

Yale University Greenhouse Gas Reduction Strategy 2012

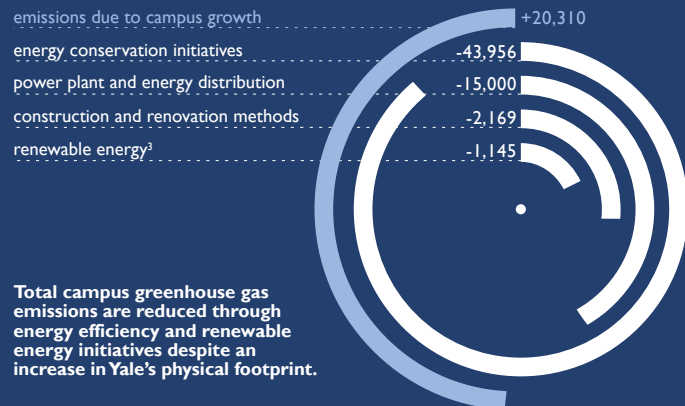
Climate Change

Climate Change is one of the biggest challenges that society faces today and into the future. The concentration of carbon dioxide in the earth's atmosphere is at the highest recorded levels in history. The risks associated with the repercussions of our impact are high. As a result, Yale and the industrial world share the same difficult task: to **drastically reduce emissions while also planning for future growth and development.**

In 2005, Yale University pledged to reduce its campus greenhouse gas emissions 43 percent below 2005 levels by 2020. This ambitious and forward-looking goal has necessitated consistent attention and effort over several years. As a result, our greenhouse gas reduction strategy has focused on laying out specific and effective programs that are technologically feasible, fiscally sound and consistent with the University's mission.

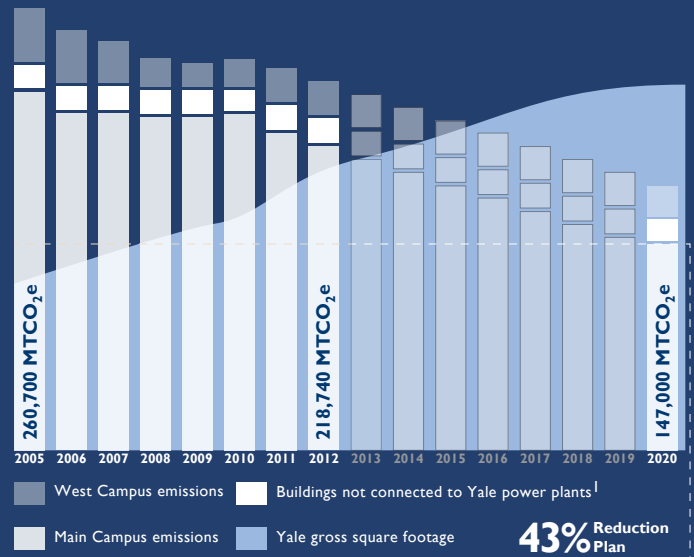
As of fiscal year 2012, **Yale has reduced its emissions 16 percent below its baseline emissions.** During this time campus size increased by 12 percent and population increased by 9 percent. Yale has been able to consistently reduce emissions despite significant building and population growth. Our strategy to reduce emissions year after year has

Change in MTCO₂e since 2005²



Progress to 2020

↓ 16% As of fiscal year 2012, Yale reduced its emissions 16% from 2005 levels despite a 12% increase in campus size.



focused on reducing the energy intensity of buildings through conservation and efficiency, deploying new technologies, utilizing cleaner fuels, adhering to sustainable construction and renovation standards, promoting behavioral shifts and culture change, and investing in renewable energy technologies both on and off Yale's campus. While these strategies are an essential component of our mitigation efforts they are not intended to impede the development of new initiatives and plans. It is important to recognize that our greenhouse gas reduction strategy is fluid and continually evolving. Plans and strategies will be revisited and modified to reflect progress, improved technologies, economic conditions and advances in the understanding of climate change. There is no one solution to carbon mitigation. Achievement of the University's goal to reduce emissions is being realized through the combined efforts of our students, faculty and staff.

