

ENERGY AND ENVIRONMENTAL ADVISORY COMMITTEE

POLICY RECOMMENDATIONS

Current science indicates that the demonstrable adverse effects of human activities on global climate and the environment will cause major negative impacts on agricultural production, natural ecosystems, human welfare and the world economy unless immediate substantial action is taken. Brown University acknowledges its responsibility to act as an engaged world citizen, role model and community leader. To this end, Brown University will establish policies and practices to help protect the present and future global environment.

ENERGY AND ENVIRONMENTAL MISSION

In order to develop sustainable and equitable patterns of local and global resource use, Brown University will minimize its energy use, reduce negative environmental impacts and promote environmental stewardship. Brown will use the opportunities created by these actions to further its educational, research and service missions.

GOALS

Greenhouse Gas Emissions Reduction: Brown University should aspire to reduce its greenhouse gas emissions by 80% below 1990 levels by 2050.¹ As an interim commitment Brown University should reduce its emissions by 10% to 15% below 1990 levels by 2020 (45% to 48% below FY 2007 levels).² To meet this target we anticipate incremental annual reduction targets of greenhouse gas emissions beginning in FY2008.

Carbon Neutrality: Brown should allocate funds and implement a policy to achieve carbon neutrality by FY2008 to be maintained at least through 2020. This will serve as an example to the community, contribute to measurable reductions in global carbon emissions, and be sensitive to global inequalities in natural resource utilization. To achieve carbon neutrality Brown will initiate carbon offset projects to reduce greenhouse gas emissions in the local community and purchase carbon offset contracts. As Brown reduces its greenhouse gas emissions on campus the need for total carbon-offsets will decrease.

¹ Research reported in the Intergovernmental Panel on Climate Change Fourth Assessment Report (www.ipcc.ch) suggests that to avoid major disruption of the earth's climate the world will need to stabilize atmospheric carbon dioxide (CO₂) concentrations at no more than two times pre-industrial levels (550 Parts Per Million (ppm)). To meet this target the United States alone is expected to need to reduce its greenhouse gas emissions by about 80% below current levels by as soon as 2050.

² Brown's greenhouse gas emissions in 1990 were 50,000 metric tons of carbon dioxide equivalents (MTCDE). Brown's total greenhouse gas emissions for FY2007 are projected to be 82,000 MTCDE (46,000 MTCDE emitted from on-site burning of fossil fuels and 36,000 MTCDE from the use of electricity). This is an increase of 64% above 1990 levels. Greenhouse gas emissions that have been tracked do not include transportation either from Brown owned vehicles or faculty, staff and student owned vehicles.

Leadership: As a result of long-term investments Brown University is more energy efficient than its peer institutions (energy use per square foot of building area).³ By meeting greenhouse gas emission targets and achieving carbon neutrality Brown will ensure that it maintains this leadership position in addressing climate change. Brown must also continue to help advance relevant research and educational efforts.

STRATEGIES

Below are a set of strategies that will enable Brown to achieve the improvements needed to meet the short-term goals. The proposed strategies will provide a portfolio of approaches with differing capital needs.

- Reduce the greenhouse gas emissions of fossil fuels Brown directly burns in the Central Heat Plant by 30% by fiscal year (FY) 2008. Brown University's consumption of fossil fuel is dominated by "#6 Fuel Oil" a lower cost fuel with high carbon emissions per unit heat. This fuel will be displaced by natural gas, a much less carbon-intensive fuel.
- Reduce the overall energy density of existing facilities by 20% by EOY 2012 with annual reduction targets of 5% from FY2009-FY2012. By 2013, evaluate the potential for additional efficiency improvements based on new technologies, establishing additional annual targets as may be appropriate.
- Reduce overall energy density of all new and acquired facilities (including major renovations and additions of major energy consuming equipment) an average of 50% below pertinent building codes and no less than a 25% reduction in any single building.
- Require Brown to utilize renewable energy equivalent to at least 18,000 megawatt-hours (MWH) of electricity by 2010. This can be accomplished through onsite energy generation, investments in external renewable energy projects, and/or the purchase of Renewable Energy Certificates. Establish a target beyond 2010 of up to an additional 18,000 megawatt hours of renewable generation. These targets are in addition to Rhode Island's regulatory requirement that at least 16% of all Brown's electricity purchases will be from renewable energy sources by 2019.

³ As reported in Sightlines™ ; College and University facilities benchmarking survey, www.sightlines.com

- Reduce total greenhouse gas emissions from the Central Heat Plant through increased cogeneration sufficient to reduce emissions by at least 7,000 MTCDE by 2012.
- Use Brown's strengths as an educational institution to offset carbon in a manner that shows leadership and social responsibility. Take advantage of the opportunities provided by new offset markets, and be bold and innovative by creating Brown's own offset projects that serve as an example to the world. To complement Brown's educational and service missions, create programs that educate the larger community including local school systems in the surrounding communities about climate change, its impacts and solutions and count as an offset mechanism.