

## Harvard Green Campus Initiative

### Business Plan FY08

#### Mission

The core mission of the HGCI is to implement the Harvard Campus Sustainability Principles in campus master planning, design and operations. This is to be achieved by supporting Harvard University to become a living laboratory and a learning organization for the development and implementation of environmental sustainability in all areas of university operations. Our mission requires the involvement of all members of the university community.

#### Achievements

To date the HGCI has achieved over \$7 million in annual savings while reducing campus annual greenhouse gas emissions by over 70 million pounds per year. With continued funding, the HGCI will seek to double these savings over the next 3-5 years.

Harvard currently has the most LEED registered and certified buildings of any university. Harvard is one of the top 10 universities purchasers of renewable energy. The Harvard Green Campus Loan Fund and the Residential Green Living Programs have been copied by a large number of universities and have received substantial positive recognition from the EPA.

As a result of the HGCI's efforts to date, Harvard University is widely recognized as a national leader in campus sustainability. The Sustainable Endowments Institute recently released a report card for over 100 leading American universities. As a result of the HGCI's work Harvard was given the highest rating, along with 3 other universities. This is just one of the many public acknowledgments that Harvard continues to get for its leadership in relation to campus sustainability. This has significant strategic benefits for Harvard as an organization in relation to community relations, donors and student support.

#### Funding Background

The Harvard Green Campus Initiative was established on the basis of a five-year funding commitment made by the Office of the President and Provost in FY02, ending in FY06.

The Harvard Green Campus Initiative (HGCI) has exceeded all expectations in its ability to foster a viable business model for pursuing campus sustainability across the Harvard campus leading to a strong request for continued base program funding in FY08.

#### Business Model

The HGCI currently employs 16 professional staff and 40 part-time students, around two thirds of which are directly funded by 12 different schools and departments across Harvard University. Every year Harvard's schools and departments expand their service partnerships with the HGCI on the basis of the proven financial and organizational returns. As shown in Table 2, the volume of HGCI business funded by the schools and departments has grown from nothing in FY01 to over \$1.3 million in FY08. The volume of savings has been growing in proportion to this increased investment. The FY07 and FY08 organizational charts are provided in Appendix B of this document.

#### HGCI FY08 Priorities

- Development of new sustainability review and approvals processes for capital development.
- Support the integration of life cycle costing across Harvard's financial decision making processes.
- Support for the inclusion of sustainability in the Allston planning process.
- Development of new campus sustainability indicators.
- Implementation and administration of new Green Campus Loan Fund.
- Consolidating and institutionalization of all existing programs listed below.
- Fundraising to support HGCI core and program budget requirements.
- Vision development, networking and fundraising to establish a long term partnership model; engaging faculty, staff and students to build new connections between teaching, research, campus planning and operations; utilizing the

campus as a living laboratory to enhance the environmental, organizational and economic well being of Harvard University.

- Support the development of GHG reduction targets for Harvard University.

**Base Program Function**

The HGCI model depends upon a base program of staff being funded centrally to do the work of running the HGCI business model, such as expanding and managing university wide efforts, administering the \$12 million Loan Fund, implementing the Sustainability Principles, advising on Allston sustainability, developing campus indicators, overseeing marketing, communications, large events, training and fundraising. Table 1 provides a list of all base program activities that are funded through core funding, loan fund interest and other means.

