012, 2013, 2014).
- GCC's Alcoa Foundation Recycling Bin Grant (2013).

See PERSONNEL, page 27 of the full Survey for the complete list of responses.

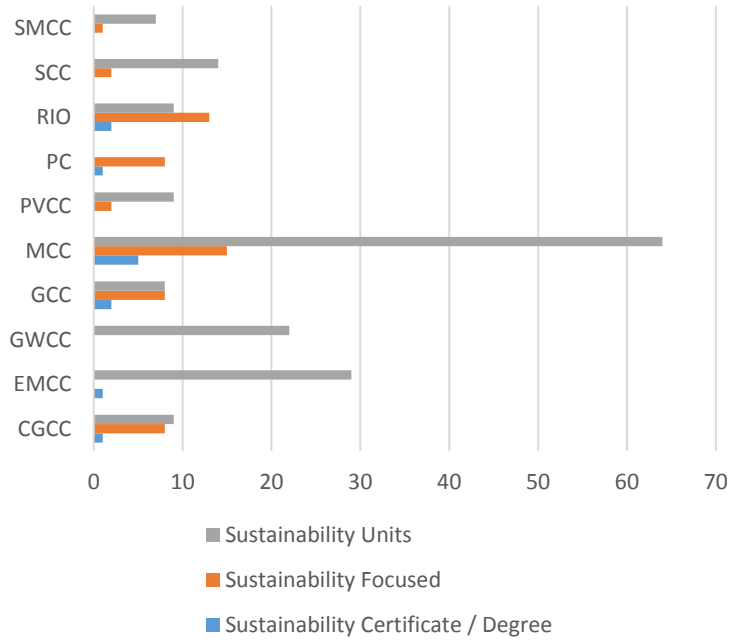
Multi-group collaboration is being recognized at three colleges. Despite their broad or niche focus, groups, clubs and committees are joining together to increase bandwidth including: GCC's Green Efforts works with the Student Environmental Club, the First Year Experience Club, and other clubs (e.g. S.T.E.M. Science, Technology, Engineering and Mathematics); and SCC's Inclusiveness Council works with the Sustainability Action Council to incorporate social justice into initiatives. CGCC works to include the entire college through a college theme. S.E.E. Your World theme focuses on the social, environmental and economic concerns of the local community, and is then woven into college culture, including curriculum, coursework, awareness collateral, research and service learning. Faculty buy-in is cultivated through the ownership of choosing topics for the theme. And, as a result of a college-wide approach, annually, more than 700 students directly participate in S.E.E. Your World activities.

CURRICULUM / CO-CURRICULAR ACTIVITIES

Education which integrates principles of sustainability through units, or in co-curricular activities, not only prepares students for emerging occupations and industries, it helps students learn about real local and global challenges and how to design, lead and implement actions that can contribute to a more sustainable future. In 2006, MCCCD launched the Global Sustainability Initiative to prepare students for the challenges facing the world through student and faculty education events. Since 2006, MCCCD students' interests to participate in sustainability courses and initiatives continue to grow. Thus, in response to this demand, as well as that of local employers, sustainability is being actively integrated into many aspects of colleges' curriculum.

To systemically manage this effort, in 2009, the Instructional Council for Sustainability (See PERSONNEL section, page 10) was formed. All 53 instructional councils responsible for evaluating new courses, curriculum and certificate programs were invited; 19 departments representing each college joined the Council and now collaborate to promote effective faculty communication and coordination. By February 2010, the Council received approval by the MCCCD curriculum committee for Natural Studies (SUS) and Social Studies and Humanities (SSH) prefixes; and later in 2012 Sustainability Career and Technical education (SCT) followed. As of the 2012-2013 Survey, the topic of sustainability crossed numerous academic and technical sectors. Sustainability is incorporated through courses such as, Food Service Management, OSHA, Multiculturalism, and various arts and science courses, to name a few, as a module or unit. Current responses indicate each college is at a different point in the curriculum integration process (Figure 10.) with MCC having the largest number of courses (64).

Figure 10. Sustainability Courses and Degrees



See CURRICULUM, page 34 of the full Survey for a full listing of survey responses identified in Figure 10.

Sustainability-focused courses concentrate on the concept, including its social, economic, and environmental dimensions, or examine an issue or topic using sustainability as a lens. SUS and SSH courses are accessible in the curriculum bank and used by eight colleges. In total, eight

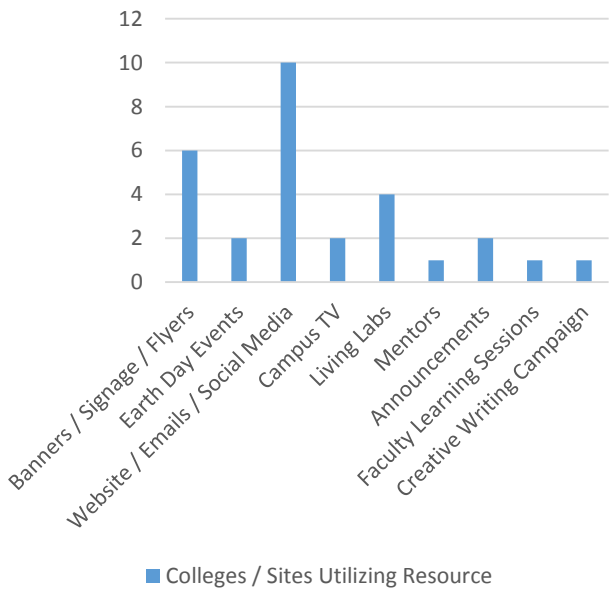
colleges offer 57 courses devoted to sustainability (Figure 10.). Examples of additional courses offered include: Geological Disasters and the Environment (CGCC, GCC, RIO), Nature and Environmental Literature (CGCC, GCC, PC, RIO), Environmental Ethics (CGCC, GCC, MCC, RIO), Sustainable Food Production Systems (MCC, RIO), Wild Land Firefighter (PC), etc.

Two colleges (GCC and MCC) reported currently offering an academic certificate in sustainability with four tracks to choose from: Track One: Earth Systems; Track Two: Social, Political, Economic Treatment of the Earth; Track Three: Coupled Human Environment Systems; and Track Four: Human Transformation of the Earth. PVCC, SCC and SMCC are in the process of reviewing/adding these offerings. Individually, colleges have added certificates and degrees which meet the needs of their specific student population:

- Sustainable Foods Certificate of Completion (RIO, MCC)
- Sustainable Foods Associate in Applied Sciences (RIO)
- Agribusiness Associate in Applied Sciences (MCC)
- Urban Horticulture Associate in Applied Sciences (MCC)
- Academic Certificate in Landscape Aide/Specialist (MCC)
- Academic Certificate in Environmental & Natural Resource Stewardship (PC)
- Academic Certificate in Ecological Literacy (CGCC, EMCC, GCC, and under consideration by SMCC)

Participation is consistent and strong where enrollment was recorded (RIO, CGCC). SCC's initial tracking trends lower enrollment with a high completion rate. At this time, achievements and the sheer number of courses being offered is demonstrating progress.

Figure 11. Educational Resources Utilized



To further sustainability education, in 2012, the Articulation Task Force (multi-institution), a subset of the Instructional Council, was formed to advocate for articulation agreements with four-year institutions. This has supported the enhancement and expansion of the Maricopa to ASU Pathways Program which offers pathways from MCCCD sustainability courses to two degree programs at the ASU School of Sustainability.

Colleges/sites are supporting these formal sustainability experiences and learning opportunities through myriad educational resources (Figure 11.).

Green Chemistry and Science Lab Practices

CGCC, EMCC, GWCC, and MCC report promoting green chemistry and science lab practices by reducing wastes generated through improving experiment design, using alternative/safer chemicals, and reducing the amount of chemicals necessary to accomplish educational goals. Successful practices include:

- MCC's response includes a detailed set of practices by various course labs including polishing and using all metals that are not consumed during an exercise, using scrap paper and reusable supplies, replacing toxic chemicals with lower toxicity, reusing fish tank water to water building plants, etc.
- SMCC's earth friendly chemical compound usage has achieved a staggering 95% reduction of hazardous compound usage and volume of compounds requiring Safe Harbor disposal.
- RIO's online structure offers green practices through simulation and virtual experiences, and science kits.
- PC and SCC state they take precautions and are mindful of environmental impact.

