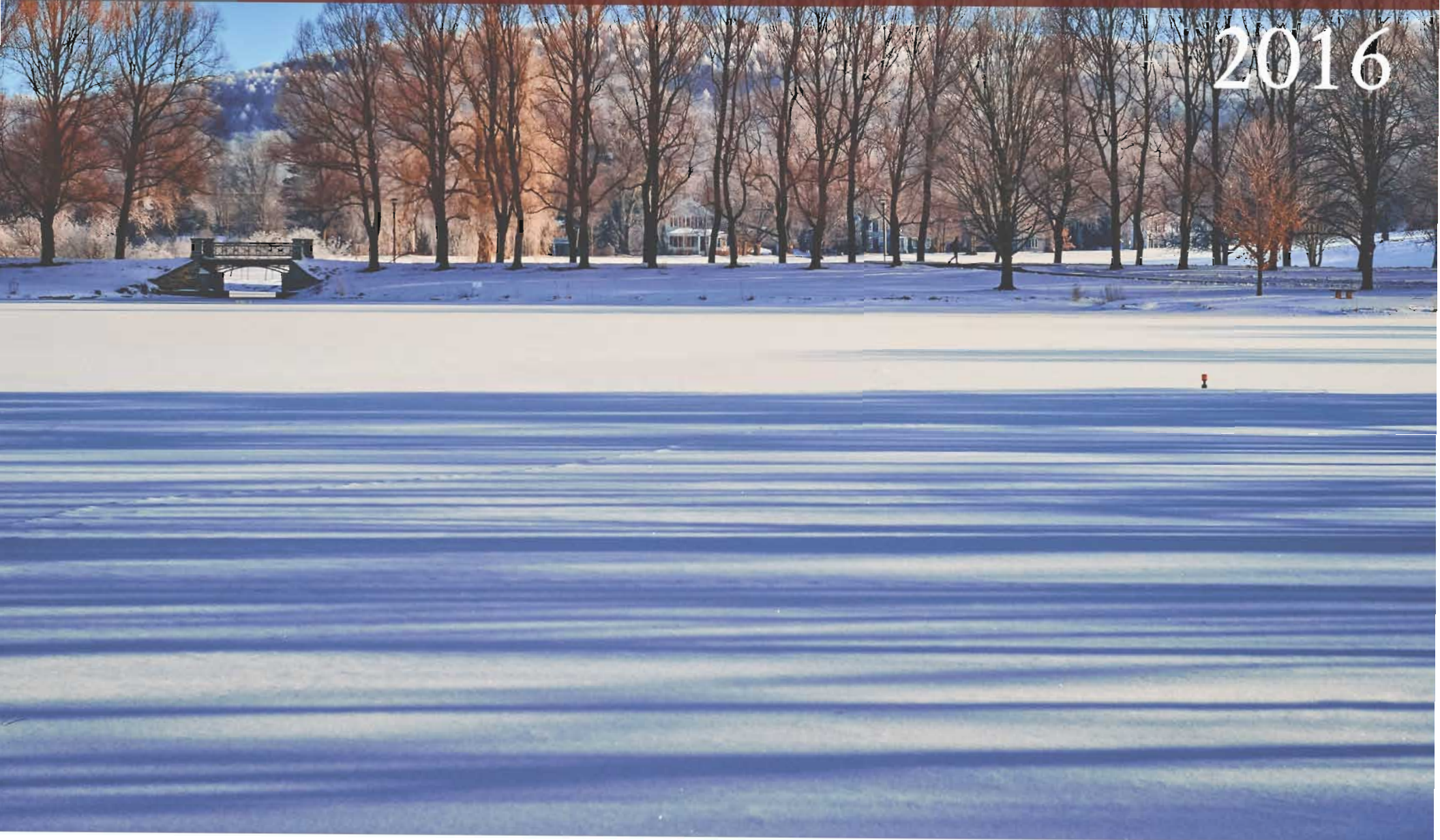




# Colgate University

STATE OF SUSTAINABILITY

2016







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# Introduction:

Striving toward sustainability at Colgate represents an enormous opportunity with many facets. Higher education as a whole is on the frontier of rapid and profound change. A robust sustainability program can help make our institution stronger, more resilient, and a continued leader as our cultural, economic, and political systems profoundly shift into a more just, sustainable, and low-carbon future. Colleges and universities that have invested in sustainability programs have benefited from reduced operating costs, reliable and distributed energy and food systems, increased student recruitment and retention, community-building, land stewardship and ecosystem services, fostering a strong sense of place, and most important of all, enhanced academic and co-curricular educational programs. Over the years, Colgate has recognized and embraced this opportunity.









# Greenhouse Gas Emissions

## 2016 Fiscal Year



In 2009 Colgate University made a commitment to become carbon neutral by our bicentennial in 2019. The Office of Sustainability has conducted a Greenhouse Gas Inventory each year in an effort to track our progress toward climate neutrality.

