

Tactile Energy History Exhibition

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Our Plan

- Energy history of Carleton timeline
- Museum-style exhibition
- Hands-on with tactile components
- Temporary and permanent displays

Why?

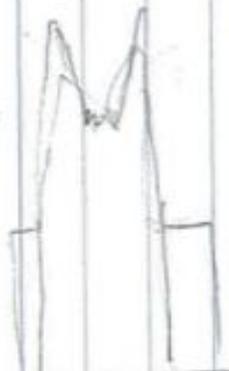
- Bring awareness to historical significance
- Physically engage students in learning
- Target specific learning styles
- Draw most possible attention

Our Design

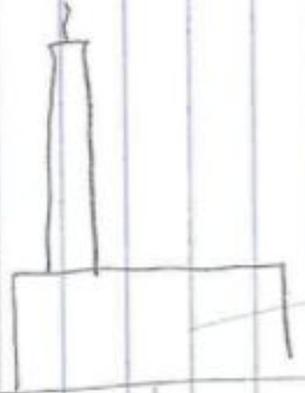
Energy History of Carleton

Electricity

Carleton
Founded
1866



Coal
Power
Plant
1910



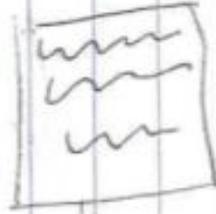
New
Smokesstack/
Natural
Gas
1941

Hot
water
1950s

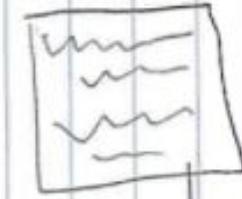


Chilled
water
1960s

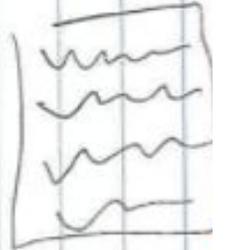
1st Wind
Turbine
2004



Solar
2009

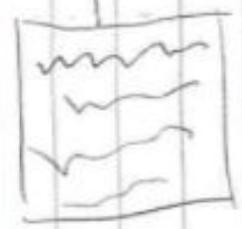
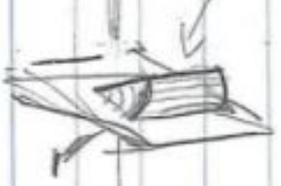


Geo
2017

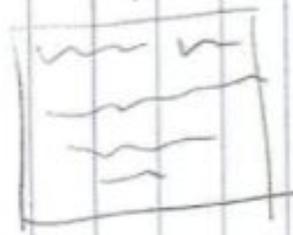


heating
and
cooling

piece of wood



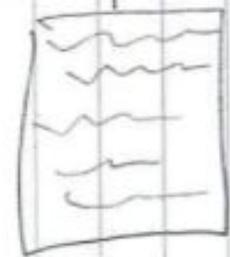
piece of coal



brick



wood



piece of wood
on fire



piece of



explain dif.
between heating
and
electricity

dirt
samples



dirt samples

Energy History of Carleton



Two types of geothermal wells are installed on campus: horizontal wells are drilled under Bell Field, while vertical wells are drilled under the Bald Spot and the Mini-Bald-Spot. These wells will help with heating and cooling at Carleton.

1866

1908

1910

1942

1965

1985

2004

2009

2017 -

At the time of Carleton's founding in 1866, the college is heated with fireplaces and coal furnaces in each building. There is no electricity at Carleton yet (the light bulb wasn't invented until 1879).

The construction of a central heating plant in 1910 allows Carleton to stop relying on heating systems in individual buildings and is a major development in the college's energy history.

In 1908 the public electric grid comes to Carleton, giving the college electricity for the first time.

In 1941 and 1942, a new smokestack is built and Carleton switches the fuel in its heating plant from coal to natural gas. This is a major turning point in the history of energy and sustainability at Carleton.

The conversion of heating from steam to hot water radiators in the 1960s makes heating more efficient, especially in the new buildings of Myers, Musser, and Boliou.

In the 1980s, the installation of chilled water cooling technology allows for the air conditioning of a number of buildings on campus.

The 2004 installation of a 1.65 megawatt wind turbine replaces about 40% of Carleton's electricity needs with renewable energy. This is the first utility-grade wind turbine in the country to be owned by a college, and marks the first step in Carleton's attempt at electrical energy reduction.

