Portland

Connected by Nature

Celebrating Sustainability in Action

Natural Resources Council of Maine

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Protecting the Nature of Maine

The Natural Resources Council of Maine is our state's leading non-profit organization protecting, restoring, and conserving Maine's environment, today and for future generations.

We work to improve the quality of Maine's rivers, lakes, and streams; to promote sustainable communities through initiatives that reduce pollution and the impacts of waste and promote clean energy; to decrease air and climate-changing pollution; and to conserve Maine lands, including our treasured North Woods.

NRCM was created by Maine people, for the benefit of all who love Maine. For more than 55 years, NRCM has led efforts to keep Maine a special place. NRCM harnesses the power of science, the law, and the voices of more than 16,000 supporters from across Maine and beyond. Together, we are making a difference.

Fall 2015

Positive Energy

Portland is making wise moves to cut energy costs and increase renewable energy.

Since 2010, the City has embraced energy-efficiency improvements that have reduced its energy costs by 30 percent and cut climate-disrupting carbon pollution by 16 percent. Portland has numerous buildings that achieve the highest levels of energy performance, including net zero energy homes, which generate as much energy as they use. The Portland International Jetport is one of the most energy-efficient airports in the nation. Solar panels have been installed on homes and businesses throughout the city, including on four public schools, and more solar projects are in the works. The city is home to some of the state's top architects, designers, builders, and renewable energy experts who are applying their talents to projects within the city and across the state and region. Portland hosts affordable housing options that have won awards for their energy and sustainability features, and is home to a property management company that is on the cutting edge of incorporating environmental performance into its buildings. Positive things are happening on the Portland energy front.

Opposite: Avesta Housing's LEED Gold-certified apartment building at 180 Pearl Street

Innovations

LEEDing by Example

Portland is leading by example by requiring LEED-certified construction for most buildings that are paid for with City funding. LEED is a nationally recognized green building certification program run by the U.S. Green Building Council. The city's Green Building Ordinance, adopted in 2009, requires city buildings with more than 2,000 square feet in floor space to achieve LEED Silver-certification. The Portland Jetport, Ocean Avenue Elementary School, and East End School all meet or exceed the LEED Silver standard, and at least one new school to be built in the next four years will be designed to meet this requirement. The ordinance also requires that all construction projects in Portland that receive more than $200,000 in public funds (through tax abatement or other support), and are of 10,000 square feet in floor area or greater, demonstrate significant improvements in energy performance compared with baseline ratings. The required performance improvements are 30 percent for new construction, 25 percent for renovations, and 20 percent for historic buildings. Portland is the only city in Maine with an ordinance like this, and few such ordinances exist nationwide. Portland is leading by LEEDing.

Efficiency in Public Buildings

Portland's older buildings add character, but they can cost a lot to heat. In 2011, the City decided that the time had come for comprehensive energy performance improvements for all of its public buildings. The results have been impressive. Through a contract with an Energy Service Company (ESCO), Portland has cut energy costs by roughly one million dollars a year, cut climate-changing pollutants by 16 percent, reduced heating fuel consumption by 80 percent, and eliminated its use of highly polluting "bunker" fuels entirely. How did this happen? Through improvements in lighting efficiency, boiler conversions, additional insulation, and water conservation. Portland also is tracking the performance of all of its buildings to help identify opportunities for additional cost-saving energy efficiency investments.

Portland Jetport Gets Energy-Efficient

The Portland International Jetport is one of only three airports in the country to achieve LEED Gold-certification status (San Francisco and Atlanta are the others). The building's geothermal heating system reduces its annual fuel oil consumption by 100,000 gallons, cutting carbon pollution by an estimated two million pounds per year. Over the 40-year life of the system, this is the equivalent of removing 7,200 cars from Maine roads.