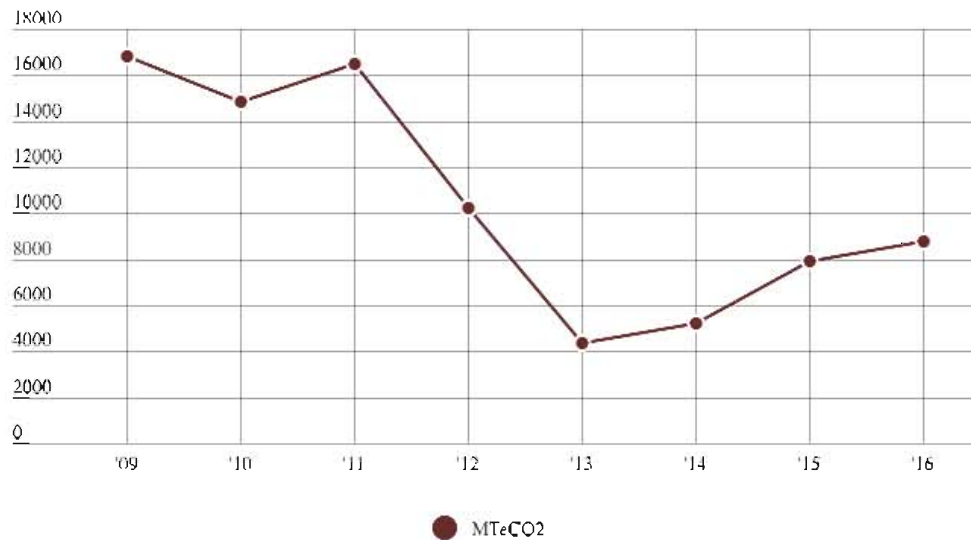
This year marks Colgate's eighth consecutive greenhouse gas inventory report. Colgate's gross campus carbon emissions in Fiscal Year 2016 (July 1, 2015 to June 30, 2016) was 15,359 metric tons of carbon dioxide equivalent (MTeCO<sub>2</sub>). That represents a 9 percent reduction from our 2009 baseline. We have reduced our net campus carbon footprint by 8,001 MTeCO<sub>2</sub>, representing a 48 percent reduction. Since signing the American College and University Presidents' Climate Commitment (ACUPCC) in 2009, rebranded as Second Nature's Carbon Commitment, Colgate has implemented many changes on and off campus to achieve these reductions, moving closer toward our goal of carbon neutrality by 2019.

Colgate's emissions have gone down over time due to the implementation of dozens of mitigation strategies. During FY 2016, Colgate implemented several energy efficiency measures and lighting upgrades within campus buildings. For example, during the summer of 2015, McGregory Hall completed its multi-year renovation with a substantial upgrade to its interior spaces.

This included a conversion to LED lighting in the Cooley science library as well as HVAC and air handler upgrades. The university also undertook complete LED lighting retrofits in Colgate's Memorial Chapel, Curtis Hall, and Drake Hall. Over the summer of 2016, Colgate renovated four additional residence halls to increase energy efficiency. Measures such as these have resulted in over a 2,840,963 kWh decrease in electricity use since the university's 2009 baseline.

In FY 2016, Colgate continued to benefit from our partnership with Patagonia Sur, LLC providing the institution with 5,000 tons of carbon offsets since 2012. Additionally, in 2013, Colgate determined that its forests sequester 1,578 tons of CO<sub>2</sub> annually. As a result, the university's net footprint in FY 2016 was 8,781 MTeCO<sub>2</sub> after compensating for offsets and forest sequestration. Colgate's highest sources of emissions continue to be the on-campus use of fossil fuels (7,533 MTeCO<sub>2</sub>), followed by air travel (3,746 MTeCO<sub>2</sub>). ■

