

**Sustainability Master Plan Proposal
for
Kansas City Kansas Community College**

**Developed by the KCKCC
Sustainable Environments Committee
Kansas City Kansas Community College**

Abstract

Sustainable Environments Committee

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Statement of Purpose

Kansas City Kansas Community College (KCKCC) stands at a critical moment in Earth's history, a time not for just teaching history, but making history by deciding the fate of future generations. KCKCC is more than a core educational institution in the midst of a large urban service area. KCKCC is part of one human family and one Earth community with a common destiny. Our goal must be to start making the necessary plans and sacrifices, to join together, and model a sustainable local community. Development of a Sustainability Master Plan would not only be analogous to the intercultural initiative launched at the college in 1994, it would be contiguous with the *triple bottom line* of a globally sustainable society which recognizes the intersection of *environmental, economic, and social justice*.

Sustainability means the basic right of all humans to achieve good health, now and for future generations, without having economic and social developmental conflict with the ecology of good and sufficient water, food, and air. Since 2005, the Academies of Science for the G8+5 countries have called on world leaders to limit the threat of *climate change* by reducing greenhouse gas emissions that are contributing to *global warming*. Global warming requires "action for adaptation" now because failure to respond poses significant risks. In April 2007, The United Nations Security Council addressed the threat that climate change could have on global peace and security. The strategic approach to adaptation must be based on governments and corporations taking measures to improve resilience to existing environmental stress. Acting sustainably meets the needs of the present without compromising the ability of future generations to meet their own needs.

In the wake of these challenges, higher education plays an important role by providing education to those who inform climate change decisions, educate the public, and train a workforce for enhanced research and development. The vision of the Association for the Advancement of Sustainability in Higher Education (AASHE) provides an ideal guide for our community college. According to AASHE, education should take a leadership role in preparing students and employees to achieve a just and sustainable society. The campus itself is viewed as serving as a model of sustainability with curriculum and operations reflecting an integrative approach to learning and practice. Through the leadership of our college trustees the process of

education would then emphasize active, experiential, and inquiry-based learning and real-world problem solving. On a model campus all sectors would work collaboratively to advance sustainability, and the content and context of learning would reflect a focus on systemic, interdisciplinary thinking with respect to human health, ethics, future generations, and planetary stewardship.

At the AASHE conference on November 8 –12, 2008, keynote speakers Lester Brown, Van Jones, Peter Senge, and Vandana Shiva highlighted the immediate necessity of the following transformational efforts: 1) Make rapid transition to use of renewable energy resources such as wind, solar, and geothermal energy; 2) Weatherize and retrofit buildings and homes. Recycle to the point where nothing is wasted; 3) Take into account sustainability factors such as resource consumption and pollution in economic productivity calculations; 4) Change human behavior by focusing on local organic farming and the basic human right of good health; 5) Infuse all levels of education with ways to decrease wasteful materialism and excessive consumption and transform culture to a more holistic way of thinking by learning and applying sustainability themes.

Research suggests that climate change is occurring very rapidly. We believe the college should take a lead in the community to *mitigate* these changes by integrating sustainability into the fabric of our college.

Sustainability Master Plan Proposal

The Sustainable Environments Committee hereby recommends to the Board of Trustees, the adoption and implementation of a Sustainability Master Plan for our community college consisting of two parts: 1) **Ecology Plan** for sustainability of the physical plant buildings and grounds, and 2) A **Curriculum Plan** for incorporating sustainability into pedagogy.

The **Ecology Plan** would help our campus teams utilize the latest renewable resource technologies and methodologies for accomplishing short-and long-term tasks. A sustainability planning firm should be hired in order to study the physical plant and the college operational processes. The firm's goal is to recommend strategies for KCKCC to achieve *carbon neutrality*.

The firm would provide a comprehensive and integrated plan for current and future campus buildings, landscape, maintenance techniques, and purchasing practices. Firms applying for this project must have expertise and experience in developing sustainability plans. The plan should be developed with the following actions in mind:

1. Supply one-fourth of all college energy consumption from renewable resources by 2025. Clear comparisons will be needed between our current level of operation and the costs utilizing renewable energy sources such as wind, solar, and geothermal technologies.
2. Meet or exceed *LEED* Silver construction standards for any new campus buildings. Create a retrofitting program for all other buildings on campus in order to reduce our *carbon footprint*, energy costs, and water usage.
3. Convert the automotive transportation fleet to the most realistic alternative fuel vehicles by 2015. Link campus biking and walking trails with those developed by the city. Encourage college employees and students to use responsible and energy efficient means of transportation to and from campus.
4. Compost all organic waste and use as fertilizer for a green house center and associated garden. Utilize the food from the green house within the campus. A combination of wind, solar and geothermal energy generation is recommended to power this facility, making it a unique, practical, instructional, and symbolic renewable energy structure in our community.
5. Minimize waste generation and recycle all materials when possible.
6. Reduce the use of toxic fertilizers, herbicides, and volatile pesticides through integrated pest management techniques (IPM).
7. Store hazardous equipment and materials in a safe manner or remove them from campus. Store hazardous laboratory chemicals properly and dispose of them according to EPA regulations.

