



**XAVIER**  
**UNIVERSITY**

**Campus Sustainability Plan**  
**First Edition**

*Revision 1*

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# I. EXECUTIVE SUMMARY

Keeping with its Jesuit tradition, Xavier University has a history of commitment to social and economic justice. It now seeks to broaden the traditional interpretations of those commitments to include a more significant emphasis on environmental stewardship.

On April 29, 2008, Fr. Michael Graham, S.J., formally convened the Sustainability Committee. It was one of the steps required subsequent to his signing the American College and Universities' Presidents' Climate Commitment. Fr. Graham framed sustainability as a pivotal global issue in which the United States has a very important role, and The President's Climate Commitment as an important vehicle by which to initiate a call to action. The commitment also resonates with the Jesuit mission and philosophy in which we are all stewards of this planet. This stewardship is central to the outward expression of our faith and institutional identity.

The three-fold charge to the group laid out, then, was to:

- Develop the reputation as an institution that does sustainability well
- Become an inspiration to the broader community
- Establish regional best practices

The Campus Sustainability Plan is a dynamic document that results from 18 months of work on the part of the committee and the community. Multiple kinds of forums including lunch discussions, Sustainability Day community conversations, draft plan feedback sessions, electronic feedback options, and conversations with key constituencies for all sections of the plan, were held to solicit feedback from the University community on the Plan and the specific actions it should take. The entire committee took a role in drafting the Plan in five major sections: Academic, Transportation, Community Engagement and Communications, Energy and Infrastructure, and Purchasing. In each section, there is a set of immediate, mid-term and long-range goals, and a discussion of resource needs and obstacles. The goals and reductions are set based on 2008 levels, as calculated in our first greenhouse gas survey.

## A. Plan Highlights

Below we list all the vision and goal statements for each section.

### **Energy and Infrastructure**

**Long-term Vision:** To minimize GHG emissions from the purchase and use of electricity and natural gas (stationary fuel sources) to the fullest extent possible; to reduce the consumption and withdrawal of fresh water; to reduce the rate of or eliminate stormwater runoff from Xavier premises; to reduce solid waste through conservative practices, reuse items that can still serve a function, and recycle used materials; to provide clean, aesthetically rewarding outdoor facilities for all students, staff, and visitors.

#### **Goals:**

##### 1. Energy Use

According to Xavier University's GHG inventory completed in the Spring of 2009, purchased energy in 2008 accounted for 63% of the entire CO<sub>2</sub> equivalent emissions of the University. Two paths have been identified from which to choose the initial reductions in the GHG emissions from purchased electricity and stationary fuel sources. To achieve our goals, investments in a multitude of alternative energy, energy conservation measures, and offsets to are necessary. The trajectory of emissions reductions will depend on the path taken.



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## Path 1

- Invest in alternative technologies such as solar, geothermal, co-generation and fuel cells to achieve at least a 7% reduction from 2008 levels by 2012 and use the cost avoidance savings to fund other carbon reduction initiatives.
- Further reduce greenhouse gas emissions to 50% reduction (an additional 43%) by 2030 through other alternative energy and energy conservation measures with an intermediate step of 35% reduction by 2018.

## Path 2

- Gradually reduce our greenhouse gas emissions to achieve a 25% reduction by 2018 through higher ROI energy conservation measures.
- Further reduce greenhouse gas emissions to 50% reduction (an additional 25%) by 2030 through higher ROI alternative energy and energy conservation measures.

## Regardless of the path chosen

- Investment in offsets (preferably tangible, measurable initiatives in the surrounding community) will probably be required for the remaining 50% by 2030.
- All subsequent planning and new construction will require that achieving carbon neutrality is key to the overall design.

## 2. Building and Planning

- Payback analysis should reflect the actual life of the structure, with material and equipment selections based on GHG emission reductions, since some funds will need to be used to buy offsets if this is not done.
- Devise ways to achieve academic program goals while building as little new space as possible. Construction costs, energy costs, and emissions would be lower. No amount of conservation can avoid increasing campus emissions when additional square footage is built.

## 3. Water Conservation

### a. Consumption

- Reduce overall water consumption levels by 40% from 2008 levels.
- Examine water-consuming systems and implement changes to high-consuming devices.
- Provide water usage feedback and education to change individual behavior.

### b. Withdrawal

- Seek ways to capture and reuse storm water to minimize fresh water use for irrigation and cooling towers.
- Implement practices that reduce the need for irrigation and cooling water.