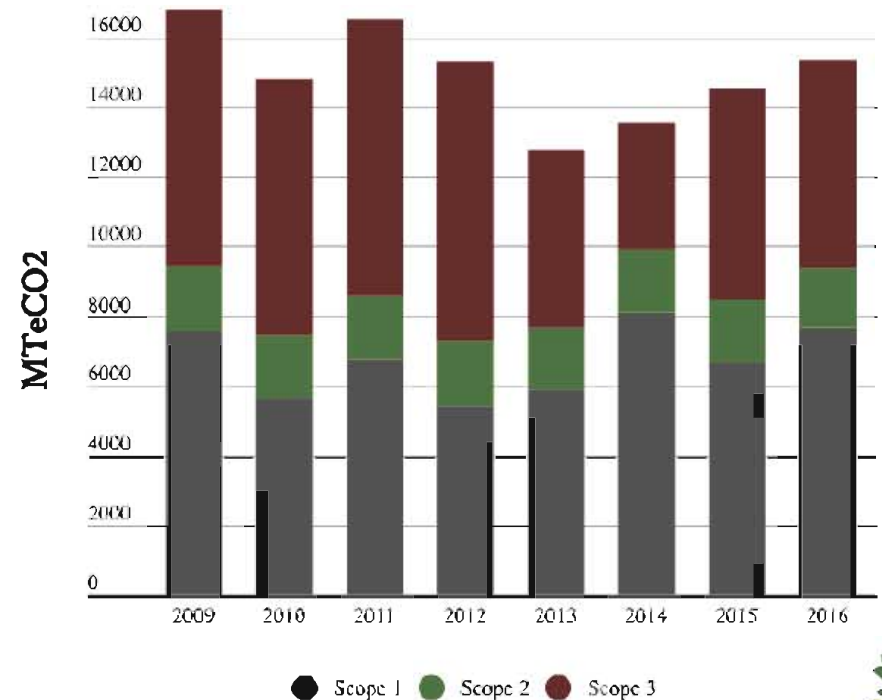
# Net Carbon Emissions '09 - '16



Since 2009, net emissions have **decreased 48%** despite organizational growth.

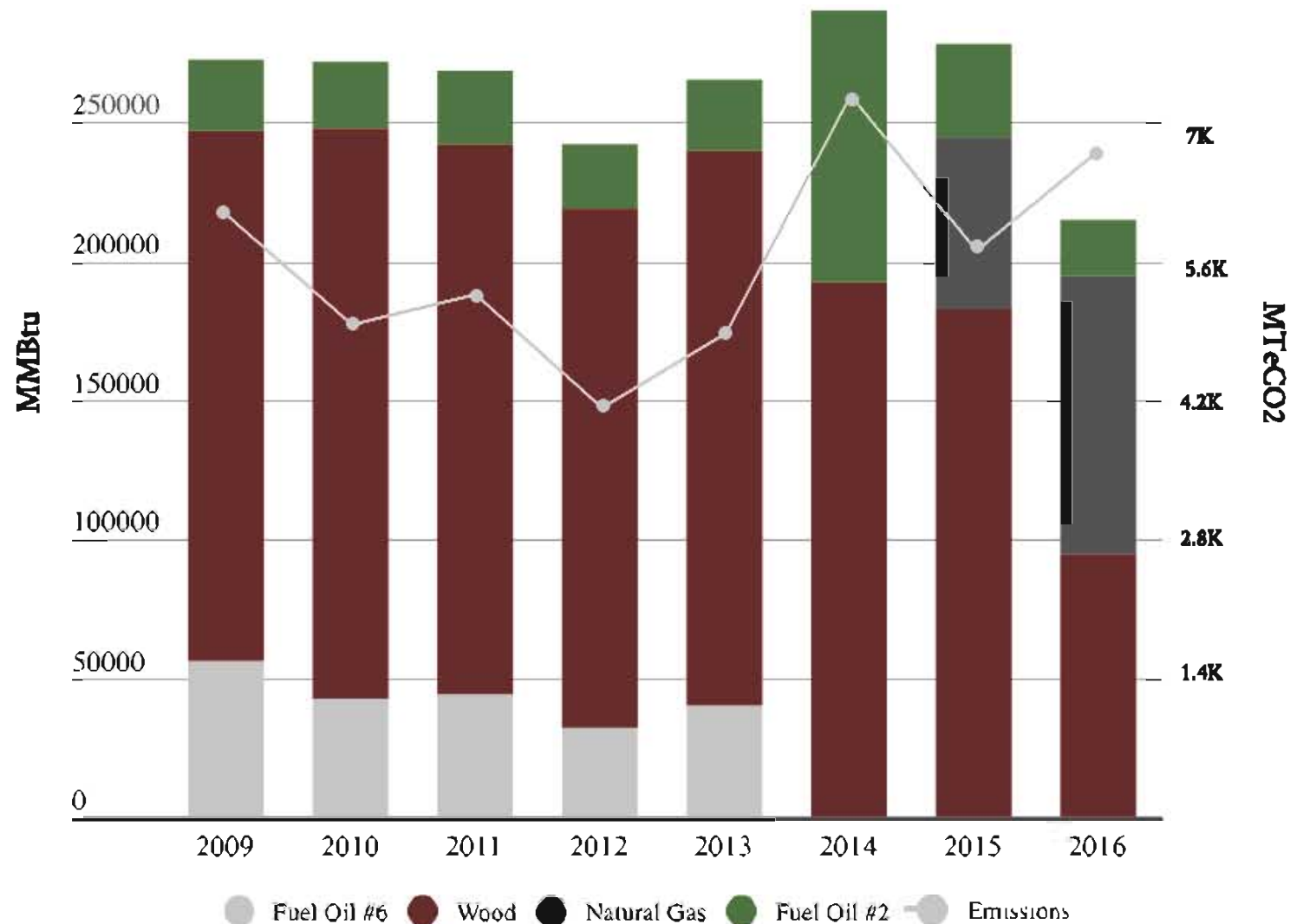
## Gross Emissions by Scope

<b>Scope 1</b>	<i>On-campus stationary combustion of fossil fuels, vehicle fleet, refrigerants</i>
<b>Scope 2</b>	<i>Purchased electricity</i>
<b>Scope 3</b>	<i>Employee commuting, outsourced travel, Campus Cruiser, paper purchasing, etc.</i>