**Table 1: Base Program Activities of the Harvard Green Campus Initiative**

<p><b>General Management</b></p> <ul style="list-style-type: none"> <li>• The Green Campus Loan Fund</li> <li>• Green Campus Initiative staff</li> <li>• General UOS responsibilities</li> <li>• Business Continuity and Development</li> </ul> <p><b>Strategic Development</b></p> <ul style="list-style-type: none"> <li>• Comprehensive strategy for Green Building at Harvard</li> <li>• Indicators for Harvard</li> <li>• Environmental Procurement</li> <li>• Renewable Energy</li> <li>• Laboratories</li> <li>• Life Cycle Costing</li> <li>• Fundraising (grants, donors)</li> <li>• GHG reduction planning</li> </ul> <p><b>Education and Engagement</b></p> <ul style="list-style-type: none"> <li>• Promoting Sustainability Principles</li> <li>• Best Practice Exchanges</li> <li>• Staff engagement activities</li> <li>• Engaging schools to set GHG goals</li> </ul>	<p><b>External Partnerships</b></p> <ul style="list-style-type: none"> <li>• Labs 21 (EPA)</li> <li>• North East Campus Sustainability Consortium</li> <li>• American Association for Sustainability in Higher Education</li> <li>• Foundations</li> </ul> <p><b>Marketing &amp; Communications</b></p> <ul style="list-style-type: none"> <li>• Student liaison</li> <li>• Media</li> <li>• Alumni</li> <li>• City of Cambridge, City of Boston</li> <li>• University sector</li> <li>• Website, newsletter, conferences and special events</li> </ul> <p><b>Faculty Research Partnerships</b></p> <ul style="list-style-type: none"> <li>• Indoor environmental quality (HSPH)</li> <li>• Green roofs (GSD)</li> <li>• Green Buildings (National Science Foundation)</li> </ul>
---	---

The initial \$150,000 a year budget approved in 2001 did not account for the growing base program costs that have accompanied the success of the HGCI business model. To date the base program budget has been patched together by drawing from a random and unreliable collection of sources as shown in Table 2 below.

As Table 2 also shows there has been little increase in base program staffing levels despite an enormous increase in business volume between FY02-07. The base program is currently understaffed for the demands being placed on the HGCI. If the base program budget is not adjusted the HGCI will not be able to sustain its current business volume.

*Sustainability Principle Implementation*

In FY05 the HGCI was successful in supporting the development of the new Harvard Campus Sustainability Principles. In FY06, the HGCI dedicated significant resources to supporting the implementation of the Principles in both existing campus operations and the Allston planning process, most specifically through its efforts in educating the Harvard community and gaining campus momentum on the issue through its first ever Campus Sustainability Conference. The HGCI will continue to educate Harvard on the Principles and the practice of their implementation throughout FY08.

*Green Campus Loan Fund*

In FY05 the President approved a doubling of the Green Campus Loan Fund from \$3 million to \$6 million. In FY07 through the successful advocacy of the HGCI the loan was again doubled by the President to \$12 million. This allows us to implement New Construction Loans tied into the Harvard's CAPS processes ensuring sustainability in new construction projects on campus. The mission of both the old and new Green Campus Loan Fund is to facilitate organizational decision-making that seriously considers the environmental sustainability of campus life by funding innovative infrastructure and behavioral education projects aimed at reducing Harvard's environmental impacts. To date over \$8,000,000 has been invested in 140+ projects with an average ROI of over 30%.

**Table 2: History of HGCI Base Program Funding**

	<b>Base Program Funding</b>	<b>Contributors</b>	<b>Base Program FTEs</b>	<b>Total HGCI FTE's</b>	<b>Volume of Fee for Service Business</b>	<b>Annual University Savings</b>
FY01	\$ 80,000	Provost UOS	\$ 50,000 \$ 30,000	1	1	
FY02	\$164,000	President and Provost FY01 remainder	\$150,000 \$ 14,000	3	4	\$100,000 \$400,000
FY03	\$248,000	President & Provost Fee for Service * FY02 remainder	\$150,000 \$ 43,000 \$ 20,000	3	8	\$400,000 \$700,000
FY04	\$340,000	President & Provost Fee for Service* Interest from Loan Fund	\$150,000 \$ 53,000 \$ 38,000	3	11	\$550,000 \$1.5 million
FY05	\$257,000	President & Provost Fee for Service* SIF	\$150,000 \$ 20,000 \$ 87,000	2	11	\$600,000 \$3 million
FY06	\$355,000	President & Provost Fee for Service * SIF Interest from Loan Fund	\$150,000 \$ 25,000 \$130,000 \$ 50,000	3.5	16	\$800,000 \$5 million
FY07	\$ 498,000	President & Provost Fee for Service * Interest from Loan Fund	\$295,000 \$36,000 \$133,000	3	16	\$1,273,000 \$6+million
FY08- FY10	\$ 606,000	<b>Central Administration</b> Fee for Service* Interest from Loan Fund	<b>\$440,000</b> \$36,000 \$130,000	5	21	\$1,300,000 \$7+million

*\*Note Re: Fee for Service Base Program Contributions*

In FY01-02, UOS carried initial HGCI overhead costs to assist with start-up. As the HGCI was a small organization at the time, this was easily done. In FY03 UOS calculated and charged overhead to the HGCI for the first time causing a sudden increase in base program expenses (\$40,000). In FY05 the HGCI began allocating the UOS overhead directly to each HGCI program, embedding it into the HGCI fee structures. Now HGCI programs pay for their own overhead costs (~15-20% of their budget) plus making a 5% contribution towards HGCI base program costs.