Solar in the City

Lots of sun shines on Portland, and more and more building owners are capturing this solar energy to save money and reduce their dependence on fossil fuels. Four schools have installed solar panels, including East End Elementary School, King Middle School, Lincoln Middle School, and the Portland Arts and Technology High School. Many commercial buildings also use solar power, including Oakhurst Dairy on Forest Avenue, which, in 2008, installed one of the largest solar thermal energy systems in New England. Oakhurst's 2,700 square feet of panels create enough hot water in the milk facility to save 5,000 gallons of oil each year. Portland residents have been installing solar at a steady clip as well, with arrays going up on apartment buildings and homes in nearly every neighborhood. As part of its commitment to reduce climate-changing carbon pollution, the City is seeking bids to install solar panels on the rooftops of public buildings, including the Portland Jetport, Library Storage Facility, and Bramhall Fire Station, and a larger system than the one that currently exists at King Middle School. Let the sun shine and the clean power flow.

Affordable Housing Leadership

Portland has the good fortune of being home to an award-winning nonprofit affordable housing company, Avesta Housing, a pioneer in constructing sustainable buildings in Portland and across Southern Maine. Their Oak Street Lofts building was the first affordable multi-family housing unit in the nation to achieve LEED certification Platinum status, the highest level of certification available. Oak Street's solar panels produce 60 percent to 85 percent of the hot water needed by residents of the building's 37 apartments. Avesta also built two LEED-certified buildings on Pearl Street, contributing to the revitalization of the Bayside neighborhood. The inner-city location of these units has cut commuting distances for tenants from an average of nine miles to less than three miles, with a high percentage of residents now able to walk or bike to their jobs. The buildings feature safe bike storage, easy access to city parks, and are located just two blocks from the Boyd Street Urban Farm. Avesta also worked with Cultivating Community to create a 57-unit affordable housing complex at 409 Cumberland that has a rooftop community garden and greenhouse.

Innovative Property Management

East Brown Cow is the city's second-largest property management company, with 16 properties in Portland. Established in 1989 by then-26-year-old Tim Soley and his brothers, the company sets a high standard for incorporating environmental performance into its buildings. East Brown Cow installed solar photoelectric arrays at their Fore Street parking garage, which is also equipped with electric vehicle charging stations. The solar system at a property they manage at 75 Market Street heats water and produces 18 million BTUs of renewable heat annually, reducing carbon emissions by about 8,000 pounds per year. The company's Hyatt Place Portland Hotel features heat recycling systems, LED lighting, and energy- and water-saving measures throughout. Tim is quick to note that his company doesn't pursue these actions based on financial return considerations or to earn recognition. Rather, he does it "because it's the right thing to do."

Sustainable By Design

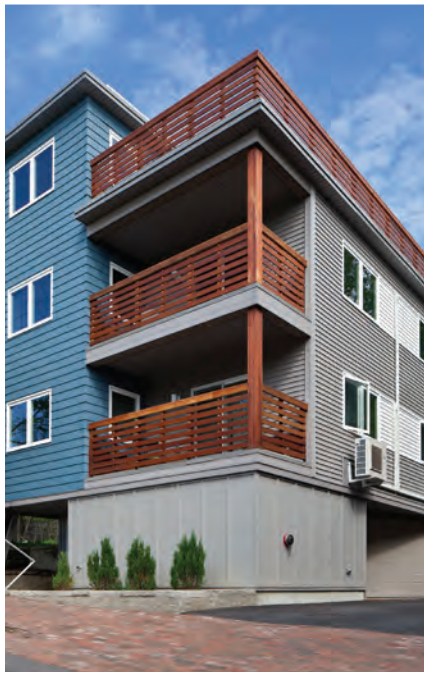
The best way to achieve sustainable buildings is to design sustainability measures in at the outset, and Portland has many creative architecture firms that are doing just that. These companies are designing and renovating some of the most energy-efficient buildings in Maine and across New England. This helps explain why Portland was chosen to host the North American Passive House Network Conference in 2014, attended by experts in low-energy-use buildings from around the world.

▸ ***BRIBURN Architects*** specializes is super energy-efficient, environmentally friendly design, including buildings that generate as much energy as they use (net zero). The firm also designed Maine's first "net-positive" home that produces twice the amount of energy needed to heat, light, and operate the building.

▸ ***Kaplan Thompson Architects*** has adopted a company commitment "to create buildings that lead us toward a new way of living in harmony with the rest of our planet." Among the firm's impressive projects is a net-zero, four-story apartment building on Munjoy Hill that is so energy efficient, it has no furnace or boiler. All the heat it needs comes from solar panels and air source heat pumps. The firm also has a spin-off company—BrightBuilt Home— specializing in affordable net-zero homes that reduce or eliminate utility bills, saving occupants money over the home's lifetime.