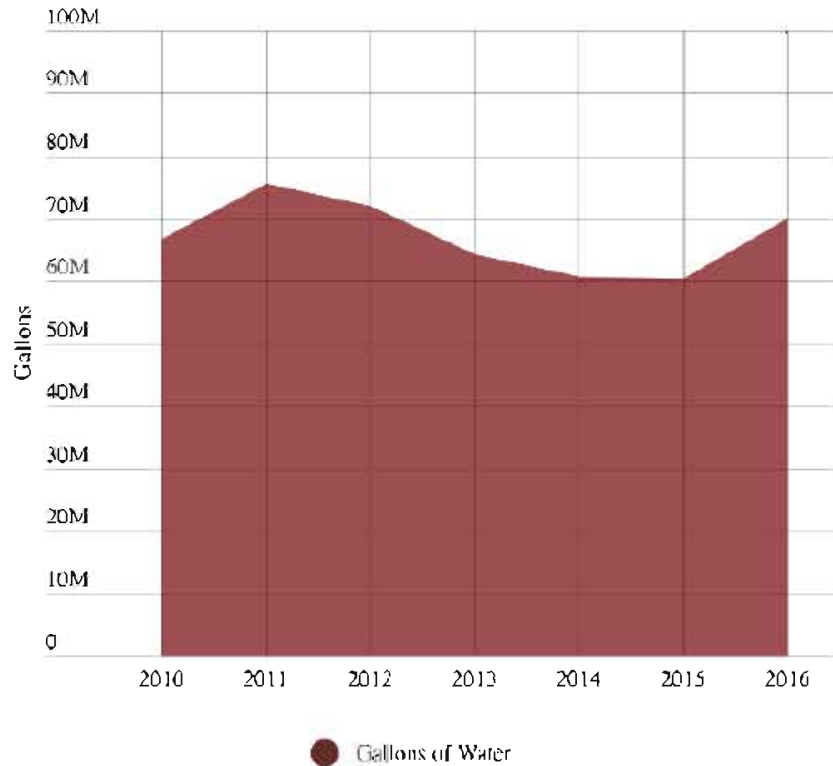
# Heat, Steam & Associated Emissions



*Although Colgate used less total energy for heat and steam in 2016 than in previous years, the emissions associated with the combustion of these fuels increased due to the increased use of natural gas and decreased use of renewable, carbon neutral biomass (wood).*



