

Carleton College is the first...

college campus in Minnesota to install a **district-energy scale geothermal system**

college campus to **completely transition off steam heating**

college campus to install a **commercial-size wind turbine** (now two)

1 OF 3 campus-scale **geothermal projects** in the **Midwest**

Carleton's new utility system will utilize **4** forms of **renewable** energy technologies



WIND



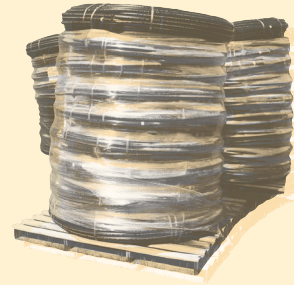
SOLAR PHOTOVOLTAIC



SOLAR THERMAL



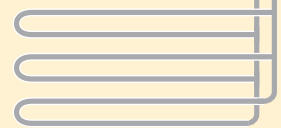
GEO THERMAL



60 miles OF GEOTHERMAL PIPING TO BE INSTALLED UNDER THE CARLETON CAMPUS

HORIZONTAL GEOTHERMAL WELLS

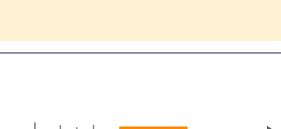
94 in **Bell Field**



VERTICAL GEOTHERMAL WELLS

133 in the **Bald Spot**

77 in the **Mini Bald Spot**

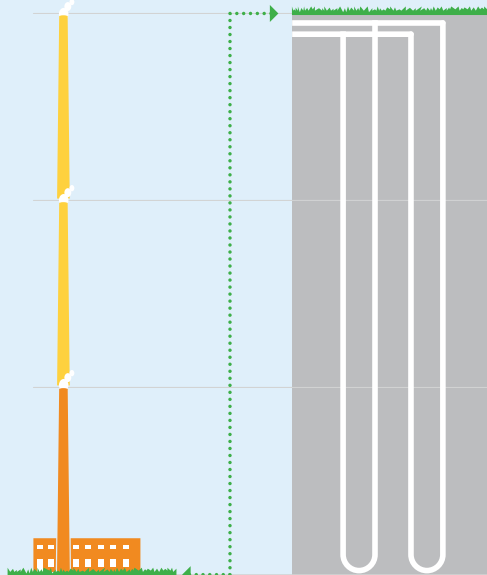


Utility Master Plan

Leading the way to a clean energy future

Each vertical well is

520 FEET DEEP
= to the height of **3** CARLETON **SMOKE STACKS**



THE GEOTHERMAL WELL FIELDS WILL USE **50 MILLION** CUBIC FEET OF EARTH AS A **THERMAL BATTERY**

THE NEW UTILITY SYSTEM WILL **REDUCE ANNUAL ENERGY USE**

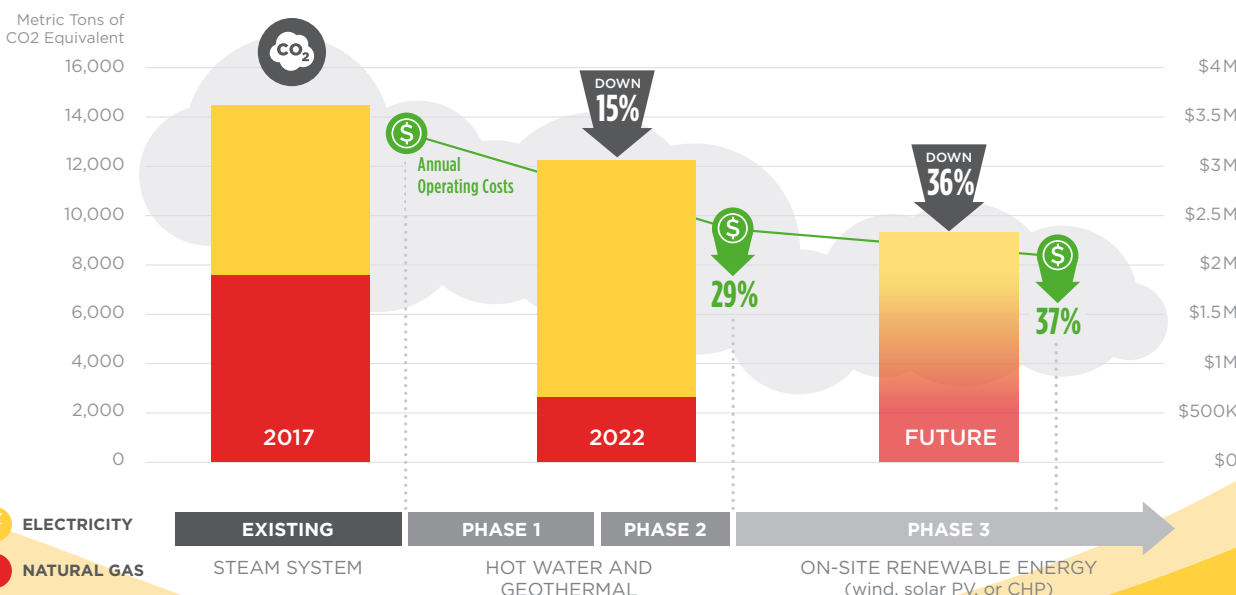
BY

84,000,000,000 BTUs

Equal to adding **6** wind turbines (15,000 MMBtu each)



CENTRAL PLANT ANNUAL EMISSIONS & OPERATING COST REDUCTIONS



CARBON FREE BY 2050