In 2005, Yale pledged to reduce greenhouse gas emissions from its two on-site power plants by 43% below 2005 levels by 2020. More recently, emissions from Yale’s vehicle fleet were added to this reduction commitment. As a result of the University’s tailored and effective carbon reduction plan, we have achieved a fourteen percent reduction, despite a fourteen percent increase in the campuses’ physical footprint.

Our reduction strategy has been designed to be responsive to changes in circumstances, both planned and unplanned. We also recognize that our emission reduction path will likely not be linear over the course of the goal, but rather a combination of increases and decreases leading to an overall net reduction in 2020. Respectively, during fiscal year 2014, our emissions increased slightly from the previous year. This slight increase can be attributed to the colder than average winter experienced in New England. The cold weather necessitated an increase in the generation of steam to heat campus and a curtailment of natural gas as a fuel source. As an interruptible natural gas customer, Yale voluntarily switches from natural gas to oil, a more carbon intensive fuel source, in times of unusually high demand.

Unpredictable weather events, a growing campus, and increased energy demands require that we develop innovative and adaptive strategies to meet our 2020 goal.

Yale University committed to reducing its primary greenhouse gas emissions 43% below 2005 levels. Beginning in 2013, emissions from the University fleet are included in the reduction target.
Some of the effective strategies implemented to date include: reducing the energy intensity of buildings through conservation and efficiency, deploying new technologies, utilizing cleaner fuels, adhering to sustainable construction and renovation standards, and promoting behavioral shifts and culture change with building occupants. Our successful use of these strategies was demonstrated this past year. If our steam consumption during the winter months was normalized for average weather it would have been approximately five percent lower than previous years.

Additional information regarding Yale’s progress can be found at sustainability.yale.edu.

Yale’s Full Scope of Emissions

<table>
<thead>
<tr>
<th>SCOPE 1</th>
<th>SCOPE 2</th>
<th>SCOPE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct emissions from sources owned or controlled by Yale: emissions from Yale’s fleet of vehicles and its two power plants.</td>
<td>Indirect emissions from purchased electricity and purchased co-generation for heating or chilled water.</td>
<td>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 (48%), air travel (50%), and paper consumption (2%).</td>
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</tbody>
</table>

Yale’s 2005 greenhouse gas emissions baseline included energy consumed by all buildings connected to the University’s two on-campus co-generation power plants and purchased electricity. It did not include energy consumed by buildings not connected to the campus energy grid or the university fleet. Beginning in 2013, the 2005 baseline was adjusted to include emissions from the university fleet. Though it represents only a small percentage of Yale’s total greenhouse gas emissions, the fleet was added to more accurately reflect the university’s scope 1 emissions sources. As a separate effort, Yale is currently focusing on emission reductions at West Campus which was purchased in 2007.

Footnotes
1 Yale owns and operates two co-generation power plants: Central Power Plant and Sterling Power Plant.
2 Based on guidance from the World Resource Institute and the World Business Council on Sustainable Development, the Greenhouse Gas Protocol defines three scopes of emissions sources. Scope 1 is a direct emission and scope 2 and 3 are indirect emissions.
3 West Campus, the former Bayer Pharmaceutical facility, is a 136-acre campus made up of 1.6 MM square feet of laboratories, offices and warehouse space.
4 Carbon equivalencies are sourced from the EPA Greenhouse Gas Equivalency Calculator: http://www.epa.gov/cleanenergy/energy-resources/calculator.html

Total 2020 Emissions Reductions Are Equivalent To:

- 92,743 Acres of U.S. forests in a year.
- 12,731,743 Gallons of gasoline consumed.
- 270,000,000 Car miles driven by an average vehicle.
- 10,300 Homes.

Inventories for Yale’s scope 3 emissions associated with commuting, air travel, waste, and paper purchase are analyzed on an annual basis, but are not currently included in Yale’s emissions reduction target. 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.