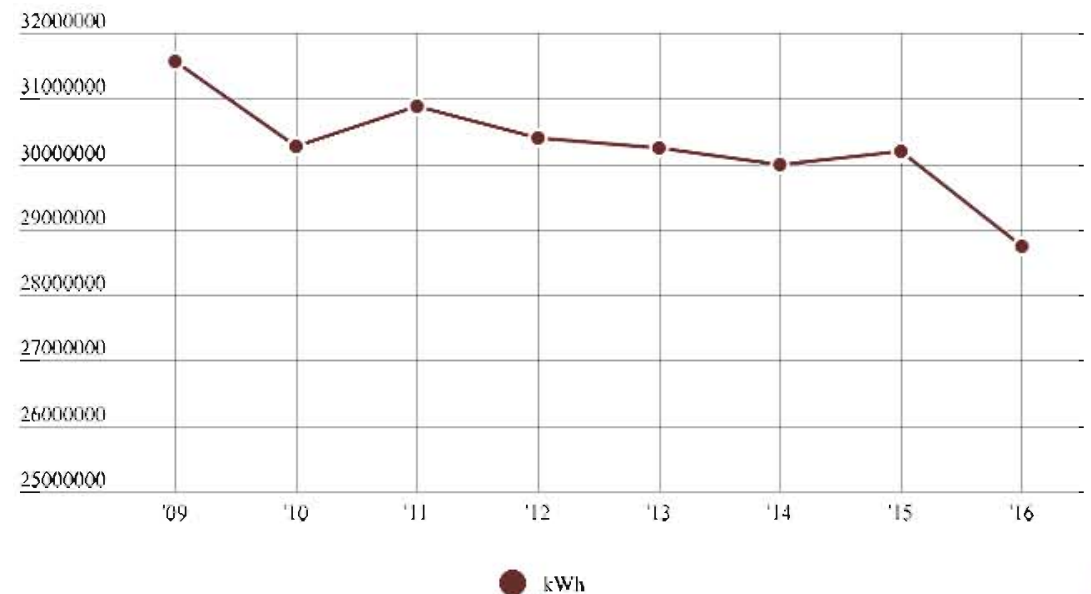
# Water Consumption '09-'16



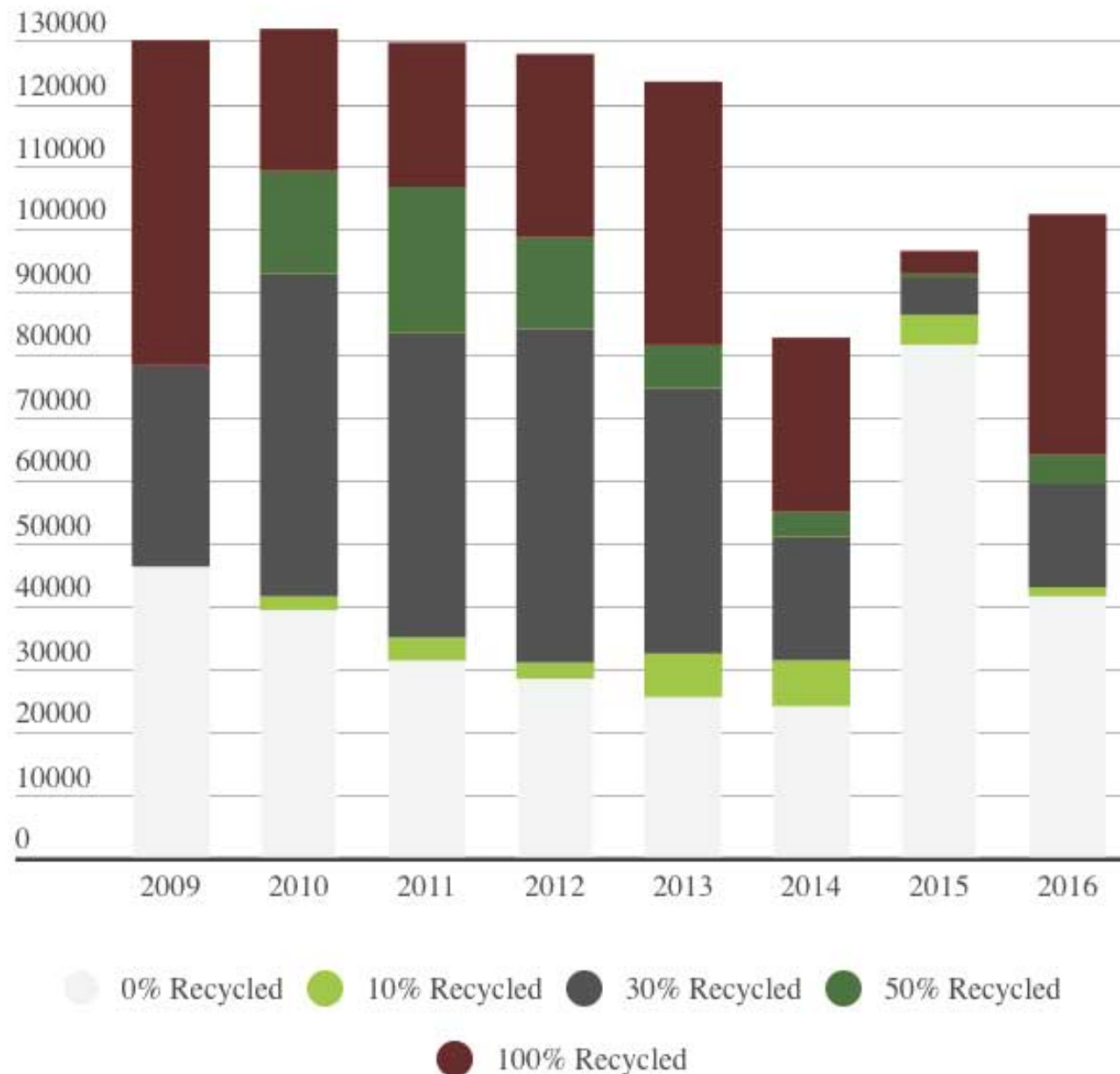
*Last year, Colgate used enough water to fill  
106 Olympic-sized swimming pools.*

*In 2016, Colgate saved enough  
electricity to power  
250+ homes  
for an entire year.*