COMMUNITY

Communities that engage citizens and institutions to develop sustainability principles and a collective vision for the future and that apply an integrative approach to environmental, economic, and social goals are generally likely to be more successful[vii]. MCCCD aims to enhance our communities' capacities for societal change of sustainability habits and mindsets by cultivating community partnerships. MCCCD as a district participates in regional and national collaboratives by having representation with Arizona Higher Education Sustainability Conference (AHESC), Arizona Forward, United States Green Building Council, McDowell Sonoran Conservancy, etc. Eight colleges/sites are following this example and identified a wide range of community partnerships which exist to promote sustainability:

- CGCC partners with both APS and SRP for solar awareness initiatives.
- GCC partnered with Westech Recyclers and collected 60,189 pounds of electronics for the event.
- MCC partners with the city of Mesa to support revamping bicycle, bus, and pedestrian city access.
- PC and the Bureau of Land Management provide the Environmental and Natural Resource Stewardship (ENRS) Program to cultivate values of civic engagement through students' interdisciplinary studies and field experiences.
- RIO's employees volunteer their time to bring about social change through the Pay 30 Forward program.
- SCC partners with the Scottsdale Community Garden which has 190 plots located on the northeast corner of the college.
- SMCC partners with USDA/ARS to provide agricultural education.

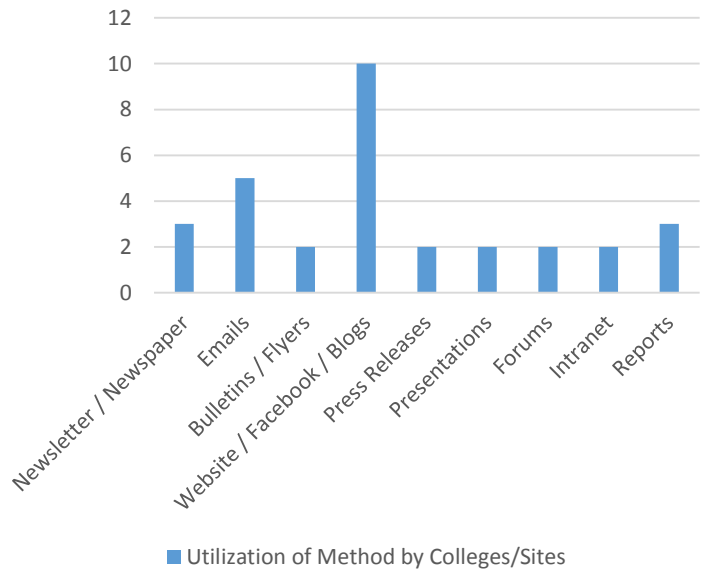
Through community partnerships, ten colleges and the DSS indicated they held at least one sustainability community event or participated in a civic engagement initiative, in the past two to five years. CGCC responded with the largest number of sustainability events (e.g. speakers, films, public forums, etc.), the majority focused on social education such as child labor, poverty, race relations, gender equality, etc. PVCC's accomplishments were those that offered social services to the community, including job fairs, English language activities, LGBT discussion groups, fire safety education and smoke detector installation, etc. MCC's responses focused on civic engagement through service-learning projects ranging from dental services to underserved children to community art projects to understand different cultures. SCC identified the Center for Civic and Global Engagement and Center for Service-Learning and Leadership as the organizers of community and service-learning events at the college, including awareness activities and maintaining a calendar of volunteer opportunities for students to serve in the community. Several colleges specifically identified Earth Day events as a main outlet for relevant community events.

Outcomes of these partnerships can lead to district-wide initiatives with proven success or practices. For example, GCC's partnership with the Environmental Defense Fund led to MCCCD instituting thermostat set-points at all sites (2014) which will have widespread benefits - financial and energy/emissions.

COMMUNICATION

Modeling and encouraging sustainable practices to students and the larger community is not possible without communicating what MCCCD is doing in terms of sustainability. This includes sharing related achievements to advance the system and/or site as a leader in sustainability. MCCCD and college/site established internal and external communication methods are leveraged for education and outreach initiatives, including those related to sustainability. Survey responses specifically pinpoint which outlets are being utilized the most (Figure 12.).

Figure 12. Sustainability Communication Methods



Through these means, colleges/sites can disseminate information on sustainability progress to maintain transparency with stakeholders. For example:

- SCC uses their sustainability webpage to publicize completed Greenhouse Gas and Climate Action Plan progress reports;
- CGCC indicated they work closely with the Marketing and Public Relations department, including featuring events and achievements in the CGCC newsletter which is mailed monthly to students and more than 1000 community leaders; and
- RIO's green screen is an innovative way to inform individuals about some of the green features of the building as well as energy consumption, supporting awareness on behaviors and how they impact usage.

Responses demonstrate digital methods are more consistently used over traditional communication methods, which is actually a sustainable practice on its own. Individuals are constantly plugged in to their mobile technology and they expect to be able to access information wherever they go. Thus, all ten colleges maintain their own webpage(s) devoted to sustainability, and two colleges (CGCC, MCC) have Facebook pages in addition to those webpages. Traffic can be directed and followers generated to receive information from an accessible, easy-to-update platform. Further, page statistics can now be utilized to quantitatively measure communication effectiveness. GWCC, PC and RIO utilize the Institutional Advancement Department to maintain the webpages with updates made upon request through a helpdesk. The other seven respondents use the Sustainability Council/Committee or sustainability point person to manage these webpages and keep content current.

ADMINISTRATIVE SUPPORT

> WHERE SUSTAINABILITY WORKS BEST IS WHERE AN ORGANIZATION'S LEADERSHIP GETS IT AND WANTS IT TO HAPPEN AND ENABLES IT TO HAPPEN – SO EVERYONE FROM THE PERSON WHO SWEEPS THE FLOOR TO THE FINANCE DIRECTOR FEELS PART OF THAT CONVERSATION. Will Day, Chairman, Sustainable Development Commission (2010)

Public reporting on progress towards sustainability is a key driver for long-term success, and regular, public reporting is a central component of the ACUPCC[viii]. As a result each of the ten colleges are responsible for Greenhouse Gas Reports, Climate Action Plans, and ACUPCC Progress Reports. Nine colleges identified the Greenhouse Gas Reports as an analysis and reporting tool used to measure their institutional sustainability performance. Four colleges (CGCC, GCC, PC and RIO) each use the Clean Air-Cool Planet tool to complete their Greenhouse Gas Report; and EMCC recognized the AASHE Sustainability Tracking and Rating System (STARS) to measure college sustainability. In addition to ACUPCC-specific reporting, all ten colleges, and the DSS, complete annual County Trip Reduction Program reports/surveys. The District's Facilities Planning and Maintenance department participates in monitoring performance by utilizing a Building Management System as a measuring tool and SRP Spatia to monitor daily load profiles and monthly/annual trends.

Part of measuring sustainability is identifying practical indicators or metrics of sustainability and understanding how they can be measured over time to determine if progress is being made. There is no standard method of measuring, thus, colleges/sites were surveyed on environmental, social, or economic metrics which are used to measure institutional sustainability. Of those reporting, there is no consistent strategy:

- CGCC uses numbers and types of services provided through service-learning partnerships which focus around social and environmental metrics and economic metrics consist of measuring dollars spent with environmental benefits gained (ROI).
- GCC identified "metric tons of CO2 and United States dollars measure economically".
- SCC uses incremental comparisons through resource purchases and trip reduction program utilization and surveys, for environmental metrics. Expenditures are compared year-to-year and also analyzed for ROI (e.g. cost to install light sensors compared to the energy savings involved), for economic metrics. And, quantity and consistency of events and comparison of social efforts and incidence reports are being used as social justice metrics.
- SMCC analyzes trip reduction utilization, fleet mileage, student enrollment in courses, number of bottles saved (filling stations), waste reduction volume, energy consumption, sustainability webpage comments, surveys and proposals, employee and community feedback, and participation rates at events.

