Smith is committed to reducing its carbon footprint by controlling energy and resource consumption. The college continues its programs to retrofit buildings, improve energy efficiency and add renewable energy, develop sustainable practices for resource conservation, source locally whenever feasible, and continue educational outreach.

Smith’s Sustainability and Climate Action Management Plan (SCAMP) outlines a path to carbon neutrality by 2030, as well as other information about sustainability. The plan is available as a PDF at www.smith.edu/green/sustainability.php.

Places marked on the map indicate some of the most visible areas where Smith has made major changes and integrated sustainability in its planning.

In an ongoing program of renovation in the residence houses, engineering faculty and students studied building envelopes and provided data on the best choices for adapting the college’s varied architecture to more sustainable operations.

Smith’s curriculum integrates sustainability through CEEDS (Center for the Environment, Ecological Design and Sustainability), which develops and supports projects involving engineering, Environmental Science and Policy and Landscape Studies, among other disciplines and departments.

At Smith’s MacLeish Field Station in Whately, faculty and students are engaged in the Living Building Challenge to make the Station’s classroom a net-zero facility, one of very few in the country. Multiple disciplines use the property for research, special projects and classes.

Smith’s Committee on Sustainability, house Sustainability Reps and Green Team work together to develop and implement policies and educational activities that support more sustainable practices.
The Campus Center: Getting to the Heart of Sustainability

The Campus Center houses a post office, campus store, numerous meeting spaces, student government offices, and a Café named in honor of alumna Julia Child. An unusual shape made this structure complicated to insulate, but the building envelope includes thermal-paned windows with a low-e coating to reduce the amount of heat passing through them. The roof has five inches of foam insulation, bringing it to a rating of R35. Walls have two inches of foam outside with air-tight detailing and one inch of glue-based cellulose on the interior, bringing the wall rating to R20.

The center houses common recycling containers including kiosks for used batteries, phones and CFL bulbs. The roof has a 29 kilowatt solar electric system which produces about 30,000 kilowatt hours of electricity each year, enough to power about three average U.S. homes. ([View the panels from Chapin House](#)) The Campus Center accounts for as much as 3% of the college's total electricity load. The Class of 1961 spearheaded efforts to make the Center more sustainable by supporting upgrades that added daylight sensors to atrium lighting to maximize use of natural light. Energy dashboards in the Campus Center and nine houses provide real-time data on energy use.

Northrop-Gillet: Sustainable Food at Smith

Vegetarian and fresh salad bars are available at all dining locations, and Gillett dining always provides vegan meals. Whenever possible, Dining Services uses seasonal food from local farms. In 2011, Dining spent $650,000 on locally grown food including vegetables, fresh fruit, goat cheese, honey, maple syrup, yogurt, turkey, beef, granola, bread items, milk and soy milk. Purchasing local food reduces transportation and keeps valuable farmland in tillage; many farmers are also organic growers. Smith dining locations compost food and paper waste, which the college delivers to a local farm permitted to process it. This has a huge impact on the amount of solid waste Smith generates. Smith dining has eliminated disposable cups; reusable mugs are the norm for students. Smith has never used trays in dining rooms, which saves washing and related water and energy use.

Conway House: Highest Performer

Conway House, built in 2006 for Ada Comstock scholars, is the most energy-efficient Smith building to date and boasts a 5+ EnergyStar rating from the U.S. EPA. Ten apartments have EnergyStar appliances, but the key to this building's low energy use is extensive insulation. Walls and ceilings hold more than a foot of expanded polystyrene foam, the least toxic type. The building envelope is nearly airtight, thanks to superior pre-cast concrete with built-in R5 insulation and additional insulation that reaches R36. Conway House has triple-glazed windows made with puttedrified fiberglass. Pultrusion, a continuous molding process, uses glass or fibrous reinforcement in a polyester or vinyl ester resin matrix; the windows produced are strong, safe, and corrosion resistant.

