Sustainability Implementation Plan
2016 – 2018
Revised Draft approved October 2017
1.0 Introduction

1.1 Overview

Honolulu Community College is an integral part of the University of Hawai‘i System, which is a world renowned, nationally ranked, and state funded American institution. The pleasant climate and the Pacific, Asian, and American cultural influences provide a unique educational environment that is both safe and comfortable.

The Main Campus, a short distance from the heart of Honolulu on Dillingham Boulevard, offers liberal arts instruction leading to a two-year Associate in Arts degree, allowing students to transfer credits to achieve junior class standing at four-year higher education institutions within the State. The college also has facilities near Honolulu International Airport, on Kōkea Street, and at Sand Island. Degrees offered include Associate in Science, Associate in Applied Science and an Associate in Technical Studies. Certificate programs in more than twenty Career and Technical Education areas that are integrated with a strong general education "core" help Honolulu CC provide an educated citizenry for the workforce of the State of Hawai‘i.

Honolulu Community College is an urban campus, occupying over twenty acres on Dillingham Boulevard in the Kalihi-Pālama area with an enrollment of approximately 4,300. The many aging buildings, which comprise the campus present a unique challenge as well as many opportunities for energy savings and emission reduction projects.

The State of Hawai‘i, University of Hawai‘i Board of Regents and University of Hawai‘i System have created Sustainability Policies and plans that cover a wide array of topics that are appropriate, recommended and expected that the college pursue. Specifically EP 4.202 was signed Feb 2015. The American College & University Presidents’ Climate Commitment (ACUPCC) was signed in Spring of 2015.
The 2015 Honolulu Community College Sustainability Implementation Plan (HonCCSIP), has been developed as the action plan to address the vitally important issues of climate change, environmental preservation and energy conservation as identified in EP 4.202 and the ACUPCC.

The plan describes the path that Honolulu Community College will take toward contributing to the University of Hawai‘i’s goal of minimizing greenhouse emissions and becoming carbon neutral by 2050. The plan also outlines actions that will lead to institutionalizing the structures and processes necessary to implement and track progress of projects that reduce emissions and waste.

In addition, the plan will outline ways to develop data collection methodologies and systems, gather faculty, student and staff capabilities and resourcefulness and identify funding opportunities, and gather monetary support.

It is important that the college leverage the capabilities of the wide range of skills and resources available at Honolulu Community College to develop and implement both available and innovative solutions to waste reduction, alternative energy use and lowering of GHG emissions.
One of the important components of the 2016 HonCCSIP is the outline for development of institutional governance and structure that will support transformative sustainable actions and activities over time, without an overdependence on specific individuals. In order to effectively achieve the goals of this plan the campus realizes that the concept of sustainability must be integrated into all aspects of campus operations including, facilities design maintenance, and operations, purchasing and business operations, hiring and training of faculty and staff, student activities and curriculum. In many cases this amounts to changing the way the campus does business.

2.0 Plan Development

The planning process requires campus wide support, participation and ownership. The HonCC sustainability committee as the initiator of the HonCC Sustainability Implementation Plan will be gathering information from, various campus constituents including student organizations, faculty student executive committee, faculty at large, the administration, and staff.

Action items will be considered by the committee for inclusion into the plan. A process for reviewing and updating the plan on a three year cycle is being put in place to ensure that the HonCC Sustainability Plan is a living working document that will contribute to a wide variety of campus decision making. One of the goals of the Hon CC Sustainability Implementation Plan is to establish a culture of sustainability action throughout the college with the plan as guideline.

Goals
Ensure that an Updated HonCC Sustainability Implementation Plan is widely distributed.

Action Items
Review current plan and update as required
Obtain approval of updated plan from campus stakeholders
Publish and distribute updated plan to campus community and general public

2.1 Plan Organization

The plan is organized into six major sections that are aligned with the University System Sustainability Policy. The order has been arranged to align more closely with the mission of the community colleges. Climate Action is embedded in all six areas.

1. Planning and Governance
2. Operations
3. Curriculum
4. Campus and Community Engagement
5. Cultural connections
6. Research and Scholarship
Goals and Metrics
The guides for implementing this plan include UH Policy 4.202, the United Nations Sustainable Development Goals 2015, and the ACUPCC.

