Carleton Sustainability Campus Tour

September 2017

For further information on Carleton's sustainability programs visit: **go.carleton.edu/sustainability.** To get all the latest news, like us on Facebook at **Carleton sustainability** or follow us on Twitter **@sustaincarl**

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1. **Weitz Center (1910, 1930's, 1950's, 2011) –** This LEED Gold building highlights creative material reuse and thoughtful restoration and reuse of an iconic local building. The Music Performance Commons addition completed in Fall 2017 meets the same LEED standards as the original building.

2. **Skinner Memorial Chapel (1916, 2015) –** The summer 2015 mechanical and electrical systems upgrade replaced a 100-year-old, steam-based heating system steam with highly efficient, lower temperature (120 degree) hot water, heat recovery capabilities and advanced building controls.

3. **Hulings (1995), Olin (1961, 1994), and New Science (2019) –** This corner of campus recently transformed as Mudd was demolished to make way for a new science building. Through energy efficient new construction plus energy upgrades in the existing buildings, the science complex will result in no net increase to Carleton's energy footprint, despite adding net 50,000 square feet. It will also include the new East Energy Station which will house the heat pump equipment tied the new geothermal bore fields.

4. **James and Cassat Hall (2009) –** Carleton's newest residence halls achieved LEED Gold status through use of a highly insulated exterior structure, energy efficient windows, lighting controls and use of recycled and rapidly renewable interior materials. A 9 kW solar PV array contributes 1-2% of the building's annual electricity consumption and a rooftop solar thermal system supplements domestic hot water generation.

5. **Language & Dining Center (2001) –** A 2013 full building lighting retrofit replaced existing systems with LED fixtures and advanced lighting controls (timers, occupancy sensors and photo sensors). This project reduced building energy consumption by over 160,000 kWh, a more than 30% decrease in building electricity use and a 1% reduction in Carleton's total campus electricity consumption. *Look to the east and you'll see Carleton's "Eat the Lawn" kitchen garden along the front façade of Myers Hall.*

6. **Kracum Wind Turbine (2011) and Turbine #1 (2004) –** From the CMC patio one can catch a glimpse of Carleton's two wind turbines. Carleton installed the first college-owned commercial size wind turbine in 2004, a 1.65 MW Vestas V87. This turbine provides clean, renewable energy to the public grid and the local utility provider (Xcel Energy) pays Carleton for the power. The Kracum wind turbine – a 1.68 MW GE XLE - serves Carleton's electricity grid directly and provides between 25-30% of our annual electricity. Both turbines produce 4,000 – 5,000 MWh per year, enough to each serve 500-600 average homes. *Be sure to also sneak a peek at the expanded pollinator garden behind Boliou Hall!*

7. **Founders' Court Pollinator Garden (2014) –** the pollinator garden outside Gould Library is one of many locations where Carleton is planting pollinator-friendly landscapes. Our Grounds department is continually evaluating areas where mowed turf can be replaced with maintained prairie and pollinator gardens, thus reducing fuel and fertilizer use while introducing seasonal beauty and variation. *Also notice the expanded bike rack and (new) skateboard / scooter parking outside the Library.*

8. **Bald Spot / Mini Bald Spot / Bell Field Geothermal Bore Fields –** Carleton's central heating system is moving into the twenty-first century through a transition from steam to low temperature (120 degree) hot water tied to a geothermal heat pump and condensing boilers. The plan addresses much-needed maintenance while also serving the objectives of Carleton's 2014 Facilities Master Plan and 2011 Climate Action Plan, which targets zero campus carbon emissions by 2050. The hot water / geothermal system will reduce our central plant carbon footprint by approx. 15%, reduce plant operating expenses by up to 30% and open up many more options for how Carleton generates, consumes and moves energy while lowering carbon emissions. For more information, visit **go.carleton.edu/geothermal**

9. **Carleton Student Organic Farm (2005-ish) –** the Carleton Student Organic Farm is a 1.5 acre site of diverse food crops managed by 2-3 farm interns. 100% of the Farm's output is purchased by Bon Appetit (Carleton's food service provider) at market rates. The Farm is financially self-sufficient, earning enough annual revenue to fund its own annual internships and expenses.

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