Each of the ten colleges has completed a Climate Action Plan, including: the earliest completed by RIO in 2009; CGCC, MCC, and SCC in 2010; and EMCC, GCC, PVCC, PC and SMCC in 2013. The Climate Action Plan is a significant part of the ACUPCC and entails outlining future goals for achieving climate neutrality. Goals are set and measured against a baseline with specific sectorial mitigation targets that build towards carbon neutrality. Climate Action Plan targets are attached in Appendix B.

Rebates and Income

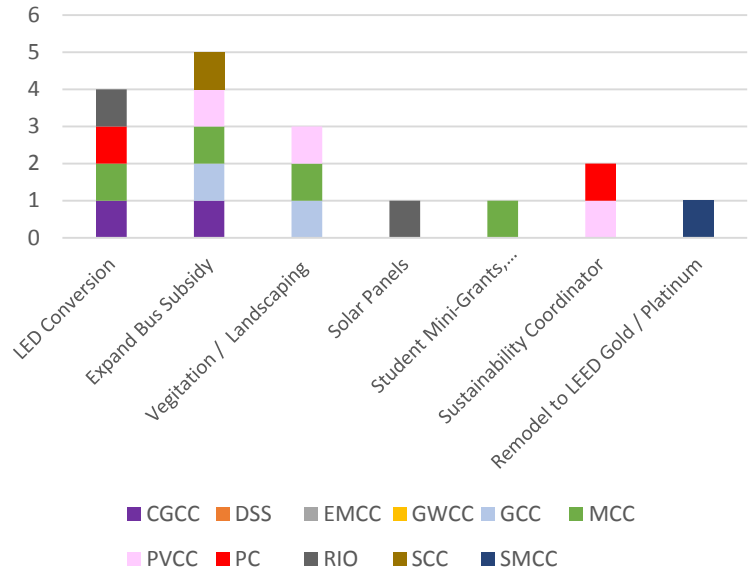
Colleges/sites are working to take advantage of revenue and incentive generating aspects of sustainability initiatives, while striving to achieve their goals. MCCCD strives to have a number of initiatives at every site that could be self-funding or be used to implement other initiatives:

- Recycling programs at SCC, GWCC, MCC and RIO operate through revenue generation. Additional funds then go to subsidize other initiatives: at SCC, these funds also then partially supported Trip Reduction initiatives in FY14/15; GWCC used funds to purchase and install water filling stations; and EMCC funds related student scholarships.
- CGCC funds diverse projects, including student scholarships, an LED conversion project, Environmental Technology Center needs, and plans to fund a Big Belly trash/recycle bins project.
- The DSS uses these funds specifically to offset costs of improvements and services utilized.

- PC has a long-standing educational discount with a utility company that they capture to invest in additional sustainability projects.

Once a best practice can be identified for accounting for sustainability funds, it will double as a means for economical measurements. Currently, the DSS, GWCC and MCC identify having specific accounts/funds for sustainability; EMCC sends rebates to the District; PVCC is in the process of establishing an account; and RIO's sustainability is funded through general operating funds. Although funds are being generated, sites are actively working to establish more funds to implement, enhance and expand efforts. Thus, colleges/sites were surveyed to find out what the budgeted financial commitments are to sustainability. CGCC commits the most funds at $50,000 followed by GCC at $35,000 and PVCC at $20,000. SMCC identified improvements totaling $24,500, and RIO identified $50,000 set aside for a renewable energy project - it was not specified if these are standing, annual amounts. The DSS stated that general obligation bond funds have been dedicated to sustainability, but an amount was not indicated. Three colleges indicated their financial commitments take different form as in-kind support of reassignment time for committee participation (CGCC, GCC) and a full-time staff assignment (SCC).

Figure 13. Wish List Practices/Goals



Establishing consistent budgets and revenue generation streams, especially with newer initiatives that lack measurable ROI, can be an obstacle to the success of sustainability practices. Colleges/sites were asked for a wish list of what practices would be funded with funds not spent/funds saved and what the environmental impact/cost savings would be (Figure 13.). Two colleges sought feedback for this response from stakeholders: MCC surveyed suggestions from employees on projects they would support; and GCC included projects that their Environmental Club is exploring. The consensus is that respondents would focus on enhancing or expanding successful initiatives.

When exploring the potential benefits of these practices (Figure 13.), the majority of respondents recognized energy reduction and efficiency benefits. CGCC and PC recognize their energy savings through LED conversions would be substantial, based on savings seen thus far. GCC offered a strategic approach to fund electricity meters for every building and then build a

database to visually show daily performance. This would identify problem facilities, and institute appropriate repairs and upgrades. As a result, the utilities profile will be lower and the cost of solar and other alternative energy sources would be much more affordable for GCC to purchase. RIO's strategy also revolves around energy and is to install solar photovoltaic systems on the parking garage and Hohokam building, reducing grid power and generating funds through a Power Purchase Agreement. Based on a study conducted by the Environmental Defense Fund, SCC's strategy focuses on SOV and emissions reductions by expanding the trip subsidy program saving up to $200,000.

FACILITIES

Sustainability is met through a combination of behaviors – mindfulness and personal practice – policy, and infrastructure and building management. Although each site has Maintenance and Operations or facilities personnel, practical and diverse input by faculty, staff, students and other building users about sustainability can be instrumental as a way to preserve resources. Several sites recognize these are not formal mechanisms, yet they are two-way communication avenues for feedback. To capture both bottom up and top down efforts, a One Maricopa approach may be beneficial for creating a formal feedback loop.

Figure 14. Mechanisms for Feedback, Sustainability Initiatives

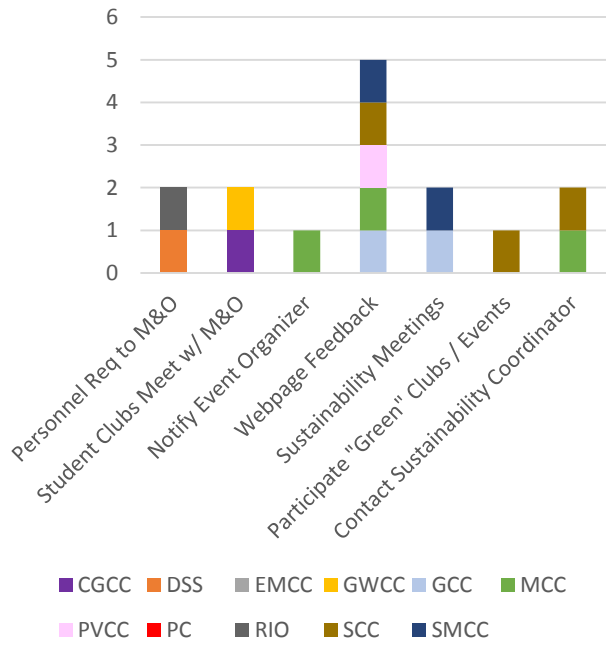


Figure 15. Mechanisms for Feedback, College Operations

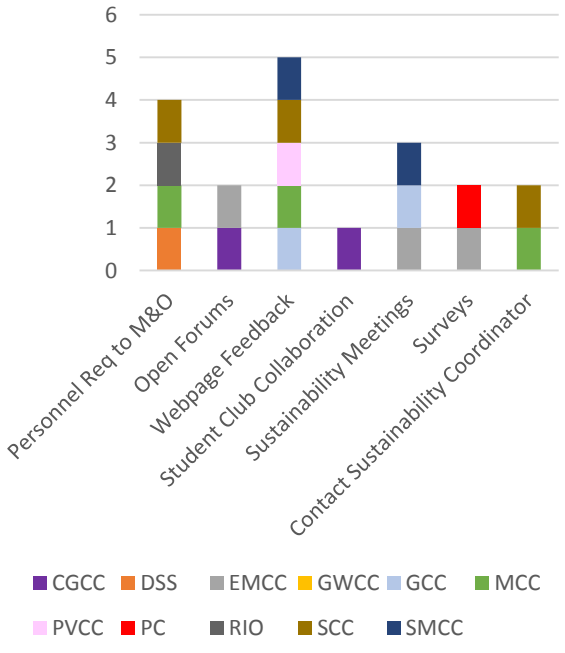


Figure 14. and Figure 15. delineate communication mechanisms for college improvements. Specifically, Figure 14. displays mechanisms reported by nine respondents for faculty, staff, and students to provide feedback about college operations in an effort to reduce energy consumption or improve the sustainability of the institution. And, Figure 15.

shows mechanisms reported by nine respondents for college users to make suggestions specifically related to improving sustainability initiatives.