Accordingly Honolulu Community College as part of the University of Hawai‘i has agreed to commit to minimize greenhouse emissions and become carbon neutral by 2050. The college commits to reduce fossil fuel sourced energy through increased efficiency and use of renewable energy sources and contribute to the University’s commitment to meet or exceed the following energy reduction and renewable targets relative to a 2008 baseline.

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Additionally Honolulu Community College joins world efforts by concentrating on the following 5 of the 17 Sustainable Development Goals from the UN Sustainable Development Summit 2015:

1. Ensure inclusive and quality education for all and promote lifelong learning
2. Ensure access to affordable, reliable, sustainable and modern energy for all
3. Ensure sustainable consumption and production patterns
4. Take urgent action to combat climate change and its impacts
5. Promote just, peaceful and inclusive societies

3.0 Plan Implementation

3.1 Planning and Governance
3.1.1 Planning and governance will focus on establishing sustainability as a permanent part of campus activities that will ensure that sustainable practices are carried out at all levels of College operations. Strategies for sustainability efforts at HonCC should be defined. Funding streams and partnerships will be identified and addressed. Responsibilities for coordinating campus sustainability activities should be assigned at the appropriate level of campus governance to ensure that the campus is in compliance with University policies. Priorities will be set so as to focus on areas with the greatest
potential for improvement, are most cost effective given budgetary constraints and provide a wide appreciation by the campus at large. The success of the sustainability plan will be dependent on setting the correct targets, goals and desired outcomes at the highest level of governance.

4.1.2 Sustainability Committee
Accomplishments
The Sustainability Committee with official charter and defined membership and governance structure has been defined. The roles, authority, and scope of responsibility of the committee is being finalized. A planning process has been developed and implemented to ensure that the Sustainability Implementation Plan is reviewed and updated by the committee on a regular basis. The process by which representatives to the system Sustainability Council are appointed is being completed. Details on how often and in what form the information about the committee will be published is still to be determined.

Goals
Continue to support and increase the role of the Sustainability Committee in ensuring that HCC and UH meets their Sustainability, Energy and Climate Change Mitigation targets.

Action List
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4.1.3 Office of Sustainability
Accomplishments
Although and official Office of Sustainability has yet to be established, assigned time has been allotted for a Sustainability Coordinator, the position has been filled and the specific duties and responsibilities are being defined.

Goals
Institutionalize the position of Sustainability Coordinator

Action List
Solicit administration, faculty, staff and student participation in the process of defining the roles and responsibilities of the Sustainability Coordinator.

Identify the benefits of a permanent Sustainability Coordinator Position

Define activities and actions for the Sustainability Coordinator that would make the biggest impact on the success of sustainability goals of the campus over the next 12 months.
4.1.4 Compliance with EP4.202
Identify the focus of responsibility for the areas addressed by EP4.202

4.1.5 Establish Funding Sources
Prepare annual budget request to fund sustainability initiatives to be included in the HonCC operating budget proposal. Benefits of sustainability projects should be included and where possible projections of financial savings.

4.1.6 Sustainability Project Guidelines
Develop guidelines for proposing campus sustainability projects. Guidelines should include stated goals, sustainability benefits, indicators and metrics of success, suggested monitoring methods, responsible parties, estimated financial costs and savings, and sources of funding.

4.1.7 Hiring Campus Personnel
Investigate the feasibility of incorporating sustainability qualifications, experience or duties, where appropriate into the campus hiring process.

4.1.8 Sustainability Implementation Plan
The Sustainability Committee will regularly review the HonCCSIP, create a draft of updates and have the updated version carefully reviewed by the campus. Specifically the plan needs to be carefully reviewed by all of the campus administrators, so that they are aware of their specific responsibilities regarding campus sustainability actions. The initial plan draft and approval took place by December 2015. The first review and update, although originally scheduled for fall of 2018, is has been updated spring of 2017 to reflect accomplishments in the past 12 months. The plan is a living document, and as such should be reviewed and updated as needed.