**Reporting Structure**

The HGCI is an interfaculty initiative, initially funded through the Office of the President and Provost to ensure university-wide engagement. The HGCI was founded by a Director who has a dual report to co-chairs representing both the administration and the faculty. In FY08 the Director, Leith Sharp, will continue to report to Professor Jack Spengler, Akira Yamaguchi Professor of Environmental Health and Human Habitation, Director, Environmental Science and Engineering Program, Harvard School of Public Health and Tom Vautin, Associate Vice-President, Facilities and Environmental Services.

All of the HGCI staff is physically hosted by University Operations Services.

The partnership between UOS, as the administrative sponsor, Harvard School of Public Health as the faculty sponsor and the HGCI remains important to the success of the HGCI. The challenge in moving forward will be to strengthen and expand the connection with faculty without losing the hard won connection with key administration staff.

## **HGCI Programs**

### ***FAS Campus Energy Reduction Program***

The Campus Energy Reduction Program aims to inspire awareness and advocacy towards energy reduction in the Faculty of Arts and Sciences. In collaboration with the FAS Office of Physical Resources, we coordinate a variety of action-oriented educational campaigns for all 15,000 faculty, staff, and students.

### ***Longwood Campus Energy Reduction Program***

This program supports HSPH, HMS and HSDM in their efforts to address energy efficiency opportunities at the laboratory-intensive Longwood campus. For the past three fiscal years, this program has been 2/3 funded by a Green Campus Loan taken out by the HMS and 1/3 funded directly by the HSPH from savings resulting from previous program efforts. In FY05, this program generated over \$80,000 of savings through the successful implementation of wide-scale behavioral change in relation to computers and light use. The program began to include laboratory energy use in its scope in FY06, and will continue to do so in FY07.

### ***High Performance Building Service – Existing Buildings***

This is a fee-for-service operation within the HGCI. Through the HPBS, the HGCI provides the following services across the university:

- A full range of LEED support services for green building design renovation
- High performance building assessments
- Peer to peer training programs for building operations staff

### ***High Performance Building Service – New Construction***

The New Construction Program offers Harvard clients a full range of green building consulting services focusing on new construction and major renovation including:

- Integrated Design, Green Building, and LEED Training
- Design and Specification Review
- Owner's Representation Regarding Sustainability
- Sustainable Design Consulting
- LEED Certification Project Management

### ***FAS Resource Efficiency Program***

This is a program that employs 19 students on a part-time basis to educate students regarding energy conservation, water conservation, environmental procurement, and recycling within their houses and dorms. The program is jointly funded by FAS, UOS, HUDS and the HGCI. The program is administered and managed through the HGCI. In FY08 this program will be partially supported by a University Management Fellowship.

### ***Graduate Green Living Program***

In FY07, the HGCI continued its partnership with HRES, HLS, and HRES (the latter through the successful application for a Green Campus Loan) to pilot a resource conservation program for graduate student residences modeled after the FAS Undergraduate REP program (described above). The program is administered and managed through the HGCI. Twenty students work as "green living representatives" to educate their peers in three HRES apartment complexes, eight HLS dorms, five HBS dorms, and HBS common areas.

### ***High Performance Building Service Resource***

Development of an online comprehensive Harvard internal LEED resource capturing details and lessons learned from current and completed LEED projects.

### ***Renewable Energy***

President Summers announced a three-year dedicated renewable energy fund for the University. The \$100,00 per year fund will be used to expand Harvard's renewable energy portfolio, which is likely to allow Harvard to become the largest university purchaser of renewable energy in the country. The fund will bring a new focus to a wide array of renewable energy commitments that have been made by numerous Schools and departments across Harvard. We are hiring a full time staff member to carry out these tasks in FY07.