# Electricity Usage '09 - '16



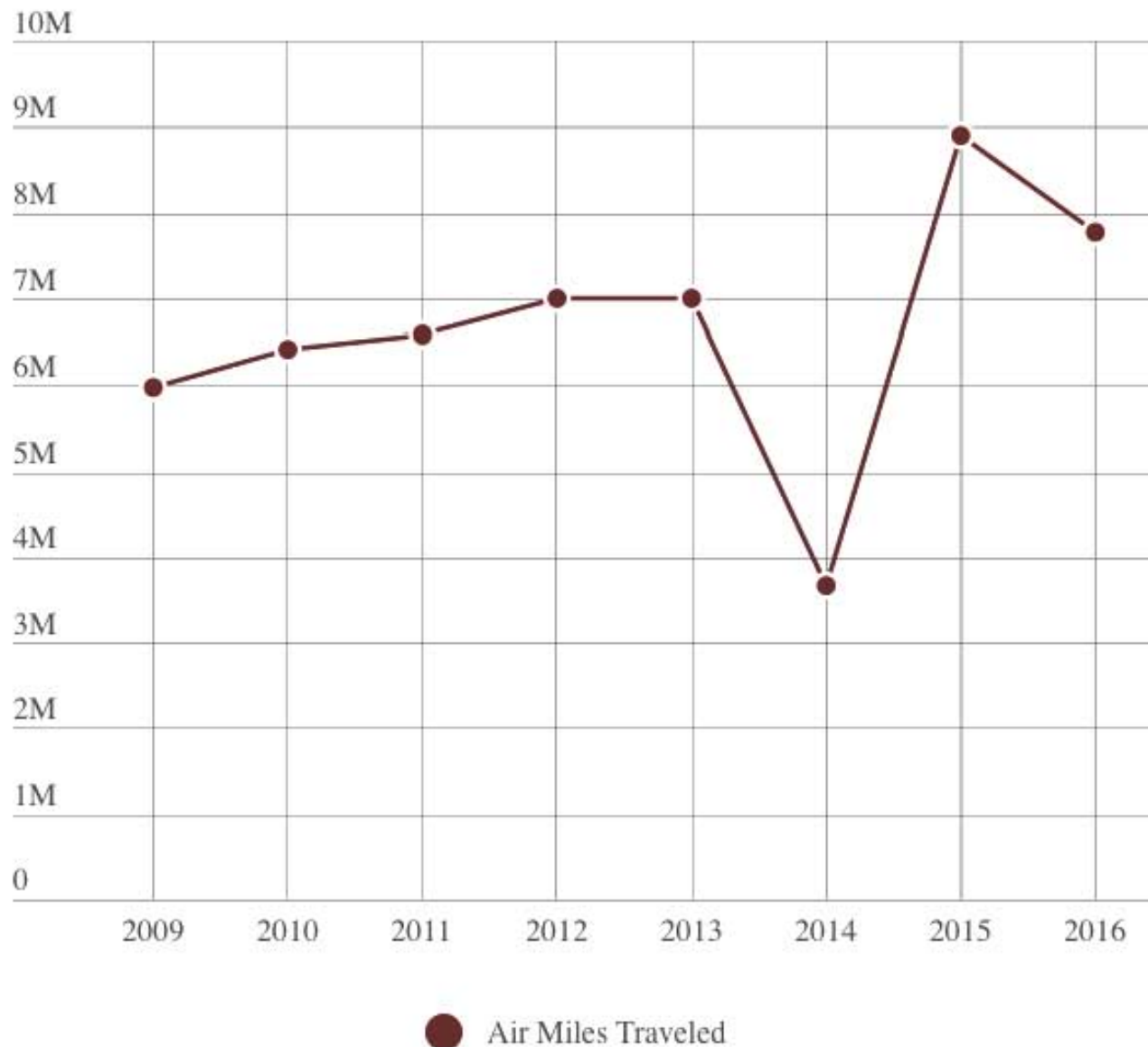
# Paper Consumption '09-'16



*This year, paper consumption accounted for more than 7% of Colgate's total emissions. Reducing paper consumption on campus is one of the easiest things Colgate can do to decrease annual emissions and help the university achieve carbon neutrality by 2019.*



# Air Travel '09-'16



*Throughout the years, air travel has been one of the top sources of carbon emissions for the university. Recently, emissions have seemingly spiked, although this is primarily due to more accurate and reliable tracking methods. In 2016, air travel accounted for nearly 25% of Colgate's gross emissions.*





In the Fall of 2016, the Class of '65 Arena opened its doors to the Colgate community as the new home to six Colgate athletic teams. This state-of-the-art building is on track to achieve a LEED Silver Certification due to sustainability measures taken during planning and construction of the facility such as the use of ammonia-free ice-making technologies.



# 2016 Operational Highlights

## *Landmark Recycling Stations*

In the Fall of 2016, Colgate began to use new recycling stations to streamline our recycling program and to fit campus aesthetics. These recycling stations are not only helping the university to increase our recycling rates, but they are also sustainably made from recycled materials.

The implementation of these stations has been well received among students, staff and faculty.

In the coming years, more of these stations will be appearing across campus.

## *Chapel House*

This summer, Colgate's first geothermal heat exchange system was installed at the Chapel House, helping the university to reduce dependence on fossil fuels and achieve carbon neutrality by 2019 (top).

The pump acts as a central heating and cooling system that uses electricity to transfer heat to and from the ground. This system takes advantage of the moderate temperatures beneath the earth's surface, using the earth as a heat source in the winter and as a heat sink when temperatures are high.

The new system is anticipated to save the university more than \$20,000 and 50 MTeCO<sub>2</sub> annually. The Chapel House also underwent lighting, ventilation, and insulation retrofits that are anticipated to reduce the building's energy consumption by 50%.







**Green Raider Student Interns hike Ampersand Mountain in the Adirondacks this fall during the first ever Green Raider Intern Retreat. The retreat served as an excellent way for interns to work on leadership skills, and to think critically about sustainability challenges facing Colgate and the world.**



# 2016 Outreach Highlights

As Colgate continues to engage the campus in sustainability, the Office of Sustainability and the Sustainability Council are actively working to integrate sustainability in to all branches of the university.