Carleton's first solar panels are installed on the roofs of Cassat and Memo in 2009.

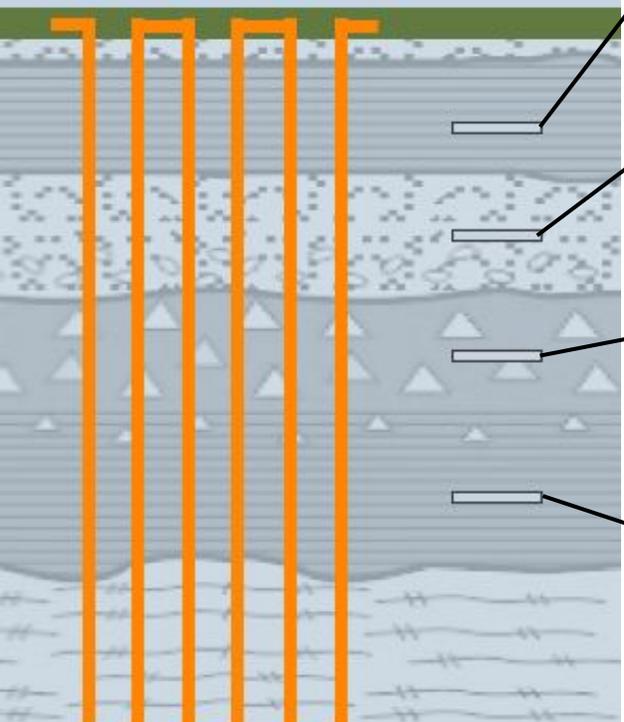


Events impacting heating/cooling exclusively

Events impacting electricity exclusively



Two types of geothermal wells are installed on campus: horizontal wells are drilled under Bell Field, while vertical wells are drilled under the Bald Spot and the Mini-Bald-Spot. These wells will help with heating and cooling at Carleton.



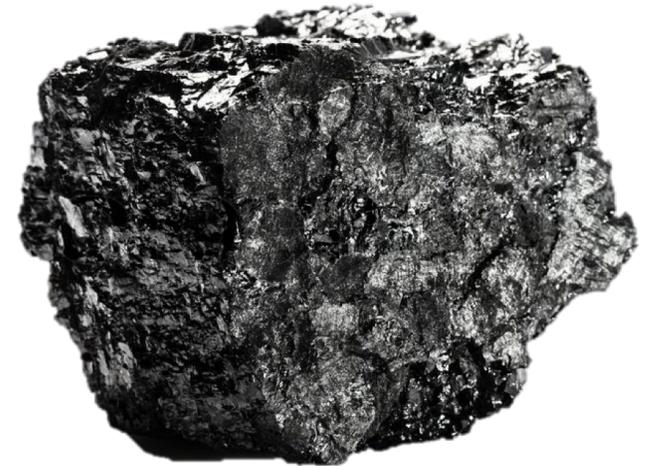
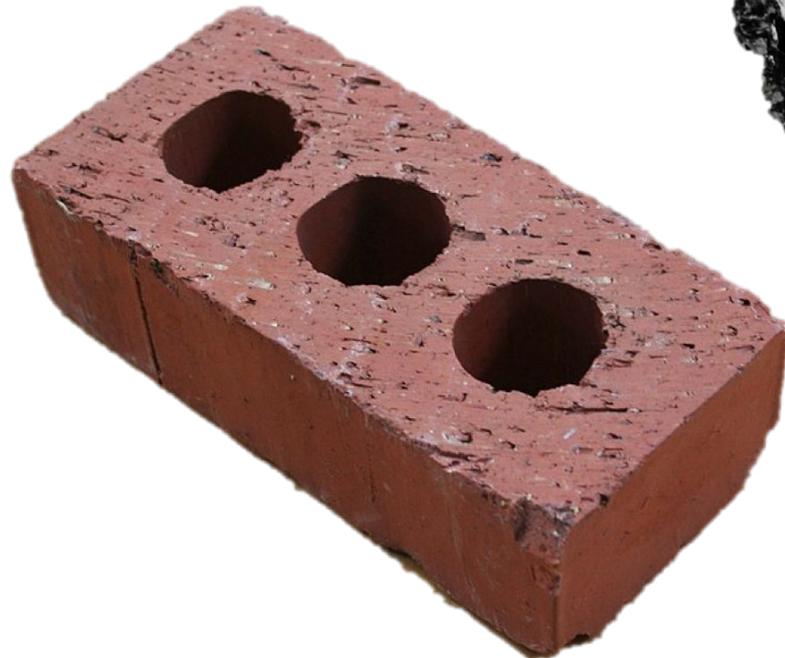
GLACIAL TILL (0-48ft) is unsorted sediment (eroded rocks) that is the result of the moving glaciers that once covered Minnesota!