▸ ***PDT Architects*** concentrates on sustainable design, with a special focus on schools, health care facilities, and courthouses. PDT designed the first LEED-certified commercial building in Maine (at 50 Sewall Street) and designed Avesta's groundbreaking LEED Platinum-certified building at Pearl Place. The company has a large portfolio of major projects that incorporate the highest levels of environmental design.

▸ ***Richard Renner Architects*** incorporates the full range of energy-saving elements into buildings, including daylighting, sun shading, high-performance building envelopes, solar pre-heat of ventilation air, natural convective ventilation, and solar arrays. The firm also has completed "deep energy retrofits" of existing buildings to achieve drastic reductions in energy consumption.



From top down: Solar panels at Aikido of Maine, installed by ReVision Energy // LEED Gold-certified Portland International Jetport // Net Zero apartment building at 62 Cumberland Ave., designed by Kaplan Thompson Architects; solar photovoltaic and hot water systems are the sole sources of energy for this super-insulated building

PHIL COUPE AND FORTUNAT MUELLER

Solar Crusaders

Phil Coupe and Fortunat Mueller are two of the visionary leaders at ReVision Energy who have helped build the company from two guys in a garage into northern New England's leading solar energy company with more than 100 employees today. Since 2003, the company has installed more than 4,500 solar electric and hot water systems as part of its long-term mission to transition the region from a fossil fuel-based economy to a sustainable, renewable energy-based economy. In 2006, they spun off ReVision Heat as a sister company focused on installing sustainable heating systems. But these two business leaders are not simply connecting people to the sun as a source of energy independence; they also are evangelists for a clean energy revolution that is gradually reducing the $5 billion that Mainers export from the local economy every year to buy fossil fuels from away. Recognizing that Maine has zero indigenous fossil fuels but abundant renewable resources in the form of wind, tidal, biomass, and solar energy, they are promoting a big vision of transforming our economy to clean electricity, solar-powered electric vehicles, reduced carbon pollution, and good-paying jobs.

SAM SALTONSTALL

Citizen Action on Peaks Island

Sam Saltonstall is a retired public school teacher who has become an outstanding community activist on Portland's Peaks Island, with many accomplishments through his involvement with the Peaks Environmental Action Team (PEAT). Working with the Island Institute's energy team, Sam helped 108 Peaks homeowners reduce energy costs by air-sealing to prevent leaks in their homes. He's also led an effort to build energy-efficient storm window inserts, producing more than 900 inserts for 65 families, with hundreds more in the works. These inserts save enough heating oil to pay for themselves in one heating season. Sam also has helped negotiate group purchases of heat pumps and LED light bulbs, resulting in installations of these energy-saving devices across the island. Sam is an advocate for education about energy issues, helping organize presentations for his fellow island dwellers about opportunities for improving building envelopes, LED technology, solar power options, and more.

JENNIFER PUSER BRENNAN

Clean Power Player

Jennifer Puser Brennan is a hard-charging proponent of electric vehicles (EVs) and strategies to reduce fossil fuel consumption. As Director of Special Projects at the Greater Portland Council of Governments (GPCOG), Jennifer helped secure a grant from Central Maine Power for an all-electric Nissan LEAF which has been available to borrow by GPCOG municipal members and stakeholders. More than 25 entities have taken advantage of the opportunity to use the LEAF for up to a week at a time. Jennifer also secured funding from the Iberdrola USA Foundation that paid for seven EV charging stations in Portland and elsewhere in Maine. Much of this work is being done as part of the Maine Clean Communities program housed at GPCOG, which is aimed at reducing petroleum use in the transportation sector. Jennifer is a consummate networker in all her work—connecting energy professionals, municipal officials, business leaders, nonprofit organizations, and others in dialogue, education, planning, and investment in ways to boost electric vehicle use and reduce energy costs.

Opposite, clockwise from top left: Fortunat Mueller and Phil Coupe // Sam Saltonstall // Jennifer Puser Brennan