4.1.9 Sustainability Awareness
Initiate an aggressive sustainability training and awareness programs for all campus stakeholders with an emphasis on communicating the GHG objectives of the campus.

Operations and Green Campus
Operations and Green Campus will focus on ensuring that the campus meets the State and University policies addressing energy conservation, preservation of the environment, reduction of greenhouse gases, and elimination of unnecessary waste. Priority will be placed on establishing metrics, baselines, measurement methods for emissions and data analysis guidelines. The use of baselines and metrics will be used to assist in prioritization of sustainability and climate action initiatives.
Much of the work required to comply with UH EP4.202 and the ACUPCC, as well as reduce the carbon footprint of the college, will take place under the heading of Operations and Green Campus. It is also noteworthy that much of the work already accomplished is in this category. It is in the area of Operations that HonCC is best positioned to directly contribute to the University of Hawai‘i’s goal of reducing fossil fuel sourced energy through increased efficiency and the use of renewable sources. This part of the plan includes identifying work that has been accomplished and developing plans for building upon the accomplishments as we move ahead.

Moving toward honoring our commitments will entail achieving two goals. The first is developing a complete and comprehensive inventory of all Green House Gas (GHG) emissions (including emissions from electricity, heating, commuting, and air travel) and updating the inventory every year thereafter. The initial complete and comprehensive inventory is often referred to as a Baseline Assessment.

A baseline assessment is an environmental assessment that identifies campus activities that have beneficial or negative impact on the environment, with an emphasis on energy use and GHG emission. Risks and opportunities may be identified so that processes may be designed and measured for continual improvement. The Energy and GHG Emissions Assessment Report makes a good starting point for determining the priorities of new campus sustainability projects and the effectiveness of current campus sustainability projects.

The second goal is implementing practices that reduce the GHG emissions to the point of carbon neutrality. This goal will be realized by developing a Carbon Action Plan based on the GHG emissions inventory and implementing its recommended actions.

Standards and Conventions
One of the first actions will be to develop a Green House Gas (GHG) inventory and audit process that will be capable of serving multiple goals. It is best to design a process from the outset that will have the capability to provide information for a variety of different users.

The information derived from HonCC’s Green House Gas emissions and reporting process will be of greater value if it is aligned with standard reporting conventions and frameworks. The World Resources Institute’s Greenhouse Gas
Reporting Protocol divides emissions into three categories:

Scope 1 includes all direct GHG emissions
Scope 2 includes indirect GHG emissions associated with purchased electricity
Scope 3 includes other indirect GHG emissions such as those associated with transportation

Immediate Actions
Develop a process for conducting a baseline energy and GHG emissions assessment and develop a regular GHG and energy audit schedule.

This process should be complete with responsibilities, time lines, and committed resources. The use of standard tools such as the Campus Carbon Calculator will expedite this process. All energy use and GHG emissions should be converted to standard units and Carbon Equivalents.

Develop of methods for collecting and recording data on GHG emissions. Establish ongoing process for collection and recording of GHG emissions. Establish process for consolidating data and converting to Carbon Equivalents. Where possible the baseline assessment should collect data to develop benchmarks for individual buildings.

Baseline assessment and energy audits enable the ability of the campus to both save money as well as reduce GHG emissions by identifying areas and actions that will minimize energy use and optimize reduction of GHG emissions.

A team is currently working on developing strategies and processes for completing the ACUPCC requirements. The Campus Implementation Profile has been submitted and the GHG Report is being developed using the on-line Carbon Management and Analysis Platform (CarbonMAP).

Accomplishments

An initial GHG Report has been completed for the fiscal year ending 2016.
The campus has published a Personal Electrical Appliances and Equipment Policy with the purpose of providing a safe work place as well as taking positive steps to reduce campus energy consumption. The policy states in part:

   **Energy Efficiency** – Appliances (personal and those provided by the College) must conform to Energy Star environmental standards whenever possible.

**Goals**
Establish a process for integrating the collection of GHG data into the regular operations of the campus wherever possible. Develop an institutional processes for analyzing the GHG report and identifying areas for improvement, that would place the campus on track to meet emission targets.