LIMESTONE (48-108ft) is a sedimentary rock, made from mainly the skeletons of marine organisms like coral, shells and other biomass

SANDSTONE (108-310ft) sand is pressed together to create a rock. This is where most aquifers come from. Around here, we get our water from the Jordan Aquifer, which is also sandstone.

LIMESTONE (310-500ft) Here is another layer of limestone, this is the bedrock upon which Carleton rests.

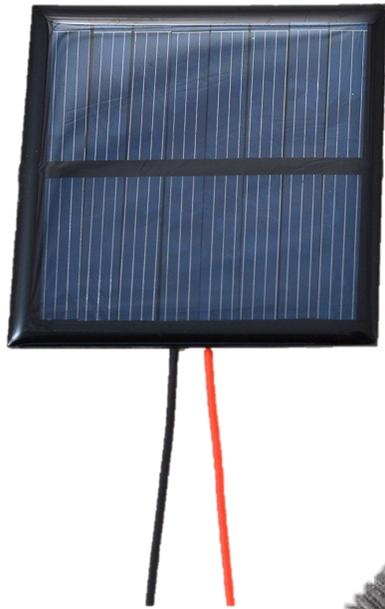
Tactile Components



Tactile Components (Pt. 2)



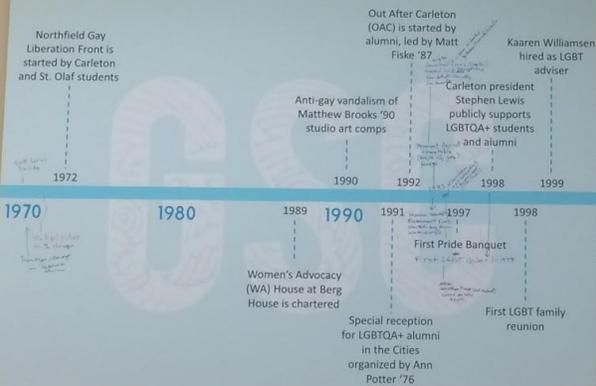
Tactile Components (Pt. 3)



Location

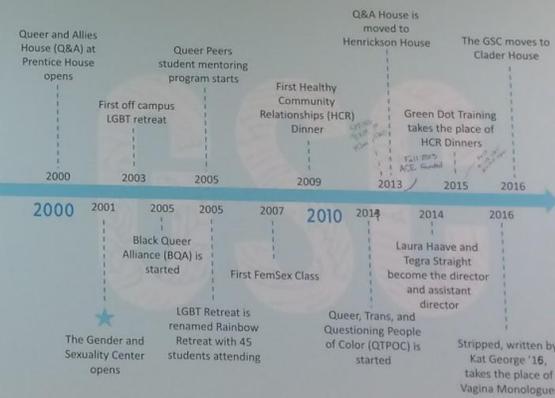
- Temporary display: The Rookery back wall, items placed above bookshelves
- Permanent display: potentially lobby of new science building, items placed on museum podiums

CARLETON LGBTQA+ HISTORY



150 YEARS OF CARLETON

CARLETON LGBTQA+ HISTORY



15 YEARS OF THE GSC

Where do we go from here?

- Leave prototype with the Sustainability Office and Geology department
- Follow construction of new science building
- Look for opportunities for permanent display

Conclusion

Thanks to:

Alex Miller and Martha Larsen for advice and logistical help from the Sustainability Office

Zoe Adler for location advice and feedback

Jonathon Cooper and Alex Miller for help in finding our tactile objects

Professor Savina for support and guidance