## 4. Stormwater Management

Stormwater runoff is a matter of serious concern to Cincinnati's Metropolitan Sewer District (MSD) due to combined sewer overflows (CSOs).

### a. Runoff

- Seek an MSD grant to reduce storm-water runoff by 10,000,000 gallons per year within 5 years.



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- Investigate water retention systems and implement changes to capture hard surface runoff.
- b. Reuse
  - Seek ways to capture and reuse storm water to improve the feasibility of retention systems.
- 5. Solid-Waste Management

Solid waste includes materials purchased by the University, materials carried in from off campus, and materials generated on campus.

  - Prevent useful material resources from being wasted and reduce the consumption of raw materials by 30% from 2008 levels within 5 years.
  - Expand recycling in all areas for all recyclable products.
  - Create a campus wide information exchange and educational system about material recycling, reuse and reduction.
- 6. Grounds Maintenance
  - Reduce dependence on fossil fuels, other extracted minerals, chemical fertilizers and pesticides while retaining an award-winning appearance.
  - Develop policies to ensure that sustainability is incorporated into landscape design, maintenance and management.

## Transportation

**Long-term Vision:** To reduce transportation-related greenhouse gas emissions by 50 % by 2030.

### **Goals:**

1. To reduce faculty, staff and student vehicle miles (55% of transportation emissions) by:
  - Developing an effective carpool/rideshare program.
  - Working with community leaders, University planners, city officials, and the region's transit authority to develop viable mass transit options for the Xavier community.
  - Developing an incentivized parking system, including developing non-daily parking passes to encourage ride sharing, expanding motorized two-wheeled vehicle parking, and designating preferred parking locations for compact cars/high-efficiency vehicles, and carpooling.
  - Supporting bicycle and pedestrian commuting by installing additional bike racks in key locations on campus and creating a centralized bike parking lot(s), developing bike-route maps for commuters within a five-mile radius of campus, implementing an on-campus bike-sharing program, working with City officials, University planners and community leaders to encourage bike-lane construction to improve safety, and partnering with local retailers to support purchases and repairs (of bikes?).
  - Reducing on-campus vehicle emissions by requiring the purchase or lease of high efficiency fleet vehicles as well as transitioning fleet vehicles to more sustainable fuel options such as vegetable oil, biodiesel, electric or hydrogen.
2. Reduce university-related air travel for intercollegiate competitions, recruitment, professional development, and study abroad (12% of Xavier's greenhouse gas emissions) by:



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- Using new and affordable teleconferencing technology and through educational efforts to inform University divisions about the impact of air travel.
  - Purchasing carbon offsets as part of the University's larger plan to be carbon neutral by 2030.
3. Establish a formal body or office to oversee and coordinate transportation initiatives and infrastructure improvements.

## **Academics and Student Life**

**Long-term Vision:** To create an academic and co-curricular experience that introduces every Xavier student to ideas and issues of sustainability from a variety of perspectives. For those who wish to engage more, there are academic, experiential and leadership opportunities on campus and in the community to provide skills and knowledge for future efforts and careers. Xavier becomes a hub of sustainable events and a dynamic research center for interdisciplinary collaboration in the region.

### **Goals:**

1. **Teaching**—To increase the number of courses with sustainability content on campus so that every student is exposed to the topic in multiple courses throughout their four-year career by:
  - Facilitating faculty development in sustainability topics by offering annual workshops for faculty to foster dialogue between disciplines that will aid faculty in incorporating more sustainability themes into existing courses.
  - Developing a major in Environmental Sciences.
  - Encouraging students to enroll in courses with sustainability content.
  - Identifying courses with sustainability content in the course catalog.
2. **Research**—To foster interdisciplinary collaborations between interested faculty and opportunities for students to participate in research on campus and in local organizations.
3. **Co-curricular Activities**—To raise awareness of students, faculty and staff through a multitude of sustainability-focused initiatives including:
  - Providing better publicity for the recycling program.
  - Incorporating sustainability and related topics into the Manresa Orientation Program.
  - Reducing waste during move-in and move-out by making recycling options widely available and widely publicized.
  - Providing all incoming students with a guide for sustainable living on campus and in the community.
  - Supporting an annual or semi-annual sustainability lecture series.
4. **Service Learning**—To ensure that every Xavier student has at least ten hours experiential learning related to sustainability.
5. **Campus Events**—To promote events that educate about sustainability in the wider community.