## *Foundations of Sustainability*

In the Fall of 2016, a group of Green Raider Interns piloted the first ever Foundations of Sustainability discussion seminar, made available to students for P.E. credit as a part of a holistic wellness program.

This course was based on the Foundations of Sustainability course for held over the summer for staff and faculty. The seminar was offered in the format of five, 90-minute interactive discussions that challenged students to think critically about sustainability-related topics ranging from climate change to environmental justice.

The pilot was extremely successful and the Office of Sustainability looks forward to this seminar becoming a staple in Colgate's comprehensive wellness program.

## *Communication*

Due to an increased demand around campus for sustainability news and awareness, the Office of Sustainability put a special emphasis on developing better communication strategies throughout 2016.

A key highlight in the office's new communication strategy is the creation of a monthly sustainability newsletter. This newsletter features university sustainability news, student successes, and departmental spotlights. The subscription base has been rapidly growing since the newsletter's initial release in November of 2016. To subscribe, visit [colgate.edu/green](http://colgate.edu/green).

Additionally, the office placed an increased emphasis on visual branding in 2016 in an effort to keep communications consistent as integration efforts expand.

## *Campus Partners*

A major focus in the Office of Sustainability's integration efforts has been giving departments the tools to implement sustainable practices within their organization. This is being achieved through the creation of sustainability working groups and fostering relationships with campus partners.

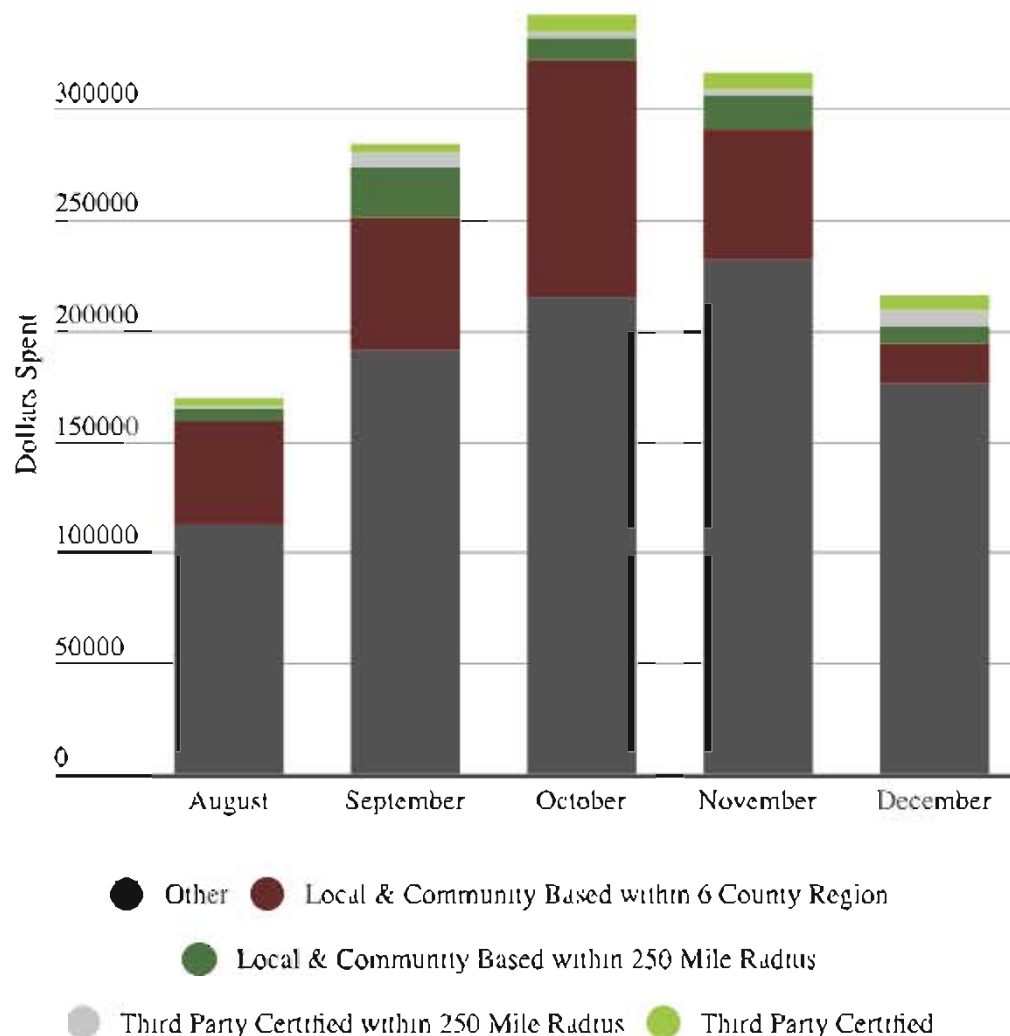
A longstanding ally of sustainability is the Shaw Wellness institute. In 2016, the Office of Sustainability worked with Shaw to help create a group within the Dean of the College focusing on sustainability.