We hope that by openly sharing our continued efforts, including our goals, lessons learned, strategies, and results, Yale's action will lead to similar commitments to greenhouse gas reductions by other institutions of higher learning at home and abroad.

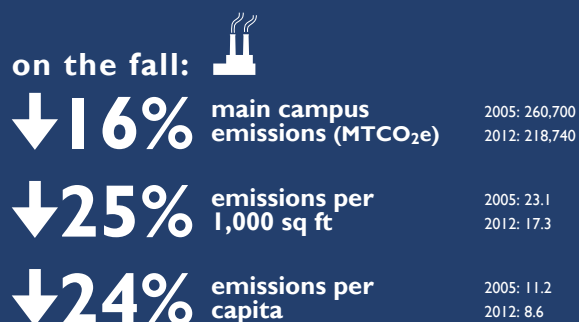
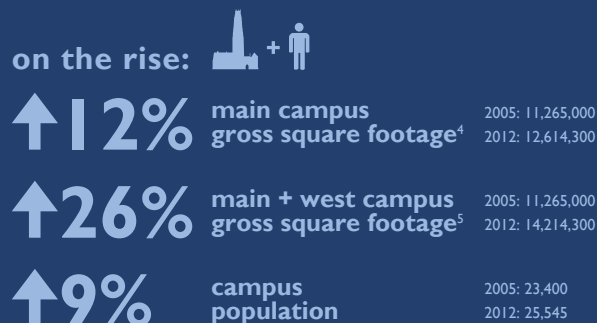
Yale is growing. Our emissions are diminishing.

2012

Greenhouse Gas Emission Sources

Yale is comprised of three campuses (Central, Medical, and West), which amounts to over fourteen million square feet served by Yale's two power plants and a population of over twenty-six thousand. The University's greenhouse gas emission reduction goal includes two on-campus power plants and purchased electricity for the Central and Medical Campuses. As a separate effort, Yale has also begun focusing on the reduction of emissions from West Campus and fuel and electric purchases for on and off campus buildings not connected to the Yale power plants.

Emissions from the University fleet, commuting, and air travel are collected annually; however, their inclusion in the University's reduction target is currently under analysis. As more accurate methodologies for accounting for Scope 3 emissions are developed, Yale may consider expanding its emission reduction target to include this wider scope.



Scope of Emissions

Based on guidance from the Greenhouse Gas Protocol,⁶ Yale's emissions are divided into three categories called "scopes."

67%

Scope 1 encompasses direct emissions from sources owned or controlled by Yale and includes emissions from mobile combustion, stationary combustion, process emissions, and fugitive emissions.⁷

11%

Scope 2 includes indirect emissions from purchased electricity and purchased co-generation for heating or chilled water.

22%

Scope 3 quantifies indirect emissions from all other sources that occur as a result of Yale operations but occur from sources not owned or controlled by the University, such as employee commuting, air travel, and paper consumption.



Notes

1 Yale University operates two power plants, the Central Power Plant, a co-generation facility that can supply 18 megawatts of electricity, 340,000 pounds per hour of steam, and 14,600 tons of chilled water to the Central and Science Campuses; and the Sterling Power Plant, a 15 megawatt co-generation system that produces steam, chilled water, and electricity to the Yale School of Medicine and the Yale-New Haven Hospital.

2 Metric tons of carbon dioxide equivalent. This is the standard unit of measurement used to compare various greenhouse gases; emissions of gases other than CO₂ are translated into CO₂ equivalents using warming potentials.

3 Renewable Energy is inclusive of ground source heat pump installations as alternative technologies for providing thermal energy.

4 Gross Square footage of Yale's Main campus is only inclusive of buildings connected to the Central Power Plant and Sterling Power Plant.

5 West Campus, the former Bayer Healthcare Complex, is a 136-acre campus made up of 1.6 MM square feet of laboratories, offices and warehouse space.

6 The Greenhouse Gas Protocol was developed by the World Resources Institute (WRI) and the World Business Council on Sustainable Development (WBCSD) to standardize accounting and reporting methods for monitoring greenhouse gas emissions.

7 Fugitive emissions are emissions of gases or vapors from pressurized equipment due to leaks and various other unintended or irregular releases of gases, mostly from industrial activities.