Sustainable Remodeling and Construction

A significant level of upkeep and construction is required to maintain facilities and to meet student enrollment needs. Since signing the ACUPCC, this has included retrofits, efficiencies and meeting LEED specifications. As detailed on the Business Services Division website, District Facilities Planning and Development serves as a district-wide resource for capital planning, development and facilities maintenance including energy and water conservation programs, energy management systems, and optimum utilization, operation and efficiency of central plants and utilities systems. All respondents are following the District's published capital development processes and design standards, as well as its policy to meet Silver LEED standards for new construction and remodel projects. As a result, sites are reaping the benefits of LEED points; GCC's building space has increased, energy use has decreased and the utilities budget has remained constant. The survey requested colleges/sites identify what specific efforts have been made toward sustainable remodeling and construction. For example, RIO indicates they make every effort to choose materials and products that have a reduced impact on the environment; and CGCC considers all suitable options – funding, feasibility, and sustainability – with any and all remodels and new construction. A number of college improvements were previously identified in REDUCTION, page 5, and sites' LEED design and construction are further detailed in Figure 17., page 23.

When it comes to notifying building occupants about sustainable remodeling and construction, all colleges are using existing marketing tools: social media, newsletters, college tours, college forums, employee meetings, and college communications and marketing staff, to communicate efforts to building occupants.

Green Cleaning Products

As part of a comprehensive effort to be "green", ten colleges and the DSS have implemented the use of eco-friendly cleaning products. GWCC has developed the "Gateway Community College Green Cleaning Policy and Program Plan LEED for Existing Buildings: Operations and Maintenance", effective January 2014. The document outlines policies for purchasing, measuring performance, optimizing use, handling and storage, etc. GWCC and the DSS both have included their cleaning contractors in green cleaning products and procedures to reflect the sites sustainability practices. Sites are reinforcing their sustainability goals in this area by using products designed for cold water in order to conserve energy, purchasing cleaning equipment that uses less electricity or water to operate, installing eco-friendly flooring that uses eco-friendly cleaning procedures, and conducting training on proper use of products, all reinforces sustainability goals.

GREEN BUILDING DESIGN

> GREEN BUILDINGS ARE A HALLMARK OF ECONOMICALLY SOUND BUSINESS DECISIONS, THOUGHTFUL ENVIRONMENTAL DECISIONS, AND SMART HUMAN IMPACT DECISIONS. Rick Fedrizzi, U.S. Green Building Council

As mentioned, colleges strive to meet LEED standards and attain points, specifically at least the Silver level for new building and renovations. Where feasible, colleges/sites obtain higher ratings. However, not all colleges/sites certify buildings even if they meet the standards, due to costs – 54% of buildings are certified; three sites have 100% certification. Figure 16. identifies all buildings at each site that have been built to at least the LEED Silver standard or received certification, in the past two years; the total district-wide is 27 buildings with CGCC having the largest number of LEED buildings. Approximately 33% of the green buildings are Gold level – CGCC has the largest number of Gold level buildings, and GWCC has the highest ratio of Gold buildings. The majority of green building has been new projects (87%) vs remodeling (13%). The DSS does not have any recent construction, thus, they did not have any green buildings to include.

Figure 16. Green Building Inventory

	# of Buildings	% LEED Certified	% Silver Rated or Standard Achieved	% Gold Rated or Standard Achieved	% New Build	% Remodel
CGCC	7	86%	50%	50%	100%	0%
EMCC	2	50%	50%	50%	50%	50%
GWCC	2	50%	0%	100%	100%	0%
GCC	2	100%	100%	0%	100%	0%
MCC	4	50%	25%	75%	50%	50%
PVCC	3	0%	100%	0%	67%	33%
PC	3	0%	100%	0%	67%	33%
RIO	2	100% pending	50%	50%	100%	0%
SCC	1	100%	100%	0%	100%	0%
SMCC	1	0%	100%	0%	100%	0%

Figure 17. Green Building Features

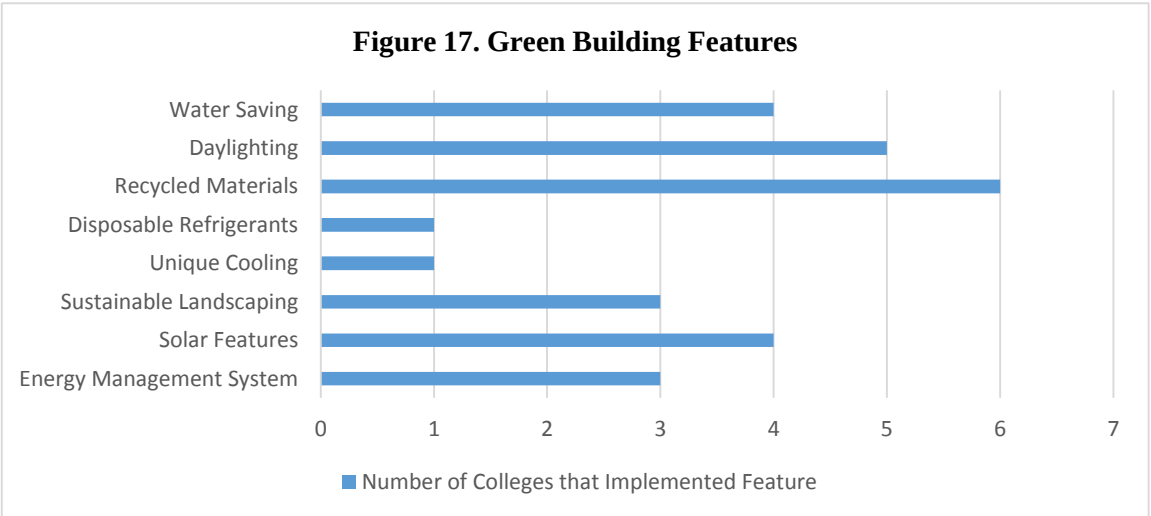


Figure 17. highlights the green building design and construction features that colleges are integrating to achieve LEED points, and meet sustainability goals.

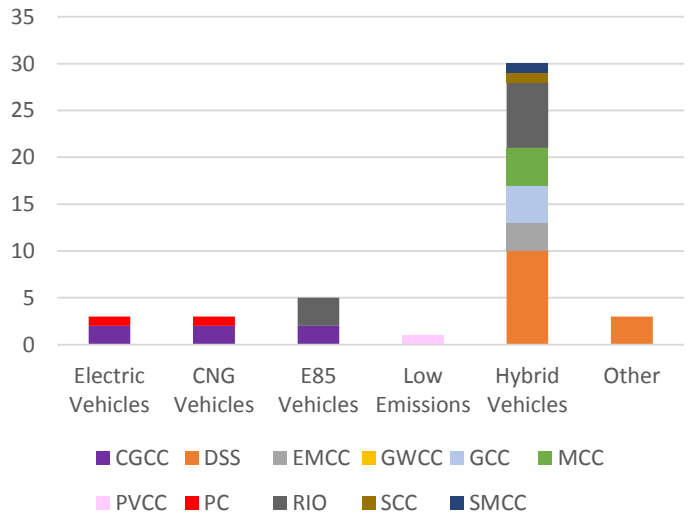
GREEN PURCHASING

Green purchasing, in the past two years, is reflected at each site in the practice of purchasing energy star appliances and electronics, testing the use of green products, and, the majority of sites are striving to consider green options as a purchasing priority for everyday supplies, although costs can be higher. These purchases include: recycled paper, recycled inks/toners, other recycled office supplies, and green cleaning supplies. One college has a formal green cleaning policy and program which encompasses purchasing policies. However, MCCCD's Sustainability Committee is in the process of working with the Governing Board to establish a green purchasing policy for public dissemination.