NOTE: See [www.greencampus.harvard.edu](http://www.greencampus.harvard.edu) for more HGCI program information.

### ***Core***

#### General Management

- The Green Campus Loan Fund
- Green Campus Initiative staff
- General UOS responsibilities
- Business Continuity and Development

#### Strategic Development

- Comprehensive strategy for Green Building at Harvard
- Indicators for Harvard
- Environmental Procurement
- Laboratories
- Life Cycle Costing
- Fundraising (grants, donors)
- GHG reduction planning

#### Education and Engagement

- Promoting Sustainability Principles
- Best Practice Exchanges
- Staff engagement activities
- Engaging schools to set GHG goals

### **HGCI Personnel Plans - Salaries and Wages**

In the last 7 years we have seen strong growth in staffing levels of the HGCI, going from one full time staff member in 2000 to a projected 20 full-time staff and 37 part-time student employees in 2007/2008. Staffing for HGCI Programs going into FY08 includes the following:

#### **Campus Energy Reduction Programs (FAS and Longwood)**

Coordinator, FAS Campus Energy Reduction Program – F/T

Coordinator, Longwood Green Campus Initiative– F/T

#### **High Performance Building Service - Existing Buildings**

Manager, HPBS – F/T

Manager, HPBS – F/T (**New in FY08**)

Coordinator, HPBS – F/T

Coordinator, HPBS – F/T

#### **High Performance Building Service - New Construction**

Manager, HPBS – F/T

Manager, HPBS – F/T (**New in FY08**)

Coordinator, HPBS – F/T (**New in FY07**)

Coordinator, HPBS – F/T (**New in FY07**)

### **High Performance Building Resource**

Coordinator, High Performance Building Resource, HPBS – F/T

### **Green Living Programs (Undergraduate and Graduate)**

Manager, Green Living Programs – F/T

Coordinator, FAS Resource Efficiency Program – F/T

19 REP students (2 at 10 hours and 17 at 4 hours per week)

Coordinator, Graduate Green Living Program – F/T

18 GGL student/spouse residents

### **Renewable Energy**

Coordinator, Renewable – F/T (New in FY07)

### **Core**

Director, HGCI – F/T

Assistant Director, HGCI - F/T (New in FY08)

Manager, Finance - F/T

Manager, Renewable & Special Projects - F/T (New in FY07)

Web Coordinator - F/T (New in FY07)

### **Largest Expense Line Items & Assumptions for HGCI Programs in FY08**

#### *UOS Overhead Costs*

All business units are affected by this increase, as overhead expenses are allocated to programs based on number of FTEs employed by each unit.

#### *Prizes, Incentives, Events, Supplies*

HGCI's behavioral change programs (Campus Energy Reduction Programs and Green Living Programs) utilize creative methods to appeal to a wide range Harvard building occupants and residents to conserve energy and resources. These social marketing methods include incentives for target audiences with events, which serve either as a reward for a high level of participation in an energy conservation campaign (e.g. wine and cheese parties for employees) or as a forum to educate on the issue (e.g. undergraduate eco-study breaks), and prizes for art and media competitions which result in continual education on the issue of energy conservation. The HGCI growing staff will also require additional furniture for the office.

#### *Professional Development Related Fees*

HGCI staff members are continually educating themselves regarding innovation in their respective fields. Such trainings include peer conferences and continual familiarization with new technologies, such as laboratory energy conservation or green building design.

#### *Staff Increases*

As the successes of HGCI continues we are taking on opportunities in all areas that also benefit UOS as a total package. These increases in services, partly influenced through the staff's professional development require more staff to manage the programs. Allston planning alone requires additional staff as we work with UOS to provide them with sources such as Geothermal Well research.

### **Reserves**

At FY07 end we project to have \$236,342 in reserves. This money comes from program income over the last few fiscal years. This money will be used to supplement the projected losses in FY08 in the amount of \$207,852. We aim to keep 60 days worth of total program expenses in reserve (approximately \$72,000). Currently, are 42% below this target. We expect to recoup these funds by increased contract work from the High Performance Building Services throughout FY08. Contracts are typically not created this far in advance for the next FY. For instance, our projections for this FY have doubled in the amount of income the HPBS program has taken in for this FY.