8. Purchase only products high in post-consumer content and whose production includes green processes in raw materials acquisition, manufacturing, packaging, distribution, reuse, operations, maintenance, and disposal of the product or service.
9. Assure indoor air quality with adequate ventilation and control of air pollution contaminants.
10. Develop a storm-water catchment system (that may include green roofs, rain gardens and semi-porous parking surfaces) which would capture or absorb rainwater that falls on campus.
11. Adopt an *Energy Star* procurement policy.
12. Preserve the campus urban forest as an increasingly rare natural woodland, for *carbon sequestration* and public use through the KCKCC Community Nature Trail, and increase tree planting on campus as possibilities arise.

The firm completing the master plan will provide an initial energy and resource use audit and a cost-benefit analysis of all recommendations. The audit will provide a baseline against which the college will compare future progress. The cost-benefit analysis will include the cost, payback period, and projected life of the proposed sustainable elements.

Additionally, the firm will provide a timeline for the implementation plan, detailing stages of completion. The firm will also include a funding options section that will help the college offset the costs of the proposed plan elements.

Finally, the firm will provide an ongoing forum in which representatives of the Board of Trustees, administration, faculty, staff, and students will provide their input in the process of master planning for sustainability.

The **Curriculum Plan** calls for hiring a *Sustainability Coordinator* to collaborate with a sustainability advisory board, faculty, staff, and students to make these sustainability best practices mainstream at the college. All of these stakeholders would facilitate efforts to:

1. Integrate sustainability into teaching, research, and operations.
2. Disseminate knowledge and best practices and promote resource sharing.
3. Support all sectors of campus to shape sustainability initiatives.
4. Collaborate with other institutions and external partners to speed the adoption of sustainability practices, especially city, county, and prominent community institutions.
5. Promote sustainability at local, state, and national levels to influence national education policy.
6. Analyze sustainability measures and identify and obtain optimal financial resources.
7. Immerse students in constructing and maintaining sustainability structures when possible, and experiential student learning throughout.

The sustainability coordinator and advisory board are crucial to guide the implementation of sustainability throughout the college.

The challenges of climate change makes sustainability an educational imperative. We recommend the following statement should be added to the KCKCC Policy Handbook Mission and Purpose Statement. The college seeks to fulfill its mission in the following ways:

By providing the basic conception of sustainability within all academic pursuits and instilling in each student the fundamental need to strive for this goal in all aspects of life in our global society.

This proposal is aligned with the historical efforts of the college to provide the most cost effective and efficient environment in which to pursue the primary goal of education on our campus. The Sustainable Environments Committee would like to take this opportunity to thank the Board of Trustees and the administration for supporting the attendance of seven employees and two students at the 2008 AASHE conference.

Sustainability Glossary

AASHE – Association for the Advancement of Sustainability in Higher Education.

Carbon footprint - A carbon footprint is a measure of the impact human activities have on the environment in terms of the amount of greenhouse gases produced in units of carbon dioxide.

Carbon neutral – Becoming carbon neutral means that you have neutralized the effect of your personal or organizational greenhouse gas emissions, so that your activities no longer contribute to the dangers of climate change.

Carbon sequestration – The process by which carbon dioxide (CO₂) is removed from the atmosphere. This process can be natural or artificial and includes removal or capture from the oceans, trees, and power plants.

Climate change – Refers to long-term changes in climate, including average temperature and precipitation.

Energy Star – A federal program that labels consumer and business products that have met energy-efficient standards set by the U.S. Environmental Protection Agency and the U. S. Department of Energy.

Environmental justice – Concerns the merging of social and environmental movements, which deals with the inequitable burden born by minorities, women, and people of developing countries. It is a holistic effort to analyze and overcome the power structures that have traditionally thwarted environmental reforms.

G8+5 – An international forum for the governments of eight leading nations (the “group of eight”), plus five developing nations.

Global warming – Global warming is the increase of the Earth’s average surface temperature due to a build-up of greenhouse gases in the atmosphere.

Greenhouse gases – Gases in the atmosphere that are contributing to global warming and climate change. The most prevalent and potent of these include carbon dioxide and methane. Often referred to as greenhouse gas (GHG) emissions.

IPCC – Intergovernmental Panel on Climate Change. A scientific body of over 3000 members mandated by the United Nations to assess and evaluate the information relevant for the understanding of the risks of human-induced climate change. Their latest series of reports were released in 2007, the same year that they shared in receiving the Nobel Peace Prize with former Vice-President Al Gore.

LEED – Leadership in Energy and Environmental Design. This Green Building Rating System is a third-party certification process and is the nationally accepted benchmark for the design, construction, and operation of high-performance green buildings. Levels of certification include certified, silver, gold, and platinum.

Mitigation – Actions taken to reduce greenhouse gas emissions and enhance carbon absorption aimed at reducing the extent of global warming and climate change.

Sustainability – Meeting the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainability coordinator – A position at an institution that is responsible for the overall operations regarding sustainability.

Triple bottom line – Sustainability is often evaluated using the “triple bottom line” for ecological, social, and economic justice.