Green purchasing is not limited to appliances and office products, it also consists of minor and major purchases for efficiency projects. MCCCD is exploring new ways of diversifying its energy sources. As solar has become more affordable to invest in Arizona in the past years, Maricopa Community Colleges have decided to move forward with the installation of solar panels at their colleges. Currently eight of the ten colleges will install solar on their grounds, with the total district-wide solar system reaching a capacity of approximately 40 Mega Watt hours of energy output. For more information on where and how these solar panels will be installed at your college, please contact your college Facilities Management Office.

COLLEGE

Figure 18. Efficient Vehicle Inventory



A significant shift in MCCCD vehicle purchases now reflects the integration of alternative fuel vehicles and eco-friendly vehicles, Figure 18. All ten colleges and the DSS have at least one efficient vehicle with the District averaging 35% of total vehicles. In addition, three colleges utilize electric carts on site vs gas. Sites responded that they are committed to carrying this effort forward by continuing to increase the purchase of efficient vehicles over time and as replacements are needed. Vehicle efficiency efforts are also complemented by the district-wide focus on electric vehicle charging stations actively being used, and monitored, at seven sites – RIO alone has more than 30 stations.

Cafeteria Sustainability

Colleges would like district-wide options for improving cafeteria sustainability, since Chartwells is a vendor for multiple colleges, and sustainability practices/initiatives vary at each location. Further, colleges feel they have limited ability to make changes. Practices implemented at one or more locations include energy saving strategies, materials recycling and use of recycled materials, local food purchases, reusable cup incentives, participation in composting, etc. RIO does not utilize Chartwells, they have Café @ Rio, a sustainable teaching facility that serves students, faculty, staff, the DSS and the local community. Sustainable features of the Café @ Rio include energy efficient appliances, tray-less dining, compostable and recyclable food/beverage containers - the Café strives for zero waste generation through comprehensive recycling and composting. Further, it features seasonal menus, locally-produced food, as well as food produced using humane labor practices. All colleges responded they would like to improve practices to increase the sustainability of food services.

Outstanding Sustainability Performance and Stewardship

Five colleges have been recognized for outstanding sustainability performance or stewardship. Of the recognitions, four colleges received both national and local accolades. Two colleges have had overlapping recognitions: CGCC (2012) and GCC (2012-2014) have both been finalists for the Second Nature Climate Leadership Award which recognizes innovative and advanced leadership in education for sustainability, climate mitigation and adaptation, and institutionalized sustainability at signatory campuses of the ACUPCC. In 2007, CGCC was one of four colleges nationwide to receive The Association of the Advancement of Sustainability in Higher Education (AASHE) Campus Sustainability Leadership Award. This award is presented to institutions that have made the greatest overall commitment to sustainability as demonstrated in their education and research, college operations, and administration and finance. Other recent awards include:

- 2007 SRP EarthWise Energy Star Partner (CGCC)
- 2009 America's Greenest Campus (RIO)
- 2011 Arizona Recycling Coalition Excellence in Recycling (SCC)
- 2012 Westmarc Quality of Life Enhancement Award (GCC)
- 2012 TerraCycle top 100 collectors for writing implements (MCC)

Sustainability Related Competitions

There are a number of local and national opportunities to compete against other institutions, as well as to use to rally stakeholders into action. Of these, the Campus Conservation Nationals (CCN) is the largest electricity and water reduction competition for colleges and universities in the world, with over 150 colleges and universities participating in 2015. The Real Food Challenge (RFC) is a competition to secure commitment pledges to purchase more local, fair, sustainable, and humane food; the network has secured over $60 million worth of pledges to date. For reasons of lack of manpower or interest, currently, only one college participates in local and national sustainability related competitions, and two other colleges hold internal

sustainability competitions. GCC is the college which actively participates in external challenges/competitions. GCC participates annually in RecycleMania, an eight-week waste reduction competition, and in Second Nature's Climate Leadership Award. As Valley Metro hosts competitions, GCC participates in those as well; multiple awards have been received. SCC is home to the RECYCREATION Scholarship for students, and SMCC challenges the public to submit sustainability proposals for innovative projects to implement at the college.

HOW DO WE MEASURE UP: ACUPCC FRAMEWORK?

As part of MCCCD's pledge to eliminate colleges' net greenhouse gas emissions, in a reasonable period of time, a series of implementation steps are involved (See Appendix C). Implementation includes taking two tangible actions while the more comprehensive Climate Action Plan is being developed – nine of ten colleges chose three or more tangible actions. Figure 19. outlines the processes each college is taking and has taken in support of the pledge, and toward carbon neutrality, demonstrating how MCCCD is measuring up to the ACUPCC framework.

Figure 19. ACUPCC Signatory Institution Status

	Institutional Structure	At least 2 Tangible Actions	GHG Reports Completed	GHG Report Due	Climate Action Plan	Progress Reports Completed	Progress Report Due
CGCC	✓	✓	5	1/15/17	2010	2	1/15/16
EMCC	✓	✓	2	1/15/16	2013	0	5/15/15
GWCC	✓	✓	3	1/15/16	2011	1	1/15/15
GCC	✓	✓	2	1/15/16	2013	0	1/15/15
MCC	✓	✓	3	5/15/15	2010	2	1/15/16
PVCC	✓	✓	2	1/15/14	2013	0	1/15/15
PC	✓	✓	2	1/15/16	2013	0	5/15/15
RIO	✓	✓	6	1/15/17	2009	2	1/15/16
SCC	✓	✓	2	3/15/15	2010	1	1/15/16
SMCC	✓	✓	1	4/15/14	2013	0	1/15/15

NATIONAL MODELS AND EXAMPLES

MCCCD chooses to measure sustainability progress against baseline and previous years' data. The District does recognize national norms and comparable systems are an important part of guiding initiatives which can show MCCCD what like-minded institutions have done successfully, and unsuccessfully. Since the sustainability movement emerged on college campuses in the 1990s, institutions have led by example in the development of green buildings and conservation measures that will reduce their carbon footprint[ix]. In the Findings and Recommendations 2009, seven colleges/systems were reviewed to highlight how higher educational institutions with rising expectations, and dwindling resources, are able to implement and sustain their commitment to the TBL. For this Summary, the approach was to identify

specific model components and best practices of others who are further along this path, for comparison and analysis.

- ✓ Reduction: Waste

University of Oregon Campus Zero Waste Program

Zero Waste is an important journey for college campuses to undertake as it is a vital component of a healthy future for generations to come. The University of Oregon Campus Zero Waste Program has published a toolkit to be used by colleges and universities as a guide to creating a Zero Waste Campus. This toolkit contains resources regarding the concept of Zero Waste, Zero Waste management practices and a sample Zero Waste campus pledge and model policy.

Zero Waste is a goal of creating Zero Waste through waste reduction practices that reduce consumption; purchasing durable goods that create opportunities for reuse and repair as to not consume more manufactured goods; and finally recycling and composting what absolutely must be discarded. Zero Waste practices focus additionally on sending nothing to the landfill or incinerator (including waste to energy, pyrolysis, gasification, biomass burners). This is referred to as No Bury, No Burn. Zero Waste goes beyond the management of discards. It is a whole systems approach to the materials management. Zero Waste includes discard management through recycling and composting, but it also must incorporate waste reduction and environmentally preferred purchasing practices. The inputs are just as important as the outputs when designing a sustainable system.

The environmental benefits of Zero Waste include: resource and energy conservation; waste and pollution reduction; and Greenhouse Gas (GHG) reduction. The Zero Waste strategy offers one of the easiest and cheapest ways of reducing a campus's contribution to GHG emissions. Beyond the environmental benefits, Zero Waste practices also lead to fiscal savings and system efficiencies.

- ✓ Reduction: Energy

Santa Fe Community College Sustainability Commitment

In 2006 SFCC developed a new five-year strategic plan with the active participation of the governing board, administration, faculty, staff, students, and the community. As an integral part of the plan, the college made a commitment that all its actions include sustainability, adopting a green and system-wide approach, and adapting new and emerging technologies. SFCC is making great strides shaping the institution into a model of energy generation and conservation, and applying the principles of sustainability to all aspects of campus life and academic, administrative, and plant operations.

