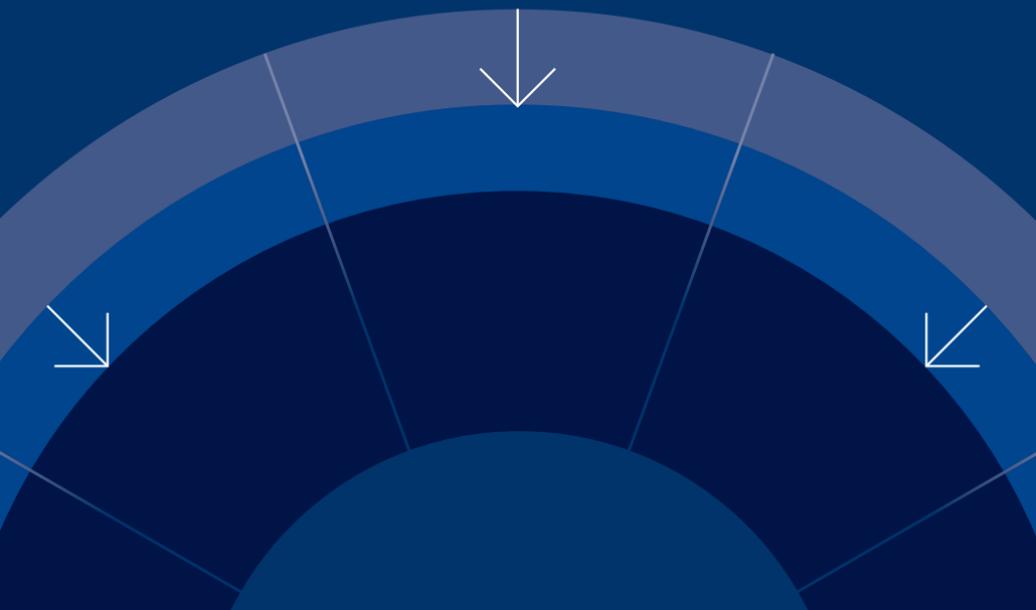


Yale University
Greenhouse Gas Emissions
Reduction Progress

2017



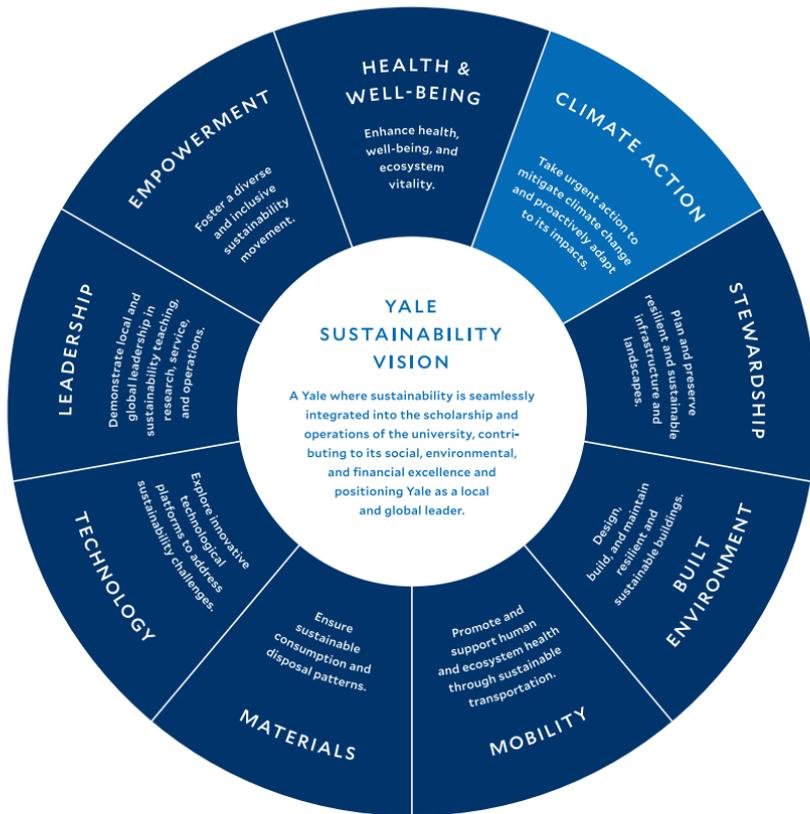
YALE HAS REDUCED EMISSIONS BY
24% SINCE 2005. THESE REDUCTIONS
EQUAL THE AMOUNT OF GREENHOUSE
GASES PRODUCED BY MORE THAN
30,000 HOMES IN A YEAR.