**Action Item**
Ensure that a representative of the sustainability committee regularly meets with the Vice-chancellor of administrative services and staff.
**Energy Management Contract**

Many of the Scope 2 energy saving projects in place at Honolulu Community College campus were implemented under the Johnson Controls energy management contract that was put in place in 2011. Work under this contract includes:

- Replace interior and exterior lighting and lighting controls with energy saving equipment
- Remove existing Honeywell energy management control system (EMCS) with Johnson Controls Metasys EMCS
- Install energy and emissions management system to measure campus emissions and energy consumption
- Retro-commissioning and balancing of air conditioning systems.
- Air conditioning and distribution improvements for Building 8802
- Convert pumping system in central chilled water plant and other improvements for Building 8810
- Improvements to central chilled water plant cooling tower in Building 8810
- Install electrical sub-metering in 12 buildings on the main campus
- Replace existing plumbing fixtures with new equipment for water conservation
- Install power management software for 700 PC computer monitors
- Install 35 cubic yard compactor to reduce the volume of trash and replace dumpster scattered throughout the campus
- Install vending machine controls to electricity consumed when vending machine is inactive
- Install photovoltaic shade structure to demonstrate energy savings potential of PV systems
- Install solar hot water systems for Cafeteria Building 8804 and Cosmetology Building 8827
- Install electric vehicle charging station

Honolulu Community College will continue to work with Johnson Controls to build upon and continue the work that has been accomplished, and ensure that all energy savings will be logged and included in the University’s goals.

In March 2017, JCI engineers and technicians were on campus to prepare an Investment Grade Audit (IGA) of existing building systems. The purpose was to determine if additional capital improvements on campus would translate to energy savings sufficient to justify an investment in a Phase II Energy Savings project. Energy use data was examined, and engineering analysis performed. A study is underway and recommendations will be submitted to UHCC administrators later in 2017.

**Other GHG Reduction Projects**
Besides work completed under the Energy Savings Contract, Honolulu Community College has initiated a number of other projects designed to reduce GHG emissions.

These projects include:

Installation of six water bottle fill stations in Building 2. These fill stations reduce the need for use-once plastic water bottles. These stations also encourage use through convenient locations and visible counters that track the number of bottles that their use replaces. Action Item: Increase the number of Water bottle fill stations to 14 by the end of 2016.

Implement a Green Purchasing Policy for all campus purchases.

Data Collection and Analysis
One area that needs to be implemented at this time is a coordinated data collection and analysis program for all GHG reporting. This initiative will ensure data is collected, coordinated, and published across all areas of the college in a clear and transparent way. All data will be normalized and converted to standard units and notations, with any limitations clearly stated. This process is currently being developed.

Suggested projects for the next 3 years
Establish plan for:
Campus tree policy
Landscape inventory
Provide input on the energy and sustainability features of the campus for the Large non-Interactive, Large Interactive, and iPad Interactive displays furnished by Johnson Controls.
Recommend the installation of photovoltaic systems under a power purchase agreement on all buildings.
Monitor use of vehicle charging station and restripe parking stall to restore handicapped parking.
Encourage use of PV shade structure next to central AC chiller plant. Publish all reports on line.

Curriculum
Curriculum will focus on integrating sustainability concepts and climate actions into the educational experience through the development of Sustainability courses and course components. Create an inclusive workgroup to study and recommend how best to
incorporate sustainability into the HonCC curriculum. Efforts will be made to promote
the development of service learning courses with faculty sponsorship that use on-
campus projects to teach and apply sustainability principles. Formalize a process to
maintain an accurate and up to date list of sustainability-related courses that includes
new and one-time offerings.

Accomplishments
HonCC has established the S-Designation Committee as a sub-committee of the
Sustainability Committee. The S-Designation committee has developed a process that
will identify, manage and monitor a series of S designated Sustainability courses, both
S-Related and S-Focused. The goal is to create a spectrum of courses across the
curriculum that will address the subject of sustainability. Although the 2016 goal was a
target of 12 courses for 2018, as of the fall of 2017 there are 25 S-designated courses
that have been approved and are indicated as such in the Banner notes of the Schedule
of Classes.