Among the sustainable initiatives now underway are:

- Campus wide recycling program

- Campus wide low-consumption lighting
- Biomass training unit at Early Childhood Development Center
- Automated biomass heating system in place to heat entire campus
- Recycling wastewater for campus irrigation
- Installation of computerized control system to maximize efficiency of HVAC
- Solar thermal collectors heating campus swimming pool
- Electricity being generated by a grid-tied solar photovoltaic system
- Campus wide use of recycled copy paper
- Free filtered water available to reduce plastic bottle usage
- Foodservice utensils made from biodegradable material

✓ Reduction: Travel

Harvard CommuterChoice: Bike

- Bicycle commuters are eligible for tax-free reimbursement of up to $20/month at a maximum of $240/year for the costs associated with bicycle purchase, improvement, repair and storage.
- Travel across Boston, Cambridge, Somerville and Brookline on publically shared bikes. Bikes can be returned to any of the 100 stations across the network including the 12 supported by Harvard.
- Purchase discounted helmets, learn how to fix and repair your bicycle and find the location of Bike Repair Stations around campus.
- Bike racks and routes. Find out where on campus you can ride and park your bike.

University of Illinois at Urbana-Champaign iCAP Portal transportation projects

Traffic Calming: Traffic calming consists of engineering and other measures put in place on roads for the intention of slowing down or reducing motor-vehicle traffic. The University is implementing traffic calming techniques on campus to encourage the use of alternative transportation modes, and to make the campus more safe for pedestrians, cyclists, and persons with disabilities.

Zipcar: In 2009, the University also contracted with Zipcar to provide fuel-efficient vehicles for short trips in and around campus. Each Zipcar vehicle removes about 15 single-occupancy-vehicles from the road. The Campus Area Transportation Study (CATS) partners have brought Zipcar to this area, and there are currently ten Zipcars. These are normal fuel-efficient cars, that are used by the hour for round-trips only. They are highly successful on campus, and F&S staff approve new UI affiliated memberships daily.

✓ Personnel

UMass Amherst student-led Real Food Challenge Commitment

Students were also the driving force in encouraging the university's chancellor, Kumble R. Subbaswamy, to sign the Real Food Challenge Commitment, which encourages colleges and universities to shift their food budgets toward locally based, fair, ecologically sound and human food sources by 2020. Last April, UMass Amherst, which serves 40,000 meals a day, agreed to work toward using sustainable food for at least 20 percent of its dining purchasing within the next seven years.

The involvement of students in projects like the Real Food Challenge is central to the university's sustainability goals, says Ezra Small, the campus sustainability manager. The creation of such student-led sustainability initiatives led UMass Amherst to be recognized as one of 22 colleges that received the highest possible score on The Princeton Review's 2014 Green Rating Honor Roll.

"It's important that we improve our physical campus, and we've done a great job with that with our master plan and climate action plan, but the reason we're here is for our students," Small says. "The key is to turn that into an opportunity to use our campus as a living laboratory and educate students with the skills they need to be sustainability leaders in the world once they leave here."

- ✓ Curriculum / Co-Curricular Activities

University of Pennsylvania Integrating Sustainability Across the Curriculum Program

Integrating Sustainability Across the Curriculum (ISAC) Program was established in 2012 to help Penn faculty introduce environmental sustainability into existing and new courses. Faculty participants explore sustainability concepts at a one-day workshop in the late spring, and then are partnered with an undergraduate student research assistant to work over the summer integrating sustainability into the course syllabi, lectures, assignments, reading material, and tests. The research assistants work 40 hours a week for eight weeks starting in June, and are paid by funds made available by the Academics Subcommittee of Penn's Environmental Sustainability Advisory Committee.

- ✓ Community

Chevrolet Campus Clean Energy Campaign Community Partnerships

As part of Chevrolet's Carbon Reduction Initiative with the goal of reducing up to 8 million metric tons of CO2, we're launching the Chevrolet Campus Clean Energy Campaign which provides funding to purchase and retire carbon reductions arising from clean energy efficiency projects on U.S. college and school campuses in a collaboration with stakeholders across the country such as US Green Building Council (USGBC) and the Association for the Advancement of Sustainability in Higher Education (AASHE).

The Chevrolet Campus Clean Energy Campaign objective is simple: strengthen the clean energy systems across the country that we want to be powering electric vehicles like our Volt and Spark

EV while retiring carbon to benefit the climate through an ingenious collaboration between new carbon market funding sources and US campuses striving for clean energy leadership. Chevrolet is helping to invest in a clean energy future worth driving towards, not only in its vehicles, but also in our communities.

The value of carbon funding can significantly contribute to campus' efforts to further accelerate its clean energy efficiency leadership. Funding can contribute 5-25% of the incremental capital needed to deliver clean energy efficiency performances at this leadership level: so the business case is compelling to spur even stronger campus clean energy leadership.
Campuses determine whether their performance in reducing carbon emissions through their clean energy efficiency leadership would qualify them to receive funding from Chevrolet. U.S. colleges and K-12 schools are eligible for application.

There are two eligible pathways through which campuses can earn credit funding from their energy efficiency carbon reductions: LEED certified individual buildings on campus or Campus-wide reductions (in either stationary 1 or scope 2 electricity emissions. Not for K-12 schools)

Some campuses are already piloting new projects with Chevrolet sharing why this opportunity is compelling from their point of view and what they have learned.

- ✓ Communication

The University of British Columbia Sustainability Videos

UC Berkeley Office of Sustainability Communications and Marketing Plan
This Communications and Marketing Plan (Plan) is intended for use with the Communications Toolkit, a set of files that includes example documents, contact information, and additional guidance for implementing the Plan. Key documents in the Toolkit include: • Communications Inventory, a detailed description of each activity listed in the Communications Activities section of this document, providing additional guidance, ideas, metrics, key information, contacts, and websites. • Communications Matrix, an excel spreadsheet containing all of the information in the Communications Inventory, and allowing the user to sort the information based on timeline, priority, etc. • Stakeholder database, an excel spreadsheet of contact people relevant to sustainability and communications.

Key campaigns for sustainability communications for the 2009-2010 Academic Year are Recycling and Transportation. We chose to focus on these topics because the community needs more guidance on the specifics of these programs, and how they operate on campus, than topics like energy and water conservation. The goals for these two campaigns are-- Recycling: To raise awareness of proper recycling and composting, and to increase diversion rates. Transportation:

To expand awareness of the impact of transportation on the environment and UCB's climate goals, and to increase the use of alternatives.

- ✓ Administrative Support

Austin Community College (ACC) Sustainability Fee

The college is rolling out a number of initiatives that are making us better stewards of the environment. To fund these efforts, the Board of Trustees approved a sustainability fee effective spring 2010.

How much is the fee?

The fee is $1 per semester credit hour, with the average student paying $8 a semester.

How will the fee be used?

From recycling to Green Car parking, ACC is creating new initiatives to help make carbon neutrality a reality.

How much will the sustainability fee raise?

ACC estimates the sustainability fee will generate $750,000 a year.

- ✓ Facilities

Lee College Energy Services Performance Contract

The Clinton Climate Initiative (CCI) and the ACUPCC have partnered to support ACUPCC signatories in reducing the energy use of campus buildings by executing large-scale building retrofit projects. CCI and ACUPCC have created and published an energy services performance contract (EPC) toolkit for higher education that helps signatories understand and prepare for large-scale building retrofit projects. Signatories of the ACUPCC can access the benefits of CCI's Energy Efficiency Building Retrofit Program, including best practices contracting terms and advantageous pricing for energy efficient building technologies. For schools that have made the decision to take action and have internal capacity to support a project, CCI can provide pro bono support in planning, designing and implementing an energy efficient building retrofit project.

Several signatory schools have already begun to implement projects under this partnership. For example, Lee College, a public community college in Baytown, Texas is currently working with CCI on upgrading its entire 35 building campus using a best practices EPC method. When completed at the beginning of 2010, this project will reduce the college's annual energy costs by 32% and will reduce CO2 emissions by 4,434 tons per year.

Through its work with CCI, Lee College embraced the idea of executing a single large integrated retrofit project that could be self-funded through the use of EPC. The college designated the internal resources, including procurement, legal and financial decision-makers, and set a schedule to understand and carry out the project quickly. This allowed Lee College to take the project from initial concept to construction in just over a year, minimizing the cost of delay and

achieving significant cost savings and CO2 reductions that represent progress toward their ACUPCC commitments.