Lyman Plant House of the Botanic Garden: A History of Environmental Education

Lyman Plant House, a Lloyd and Burnham design, is one of the oldest greenhouses in North America. The Botanic Garden is the site of botanical and interdisciplinary research, a public visitor center, and the locus for area school programs, exhibitions in its Church gallery, and the spring bulb and fall chrysanthemum shows. Renovations in 2004 provided new classrooms and offices built into the hillside that adjoins the building. Lucite panes have replaced glass, and HVAC controls provide better regulation of heat and humidity for the various plant zones included in the greenhouses, as well as classrooms, labs, and public areas. A major project will dredge the adjacent pond, remove invasive plants, and re-route underground water to help maintain the flow of fresh water into the pond.

Neilson Library: Managing an Environment for Multiple Uses

Opened in 1909, Neilson Library was built in Italian Renaissance Revival style with funding from Andrew Carnegie. The main social sciences and humanities library contains thousands of books and an outstanding rare book collection. The building is used 18 hours a day throughout the year and requires air conditioning in the summer. Due to heavy use and the size of the building, Neilson's HVAC system used a lot of energy. Smith replaced old pneumatic (compressed air) controls with digital controls, adding energy recovery ventilation (which brings in fresh air from outside but heats/cools it with the air exiting the building), and increasing attic insulation. Neilson is now cooled by an absorption chiller connected to the co-generation facility.

Ford Hall: LEED Gold Home for the Sciences and Engineering

Ford Hall for the Sciences and Engineering is the newest campus building, completed in 2009. It is LEED certified at Gold level and one of the most energy-efficient buildings of its type. Because lab venting hoods are always on, science buildings must have a constant supply of fresh air. One of Ford Hall's most impressive controls is the energy recovery system, which allows fresh air changeover without losing the heat in used air. In addition, by separating the building into "laboratory" and "office" areas, some heated/cooled air can be reused in the "office" area, which includes a large atrium. The "office" end has operable windows. Classroom lighting is monitored by ballast controls that adjust to natural light levels, are motion-sensitive, and 40% more efficient compared to traditional classrooms. During construction, Ford Hall achieved a 95% waste recycling rate, significantly higher than the usual 70-75%. Recycled materials were also used in construction. The building uses a green roof to help capture and filter substantial amounts of rainwater, which is stored in a 30,000-gallon tank under the landscaping and used in laboratory sinks and toilets throughout the building. The green roof allows Ford Hall to use about 40% less heat and 60% less water. In 2012, in conjunction with the ITT project described below, a 44.66 kW solar array will be added to Ford Hall’s roof.

Indoor Track and Tennis: Heads up!

The Indoor Track and Tennis facility (ITT) is used year-round. Lighting retrofit upgrades and motion sensors for this single facility reduced campus total electricity use by 1% or about 250 thousand kilowatt hours. The new lighting has the added benefits of increased brightness and better color rendition. The facility’s large roof will soon host a 434kW solar array. In exchange for hosting that installation, Smith obtains a 20-year fixed rate to purchase the energy produced.


The Mill River Greenway is a coalition of area groups working to restore and improve the Mill River as an environmental and recreational asset to the towns along its banks. Smith faculty, students and staff are participating in assessing the needs and impact of the work, as well as restoring the portion of the river that winds through the Smith campus, an area severely affected by wind storms and flooding in 2011.

A tall stack locates the Facilities Management building and Smith's power plant. Facilities management maintains and monitors all heating, cooling and electrical systems and manages renovation and retrofitting work on campus buildings. Smith started up its co-generation plant in fall 2008. This facility simultaneously generates electricity and heat, wasting much less energy than generating either output by itself. In summer 2010, Smith began operating an absorption chiller which uses heat created by the cogeneration facility to make chilled water to air-condition buildings. Running cogeneration in warmer months increases energy efficiencies in hot weather. In 2012, Smith began working with National Grid and Columbia Gas in an incentivized program of energy management. After intensive assessment of key buildings, sealing, upgrading portions of HVAC systems, tuning controls, lighting retrofits and related efforts should achieve energy use reductions of 15% below 2011 levels over a three-year period.