Outside of the DOC, the Office of Sustainability has also partnered with Athletics, Chartwells, the Administrative Assistant's Best Practices Group and the greater Hamilton community as a part of integration efforts.



# Food Service Highlights

## Local Community-based & 3rd Party Certified Food



*Over the last year, Colgate's food service provider, Chartwells, has partnered with 43 community-based producers within Madison County and the five surrounding counties in an effort to support local farms, and reduce its carbon footprint.*

*Beyond this, last August Chartwells, began working with the Office of Sustainability, to track where Colgate's campus food is being purchased. By the end of the Fall semester, just over 30% of food purchases were local and community based, or third party certified (left).*

*Chartwells will continue to track food purchasing in the coming years and has ambitious goals to continually improve sustainable practices in its facilities.*





### *Local, Community-Based Partners Include:*

Colgate Community Garden;  
Hamilton, NY

Common Thread Farm; Hamilton,  
NY

Helfant Honey; Hamilton, NY

Kriemheld Dairy; Earlville, NY

Good Nature Brewing; Hamilton, NY

Highland Farms; Hamilton, NY

Primo & Mary's Heritage Salsa;  
Cazenovia, NY

Maple Lane Farm; Earlville, NY

Jones Family Farms; Herkimer, NY

### *Project Clean Plate*

In the fall of 2016, Chartwells conducted a five-week project clean plate campaign in an effort to educate students about food waste on campus. Chartwells agreed to donate the equivalent of poundage of food waste reduced to the Hamilton Food Cupboard.

To execute the campaign, sustainability interns for Chartwells campaigned at Frank Dining Hall to educate their peers about food waste.

As a result, there was a 690 pound reduction in food waste by the final week of the campaign.

### *'gate-to-go*

In the fall of 2016, Chartwells rolled out a new program titled 'gate-to-go, in which students use reusable to-go boxes at Donovan's Pub and in the Coop.

The program was proposed by a group of students in an Environmental Studies class the previous semester. Students who worked on the project discovered that it could be an effective way to reduce waste from to-go containers on campus.

Each first-year student was given a token for the reusable containers at the start of the semester.

Chartwells intends to promote and expand upon the program in 2017.



# Sustained Successes



## *National Recognition*

Colgate has achieved a national reputation for its commitment to sustainability and climate action. In 2011 Colgate received a Climate Leadership Award from Second Nature. In 2015 Colgate was listed on the Princeton Review's Green Honor Roll (one of only 24 institutions out of 861 schools that were rated), and earned an AASHE STARS Gold Rating. In 2015 and again in 2016, Colgate was ranked in Sierra Magazine's "Coolest Schools" issue as one of the greenest institutions in the country. Colgate can justly take pride in its rapid emergence as a leader in sustainability among American institutions of higher education.

## *Community Garden*

Spring of 2016 marked the Community Garden's 7th growing season. Researched, funded, and managed by students, Colgate's community garden grows farm fresh herbs and vegetables for the community to enjoy.

Produce from the half-acre garden, located just south of the Colgate townhouses, is served on campus and donated to the local food cupboard.

## *Electronic Waste Recycling*

Colgate began its electronic waste recycling program in 2011 and it has been a continued sustainability success.

The program is managed by student interns and volunteers and diverts hundreds of electronic devices from the landfill each year.

The program saves energy, recovers finite resources and reduces toxins released into the environment.

## *Green Bikes*

The Green Bikes program was taken over by the Office of Sustainability in 2009 and has been true campus sustainability success.

Each season, anywhere between 25 and 30 bikes are rented by Colgate students to be used on a regular basis.

A student Green Bike Manager runs the entire operation each spring, summer and fall season.



# Green Raider Interns

*Colgate Green Raiders are the backbone of the university's sustainability program. Each semester, 12-15 interns organize and carry out programs and initiatives that work to create a culture of environmental stewardship around campus. The Green Raider Intern program helps students to develop leadership skills that they carry with them beyond Colgate.*



*Since 2009, the Colgate's Office of Sustainability has mentored and employed over 70 Green Raider Interns. Below is a snapshot of what some of them are doing now:*

## ***Sara Reese '16***

Then: Three-year Green Raider Intern and 2015 Udall Scholarship winner - first at Colgate since 2004

Now: Fish Biologist at U.S. Fish and Wildlife Service

## ***Kathryn Bacher '14***

Then: Received Clinton Global Initiative Award for implementing sustainable behavior change program at Colgate.

Now: Staff Assistant at U.S. Senate Committee on Environment and Public Works

## ***Amanda Griffiths '13***

Then: Former Sustainability Office Communications Intern

Now: Legislative and Communications Director, House Committee on Global Warming and Climate Change

## ***Andrew Pettit '10***

Then: Created Colgate Campus Carbon Calculator

Now: Climate Change and Sustainability at ICF International working on United States annual greenhouse gas inventory





13 OAK DRIVE  
HAMILTON, NY 13346

315-228-6360  
[WWW.COLGATE.EDU/GREEN](http://WWW.COLGATE.EDU/GREEN)