- ✓ Green Building Design

Lane Community College Green Building

Lane demonstrates its commitment to sustainability in its major construction and remodels**.** Since adopting the "Sustainability: Design and Construction" policy in 2006, all new construction has been LEED certified at the Gold level or higher and all major remodels have used LEED criteria as a guide for design.

- ✓ Green Purchasing

The NJDEP Bureau of Sustainable Communities and Innovative Technologies (BSCIT) Green Purchasing: A Guide for Local Governments and Communities

The implementation of a successful environmentally preferable purchasing (EPP) program requires a comprehensive approach to procurement that involves critical activities such as: a) the examination of an array of product attributes and not just the usual cost and performance factors, b) training of purchasers and users, c) the incorporation of environmental attributes in purchasing procedures and documents, and d) communicating EPP requirements to vendors/suppliers.

The environmental impacts of local government operations directly relate to products purchased and used. The "greening" of public purchasing is therefore an immediate and practical step local government and communities can take to improve environmental performance. Green or EPP not only helps improve environmental conditions, but also results in significant (but not always immediate) savings in local budget expenditures. EPP can also influence the behavior of other sectors, such as the business community, by setting an example and by sending clear signals to the market that there is a preference for green, clean and safe products. The purchasing decisions of a city, township or any other local government can have significant market influences. When municipal purchasing policies favor ecologically sensible products and services, these goods become more readily accessible to individuals and smaller businesses. It therefore makes sense, economically as well as environmentally, for local governments to establish and implement EPP programs. Growing interest and involvement in EPP by both public and private organizations have resulted in the availability of an increasing number of environmentally preferable alternative products in the marketplace, making the important transition to sustainable purchasing easier.

The purpose of this guide is to: Provide local governments with essential information on EPP; and Provide general guidelines on how to establish and implement an EPP program.

- ✓ College

The University of Illinois SmartWay Transport Initiative

"As the first-ever academic institution to register in SmartWay, University of Illinois at Urbana-Champaign leads the way for universities and other institutions to work as shippers in SmartWay and engage with their carriers and suppliers to improve freight efficiency, reduce greenhouse gases and other emissions from goods movement while also helping enhance our nation's energy security," said Christopher Grundler, director of EPA's Office of Transportation and Air Quality.

Launched in 2004, SmartWay has helped shippers and carriers save over 65 million barrels of oil (equivalent to taking more than five million cars taken off the road for a year) and cut air pollution by over 28 million metric tons of carbon dioxide and 22,000 tons of particulate matter.

Summary

The growth in the number of initiatives covered in this Executive Summary is just one indication of how sustainability has evolved into a District priority and is becoming more of a mainstream college practice, over the last five years. All stakeholders are living in a world undergoing unprecedented economic, environmental and social changes. The time committed to the Survey responses will benefit the entire district. The format of the Survey will continue to change to reflect evolution, and best capture critical data. For example, in the future, MCCCD could expand the Survey's summary to include a section to assess the quality of reporting among the colleges, to ensure all practices can be viewed under the sustainability lens to address challenges and understand potential benefits. Ideally, review and discussion of progress will support a mindset to think more strategically and positively about change, both operational and personal habits. Then, sustainability woven into MCCCD's daily fabric can be realized, generating maximum value for staff, faculty, students and community.

Next Steps

THE CHALLENGES OF PROVIDING SERVICE IN AN INCREASINGLY COMPETITIVE WORLD CANNOT BE MET BY 10 COLLEGES THAT ARE NOT WILLING TO COLLABORATE. YOU ARE URGED TO THINK DIFFERENTLY AND CREATIVELY. GO OUTSIDE THE PROVERBIAL BOX. WE DON'T HAVE TO DO THINGS THE WAY WE HAVE DONE THEM IN THE PAST. WE CAN MOVE INTO A NEW, BETTER TOMORROW. Chancellor Glasper, ONE Maricopa

Sustainability Tri-Chairs in collaboration with MCCCD stakeholders will take the 2014 Survey of Maricopa Sustainability Practices results, outcomes of the March 10, 2015 Sustainability Summit and guidance from Dr. Timothy Carter, Second Nature's President and CEO, and Dr. Mitch Thomashow, Second Nature Senior Fellow, and create a draft of action items. These next steps will be instrumental guidance particularly as we enter fiscal year 2016 to reflect the current District vision and One Maricopa. The document will include, but not be limited to:

- Action items formulated from the Summit reflecting climate action planning, organizational leadership, curricular implementation, and community investment.
- Chancellor's Comprehensive sustainability agenda and guiding principles that align with Maricopa Priorities, and are cultivated from the Summit.
- Concrete steps and plans for solar implementation at colleges.
- Recommendations for Sustainability Staffing, including a champion at the District level.
- Increased visibility and involvement in curriculum design, revision and articulation to baccalaureate institutions.
- Budget recommendations to address the goals outlined.
- Prioritization of low, medium and high outcomes as affirmed by the District report and the Summit.

The document will be distributed for review and comment to CEC, District Sustainability Committee and District Office staff, by April 15, 2015.

Appendix A
2014 Survey of Maricopa Sustainability Practices
College and DSS Contacts

Contact	Title	Phone
CGCC		
Trina Larson	Project Coordinator, Administrative Services	(480) 732-7222
DSS		
Ted Dick	Architectural Project Manager	(480) 731-8983
EMCC		
Nadine Scowden	Coordinator of Curriculum & Academic Scheduling	(623) 935-8319
GCC		
Polly Ann Blake Laubach	Faculty Advisor	(602) 684-8563
GWCC		
Ray Laehu	Manager of Building Operations	(480) 654-7213
Christine Lambrakis	Director of Marketing, Public Relations & Sales	(602) 286-8227
Christine Taccone	Science Lab Coordinator	(602) 286-8694
Bonnie Welsh	Administrative Assistant	(480) 732-7014
Kristy Warfield	Assistant Director of Student Services	(602) 238-0010
MCC		
Suzi Dodt	Environmental Sustainability Coordinator	(480) 461-7263
PVCC		
Brett Garwood	Facilities Project Manager	(480) 731-8230
Jeannette Saxon	Administrative Assistant	(602) 787-6612
Michaelle Shadburne	Manager of Employee & Organizational Development	(602) 787-6500
PC		
Sharon Halford	Dean, Academic Affairs	(602) 285-7434
Doug McCarthy	Director of Facilities Planning & Development	(602) 285-7245
Irene Ruiz	Curriculum Coordinator	(602) 285-7887
Teresa Wadman	Administrative Assistant	(602) 285-7436
RIO		
Christopher James	Administrative Assistant	(480) 517-8348
Shannon McCarty	Dean, Instruction	(480) 517-8533
SCC		
Thomas Williams	Coordinator of Sustainability Programs	(480) 425-6928
SMCC		
Robert Holmes	Director of Facilities Planning & Development	(602) 243-8062
Marshall Logvin	Biology Instructor	(602) 243-8117

Appendix B
Climate Action Plan Goals and Target Dates for Climate Neutrality
Compiled from ACUPCC Reporting System

Hyperlinks are provided to view each college's report submitted to the ACUPCC.