A GLOBAL IMPERATIVE

Greenhouse gas emissions contribute to climate change, which affects human health and ecosystems, weather patterns, and sea level rise.

By reducing greenhouse gas emissions, we can help limit the increase in global temperature, and help protect people from potentially catastrophic impacts.

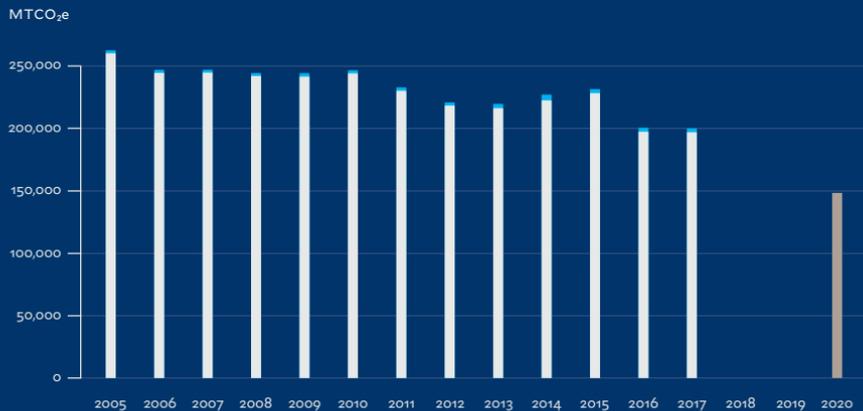
Yale's efforts help bolster the Paris Agreement, a pact by 196 nations to reduce global emissions. In June, Yale joined 11 other research universities in publicly committing to support the Paris Agreement.

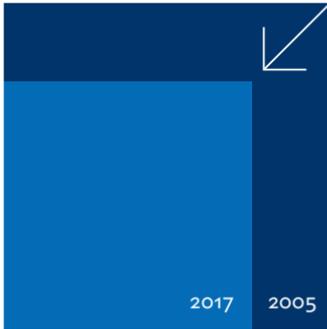


The GHG emissions reduction initiative is part of the Climate Action Ambition of the Yale Sustainability Plan 2025.

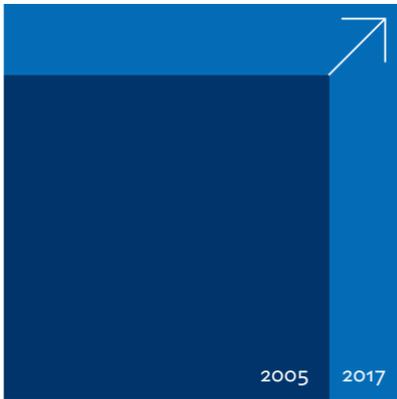
OUR PROGRESS

EMISSIONS: MAIN CAMPUS + FLEET





CAMPUS EMISSIONS:
24% REDUCTION



CAMPUS AREA:
18.5% GROWTH

HOW WAS THIS 24% REDUCTION ACHIEVED?

- More than three dozen energy conservation projects
- Continual operational improvements amidst campus growth, including:

Sterling Chemistry Laboratory

Benjamin Franklin College

Pauli Murray College

Wright Laboratory

Hendrie Hall

WHAT'S NEXT?

- Yale University has committed to carbon neutrality by 2050.
- Since 2014, Yale University has reported its greenhouse gas emissions to The Climate Registry for third party verification.
- Greenhouse gas emissions reporting will expand to include more Scope 3 categories. Learn more about what's included in Scope 1, 2, and 3 on page 15.
- Initiatives such as the Carbon Charge will engage the campus community in contributing to our success by lowering emissions in campus buildings.

“Global climate change and its consequences are critical challenges of our time, and Yale has important and necessary roles to play in addressing them.”

—Peter Salovey

HOW CAN I HELP?