Goals
Continue to build on the current S-designated course offerings and increase the number
to 40 by Fall 2018

Action List
Design and improve the process of assisting faculty with developing sustainability
content that can be integrated into existing courses.

Campus and Community Engagement
Campus and community engagement will focus on communicating sustainability efforts
to the campus, celebrating successes and pointing out areas of concern. Social media,
Internet presence and efficient display screens will allow the sustainability efforts of the
College to be communicated to the campus at large using efficient low energy low
waste channels. Two-way communication will be encouraged. Energy monitoring and
waste reduction efforts will be easily accessible and will encourage sustainable actions.
Training, workshops and awareness sessions on topics of sustainability will be
presented to the campus and to the community.

The establishment of an online presence will help to educate and highlight the College's
efforts around its sustainability plan. A core team has been established to develop
HonCC’s sustainability web presence. It will include metrics provided by Johnson
Controls, links to the sustainability plan, policies and procedures, as well as campus
sustainability projects. The Communications Office will work with the campus web
programmer to create the website and will manage future content and needed updates.

The Communications Office will also work with the HonCC Sustainability Committee to
help promote sustainability projects and related news worthy stories using traditional
media outreach and social media.
Cultural Connections

*Cultural Connections* will focus on creating a sustainable living and learning environment that honors its cultural foundation and addresses the issues of its location. Traditional Hawaiians managed all their resources in a sustainable manner with *mālama ʻāina* or caring for land/earth. The ʻāina is the elder ancestor, thereby providing sustenance for survival. In the past, they relied on zero imports from outside sources. Today, we strive to provide more resources for Hawaiʻi from Hawaiʻi. Whether it is food, energy, or other needs; blending the Hawaiian cultural foundation with today's modern technology will help Hawaiʻi and Honolulu Community College become more self-sustaining.

*Ka Māla o Niuhelewai* (The Garden of Niuhelewai) was started on March 18, 2011 with volunteers from various campus programs and the community. Ka Māla o Niuhelewai is part of the Nā Papa Hawaiʻi Hawaiian Language and Studies department and received funding support from the campus and the Office of Hawaiian Affairs (OHA). The *māla* has also networked and supported various educational institutions, both public and private, as well as government and community entities. The māla’s mission is to be an organic and sustainable venue with “hands-on” participation for participants to connect to the Hawaiian understanding of healthy food production, thereby creating awareness of the *mālama ʻāina* (caring for land/earth) cultural foundation to help Hawaiʻi become more self-sustaining.

![Image of a hand holding a leaf with food on it]

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Erect a traditional hālau (meeting house, school) as a community gathering place through traditional community building practices. Using traditional methods and sustainable materials. *This is scheduled to be built in Year 3 of the Title III grant (2017-2018).*

Create a digital cultural and historical bilingual (Hawaiian and English) tour of the campus and its native plant species. Emphasis on the historical awareness of the past traditional Hawaiian use of the land in the form of mālama ʻāina (caring for earth/land resources, sustainability). Explaining the changes to land use and how today we can use the traditional foundation to be more sustainable in a modern urban environment.

Create a culture and ʻāina place-based training program based on the Hawaiian resource management system of ahupuaʻa (traditional land division) and ʻike ʻāina (learning from the land/earth). *To begin in Year 2 of the grant.*

Establish a cohort of mentors to sustain what is learned through the ʻāina-based training program.

Leverage technology to deliver the ʻāïna-based training program materials for continued use.

**Research and Scholarship**

Honolulu Community College recognizes that institutions of higher education have unique roles and responsibilities in the field of promoting, designing and researching methods and processes for reducing the effect of greenhouse gas emissions on the climate of our planet. HonCC actively encourages faculty to include student learning and projects that contribute to the scholarship, knowledge and practices of sustainable development. The campus is committed to provide and support professional development and collaboration opportunities within the realm of sustainability for faculty, staff and students.
Contributors

The Sustainability Implementation Plan incorporates ideas and input from many participants broadly representing HonCC. The committee extends a special thanks to participants in the campus-wide forum, visioning sessions, and development meetings. Their expertise and thoughtful contributions were fundamental to the creation of this plan.