Target Date	Emission Targets
	Chandler Gilbert Community College
2050	10% reduction in Total Scopes 1, 2, 3 Emissions by 2020 relative to baseline emissions in 2008 25% reduction in Total Scopes 1, 2, 3 Emissions by 2030 relative to baseline emissions in 2008 5% reduction in Purchased Electricity Emissions by 2016 relative to baseline emissions in 2008 5% reduction in Total Scope 2 Emissions by 2017 relative to baseline emissions in 2008 5% reduction in Air Travel Emissions by 2017 relative to baseline emissions in 2008
	Estrella Mountain Community College
2024	EMCC anticipates carbon neutrality by 2024 by implementing best practices for energy conservation and commuting strategies and will offset remaining emissions with the purchase of green energy credits and carbon offsets.
	GateWay Community College
2099	10% reduction in Total Scopes 1, 2, 3 Emissions by 2030 relative to baseline emissions in 2010 10% reduction in Stationary Combustion Emissions by 2030 relative to baseline emissions in 2010 20% reduction in Total Scopes 1, 2, 3 Emissions by 2050 relative to baseline emissions in 2010
	Glendale Community College
2025	3% reduction in Community Emissions by 2014 relative to baseline emissions in 2010 8% reduction in Commuting Emissions by 2016 relative to baseline emissions in 2010 13% reduction in Commuting Emissions by 2018 relative to baseline emissions in 2010 18% reduction in Commuting Emissions by 2020 relative to baseline emissions in 2010 23% reduction in Commuting Emissions by 2022 relative to baseline emissions in 2010 28% reduction in Commuting Emissions by 2024 relative to baseline emissions in 2010

	30% reduction in Commuting Emissions by 2025 relative to baseline emissions in 2010 40% reduction in Purchased Electricity Emissions by 2016 relative to baseline emissions in 2010 45% reduction in Purchased Electricity Emissions by 2018 relative to baseline emissions in 2010 55% reduction in Purchased Electricity Emissions by 2020 relative to baseline emissions in 2010 65% reduction in Purchased Electricity Emissions by 2022 relative to baseline emissions in 2010 50% reduction in Total Scopes 1, 2, 3 Emissions by 2020 relative to baseline emissions in 2010 8% reduction in Total Scopes 1, 2, 3 Emissions by 2014 relative to baseline emissions in 2010 31% reduction in Total Scopes 1, 2, 3 Emissions by 2016 relative to baseline emissions in 2010 43% reduction in Total Scopes 1, 2, 3 Emissions by 2018 relative to baseline emissions in 2010 71% reduction in Total Scopes 1, 2, 3 Emissions by 2020 relative to baseline emissions in 2010 85% reduction in Total Scopes 1, 2, 3 Emissions by 2022 relative to baseline emissions in 2010 95% reduction in Total Scopes 1, 2, 3 Emissions by 2024 relative to baseline emissions in 2010 100% reduction in Total Scopes 1, 2, 3 Emissions by 2025 relative to baseline emissions in 2010
	Mesa Community College
2050	10% reduction in Total Scopes 1, 2, 3 Emissions by 2020 related to baseline emissions in 2008 25% reduction in Total Scopes 1, 2, 3 Emissions 2030 relative to baseline emission in 2008
	Paradise Valley Community College
TBD	Within two years of their implementation start date, all signatories agreed to develop a climate action plan that included a target date and interim milestones for achieving climate neutrality. Climate neutrality is defined as having no net greenhouse gas (GHG) emissions, achieved through conservation, energy from renewable sources, carbon offsets, or other measures which mitigate remaining emissions. Before even completing the GHG emissions inventory, PVCC Administrative Services Division began to implement operational strategies that would lead to reductions in emissions. Uncertainty exists about what actions can be taken to offset emissions

	resulting from being a commuter-centric campus due to both budget challenges and changes at PVCC's leadership level. The college has been without a permanent Vice President of Administrative Services for over two years. This position serves as the primary advocate and designated implementation liaison for the ACUPCC. The economic downturn has both contributed to steps we might take to mitigate GHG emissions and a natural decrease of those emissions due to the economic constraints of our commuter population. While purchasing energy credits seems to be the most expeditious offset to commuter emissions, an analysis by our District Facilities Planning Department has recommended that the greatest return on investment in reductions is finding more efficiencies in our daily operations. In addition, the purchase of energy credits is not possible at this time due to budget reductions and redirected budget priorities. As we find and execute efficiencies and measure the impact on overall emissions, our Climate Neutral Plan will be reviewed and revised to incorporate new trends and to apportion some percentage of savings from those efficiencies toward projects we currently are not able to fund through current allocations.
	Phoenix College
2022	25% reduction in Total Scope 1 Emissions by 2022 relative to baseline emissions in 2010 25% reduction in Total Scope 2 Emissions by 2022 relative to baseline emissions in 2010 25% reduction in Total Scope 3 Emissions by 2022 relative to baseline emissions in 2010
	Rio Salado Community College
2050	15% reduction in Total Scopes 1, 2, 3 Emissions by 2020 relative to baseline emissions in 2008 25% reduction in Total Scopes 1, 2, 3 Emissions by 2025 relative to baseline emissions in 2008 30% reduction in Total Scopes 1, 2, 3 Emissions by 2030 relative to baseline emissions in 2008
	Scottsdale Community College
TBD	A. Reduce Consumption ⎪ Reduce electricity consumption by a minimum average of one percent relative to 2007 baseline ⎪ Reduce transportation emissions (though substituted passes for alternative transportation) ⎪ Eliminate emissions from paper ⎪ Eliminate emissions from waste ⎪ Eliminate emissions from agricultural inputs

	B. Produce Renewable Energy ⎫ Produce maximum viable solar energy ⎫ Produce maximum viable energy from waste ⎫ Produce maximum viable wind energy C. Buy Green Power ⎫ Buy green power for 100% of electricity consumption
	South Mountain Community College
TBD	SMCC faculty and students are working towards this goal/target(s). SMCC's greenhouse gas mitigation strategies include: Goal 1. In the Organizational Excellence and Technology Team that includes membership from all employee groups, students, and community. Develop a sustainability strategic plan that encompasses SMCC values and strategic directions; Develop and post action plans, reports, and progress on SMCC sustainability webpage. Distribute monthly updates electronically; Student Life – add sustainability to their activities & clubs; College Business Services – add sustainability to innovation and Prop 301 funding proposals and to purchases such as vehicles and appliances; Security – take into account landscape alteration, use of natural resources adopt a biocentric view; Learning – add sustainability to course and programs (possible examples: Entrepreneur, Med. Assisting, Story Telling, Natural Sciences; Recycling – educate staff on what is and is not recyclable; measure , and record data; Facilities - Reduce paper towel use, use low flow showers, motion sensor faucets, filtered water stations for staff, golf cart charging stations (perhaps w/ solar installations), centralized recycling for paper, bottles, aluminum cans. Other departments… Goals #2 & #3 Identify areas & amounts of usage at SMCC & Off-sites and set benchmarks Reduce CO2 by _____ % Reduce Paper by _____ % Reduce Energy by _____ % Reduce Air travel by ___ % Reduce Water by _____% Reduce solid waste by __% Reduce toxic waste by __% Environmental Responsibility (Goal #4) Landscape w/ indigenous plants;

	Preference to local vendors; Preference to earth-friendly products; Offer sustainability course in Fall 2014; Involve student clubs in community gardens, Earth day Social Justice (Goals #5 & 6) BIO 105 students and Student clubs might attend City of Phoenix Planning meetings to learn about Sustainability & Environment Issues in our Community; Attend local energy fairs, sustainability lectures. Economic Feasibility

Appendix C
ACUPCC Terms

Upon signing the Commitment, the first implementation step is setting up an institutional structure or committee/council, which the District, and each college has completed. Signatories then complete a Greenhouse Gas Report inventorying emissions. This is followed by the creation and implementation of a climate action plan that includes a target date and interim milestones for achieving college climate neutrality. Concurrently, signatory colleges are encouraged to take two of seven tangible steps, outlined in the table below, to reduce greenhouse gas emissions. Further, as part of the Commitment, colleges are charged with integrating sustainability into curriculum and making it part of their students' educational experience. The entire process is intended to be transparent by making the action plan, inventory and progress reports publicly available on an annual basis.

1. Establish a policy that all new college construction will be built to at least the U.S. Green Building Council's LEED Silver standard or equivalent.
2. Adopt an energy-efficient appliance purchasing policy requiring purchase of ENERGY STAR certified products in all areas for which such ratings exist.
3. Establish a policy of offsetting all greenhouse gas emissions generated by air travel paid for by our institution.
4. Encourage use of and provide access to public transportation for all faculty, staff, students and visitors at our institution.
5. Within one year of signing this document, begin purchasing or producing at least 15% of our institution's electricity consumption from renewable sources.
6. Establish a policy or a committee that supports climate and sustainability shareholder proposals at companies where our institution's endowment is invested.
7. Participate in the Waste Minimization component of the national RecycleMania competition, and adopt 3 or more associated measures to reduce waste.

For a full version of the commitment text, please use the following hyperlink to access the Text of the American College & University Presidents' Climate Commitment.

Appendix D
References / Citations

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