- Stay informed about the impacts of climate change, by following the work of programs like the Yale Program on Climate Change Communication and the Environmental Performance Index.
- Follow the climate change and sustainability research of Yale faculty, staff, and students.
- Do your part. Turn electronics off when you're not using them, follow temperature setpoints, and report any issues you observe.

Lead by example! Your behaviors make a difference, and can help influence others.

BACKGROUND:
ESTABLISHING
OUR BOUNDARIES

When Yale established the 2005 greenhouse gas emissions baseline, it included energy consumed by all buildings connected to the University's two on-campus co-generation power plants and purchased electricity.¹ 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.² As a separate effort, Yale focuses on emission reductions at West Campus, which was purchased in 2007.³

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 scopes 2 and 3 are indirect emissions.

³ West Campus, the former Bayer Pharmaceutical facility, is a 136-acre campus made up of 1.6 million square feet of laboratories, offices, and warehouse space.

STRATEGY-TO-DATE

Yale's reduction strategy focuses on technologically feasible and fiscally sound programs that align with the university's mission.

Campus emissions in 2017 closely match 2016 emissions, with a reduction of 0.2%. Due to multiple new projects, including renovations and new construction, overall emissions would have increased. However, individual energy conservation projects and operational improvements mitigated these added emissions. Capital projects included renovated spaces within Sterling Chemistry Laboratory and Wright Laboratory; renovation and expansion at Hendrie Hall; and final commissioning and occupancy of Franklin and Murray Colleges. The Central Power Plant is serving 4-5% more square footage.

In 2007, Yale purchased the Bayer Pharmaceutical campus to expand the University's science and medical research. The 2005 figures represent emissions from Bayer while it was operating at full capacity. Yale has not yet reached full occupancy of the campus. In 2015, we successfully installed an 8 acre photovoltaic solar array at West Campus. The facility provides 1 megawatt of installed capacity.

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

YALE'S FULL SCOPE OF EMISSIONS

SCOPE 1: Direct emissions from sources owned or controlled by Yale, emissions from Yale's fleet of vehicles, and emissions from its two power plants.

75%

SCOPE 2: Indirect emissions from purchased electricity and purchased co-generation for heating or chilled water.

9%

SCOPE 3: 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.

16%

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

THE CLIMATE REGISTRY

In 2014, President Salovey announced that Yale would join The Climate Registry (TCR), a non-profit organization that works with businesses, universities, and other entities on measuring, verifying and reporting on their GHG emissions. The University has since submitted GHG emissions inventories annually since 2014, all of which have been verified by a third party and are available on The Climate Registry website. By pursuing this effort, Yale is showing its commitment to a consistent and transparent standard in GHG emissions accounting.

The numbers reported to The Climate Registry differ from the numbers reported in Yale's annual Greenhouse Gas Emissions Reduction Progress Report in two ways: first, TCR requires calendar year data, while Yale reports on a fiscal year (June 1–July 30) basis; and second, TCR uses an operational

boundary,¹ whereas Yale reports on energy consumed by all buildings connected to the University's two on-campus co-generation power plants and purchased electricity. Crucially, despite these differences, Yale's participation in The Climate Registry has confirmed the accuracy of the University's methodology to date.

The University will continue to report on its GHG emissions both ways until the conclusion of Yale's 2005 goal in 2020, at which point we will report exclusively through The Climate Registry. Beginning with the 2017 Climate Registry inventory, the University will report on a more robust set of Scope 3 categories.

¹ The operational boundary includes all owned and leased facilities where Yale holds operational control, and all vehicles that Yale operates.

THE NUMBERS AT-A-GLANCE

	Yale June 1–July 30 Two power plants and purchased electricity	The Climate Registry January 1–December 31 Operational boundary
2014	227,522 MTCO ₂ e	293,587 MTCO ₂ e
2015	231,973 MTCO ₂ e	285,434 MTCO ₂ e
2016	200,961 MTCO ₂ e	272,930 MTCO ₂ e

The numbers reported to The Climate Registry get updated as our access to data increases—as a result, the figures for 2014 and 2015 differ slightly from what appeared in Yale’s 2016 Greenhouse Gas Emissions Progress Report.

For more information, please visit
www.theclimateregistry.org