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- Develop and maintain campus sustainability calendar on the website.
- Develop annual community-wide sustainability event.
- Become known for local, green conferences.

## **Purchasing**

**Long-term Vision:** To make purchases that will promote a healthy community and environment by incorporating key environmental and social factors with traditional price and performance considerations.

**Goal:** To develop and implement sustainability-focused purchasing policies by 2012.

## **Community Engagement and Communications**

**Long-term Vision:** To develop and maintain significant outreach efforts, both through community engagement and communications, in order to communicate lessons learned and market successes so that Xavier's sustainability efforts are known, appreciated, understood, and replicated by the public from the surrounding neighborhoods to the Midwest region and beyond. Xavier will become locally and nationally recognized as a model for sustainability efforts.

### **Goals:**

1. **Community Engagement**—To engage as both a leader and active participant in inspiring thinking, developing models, and enacting plans that spur creative ideas and innovative projects in step with community partners by:
  - Developing an Office of Sustainability for the coordination of sustainability efforts that may also serve as a resource for the local neighborhoods, our city, and groups beyond.
  - Identifying and cataloging, in a central manner, already existing sustainability efforts within the University, in our city and our region that can inform collaboration, learning opportunities and coordinated alignment of efforts.
2. **Communications**—To position Xavier as a place to which the city, the region and the country can turn to for innovative thinking and creative accomplishment as related to sustainability efforts.

## **B. Top Priorities and Conclusions**

The Campus Sustainability Plan is comprehensive, ambitious and includes many recommendations for immediate, short-term, mid-term and long-term consideration. While all of the recommendations would help make Xavier more sustainable, some are critical, especially as we begin the process of implementation. Below is a list of those crucial tasks:

1. Create a sustainability center
2. Invest in energy-conservation measures and alternative energy
3. Promote building use and planning with sustainability as a priority
4. Promote teaching and research of sustainability
5. Educate students about sustainability in their dorms and at Manresa
6. Develop viable mass transit options by working with the community
7. Establish a formal body to coordinate transportation initiatives
8. Implement Best Total Value Model in purchasing



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9. Establish an effective vehicle for internal and external communication on the University website

This is an exciting time for Xavier and the world. Humanity is at a crossroads. Working on these complex issues together will build our communities and our ability to reduce the long-term effects of global climate destabilization. It will also promote our communities' resilience so that we are well-situated to weather the effects of destabilization that cannot be mitigated.

Xavier has long been involved in sustainability, and during the last two years the committee and the University as a whole have learned even more deeply about the complex nature of sustainability work. It involves a cultural shift; systemic and holistic change; not just small, incremental changes. As Einstein famously stated, "We can't solve problems using the same kind of thinking we used when we created them." As a result, our University is entering a new phase of systemic and creative adaptation. Minimally, we see four ways in which our University will likely be transformed.

First, in terms of academics, sustainability calls upon us to learn across disciplines, and we will need to continue to promote such opportunities in our teaching and our research. We will also need to see that our campus and neighboring communities are laboratories for engaged learning around built environments, alternative transportation, gardening, energy use and alternative energy, among many other topics.

Second, within four to five years as this Plan is re-evaluated, a more holistic approach to sustainability planning and funding will be necessary. This will involve moving beyond the rubric of the climate commitment and its assessment tools, for example, to something like an Ecological Footprint Assessment (see appendix). Such an assessment would take into account other environmental factors, such as water usage and the amount of landfill space used, in addition to greenhouse gas emissions.

Third, and perhaps most importantly, we foresee planning and budgeting becoming a long-range undertaking that allows us to include resource conservation, educational benefits, building life cycles, and other measures alongside the more typical short-range financial measures. The combination of long-term planning and thinking and an ecological footprint assessment will mean that we take the future of our planet and our students' grandchildren as seriously as we take our educational quality, our enrollment numbers, and our endowment.

Finally, as David Orr has stated, "Successful sustainability work, no matter where it takes place, requires total institutional commitment because of its holistic nature and because of the gravity of the ecological crisis we face." Incorporating sustainability into Xavier's operations at all levels is in keeping with the Jesuit tradition and promotes the welfare of our students, our institution and our community. We have been gratified by the University's support of sustainability work up to this point and foresee a strong need to build on this success until we reach the point that sustainability is as much a part of our cultural values and mission as educating students for solidarity, success, and service. Xavier has made great strides in promoting a more sustainable campus during the past decade and is poised to take the steps necessary to meet the challenges ahead.

