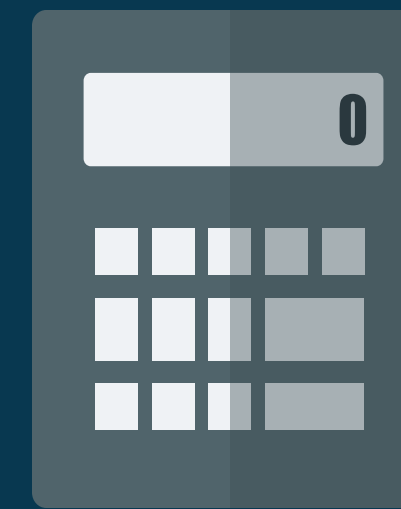


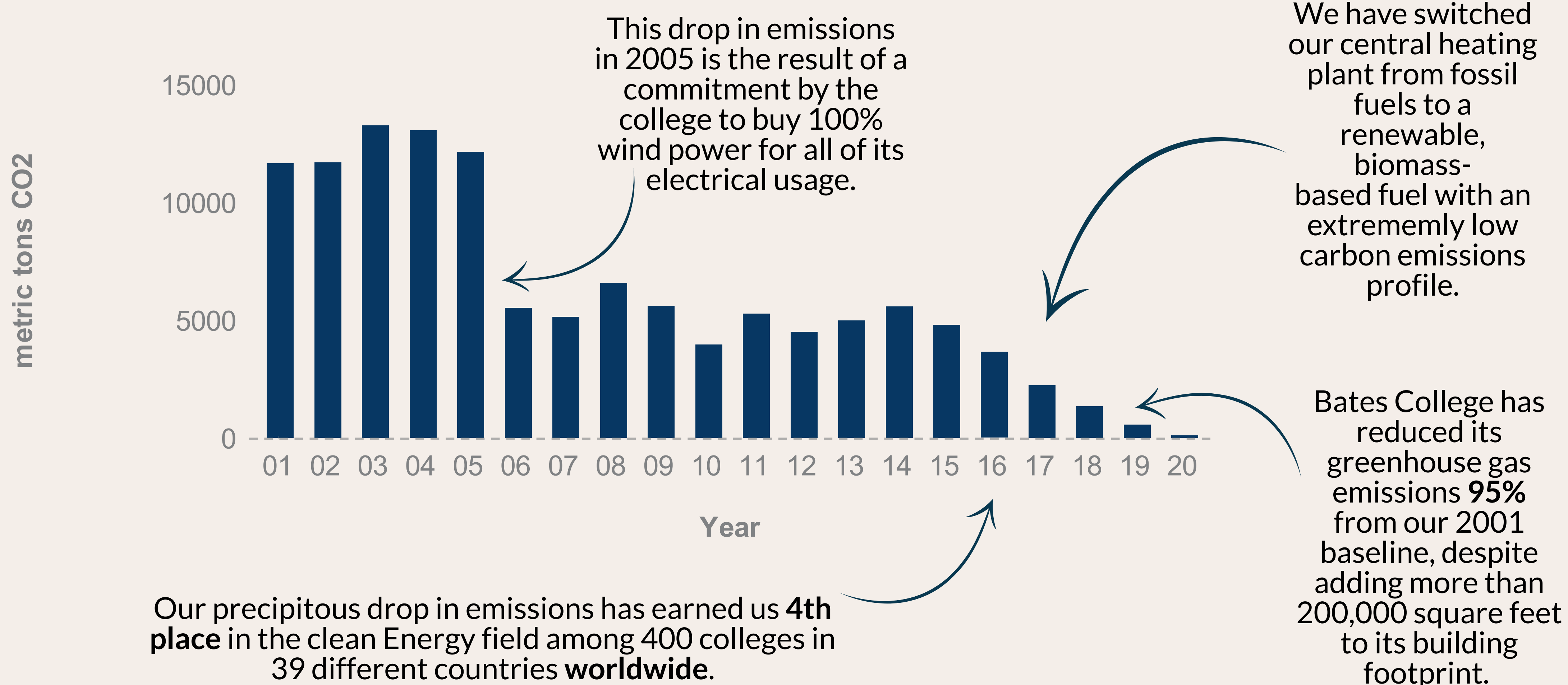
# **Bates College Carbon Report**

# The Data

## Greenhouse Gas Emissions: History, Trends, & Predictions

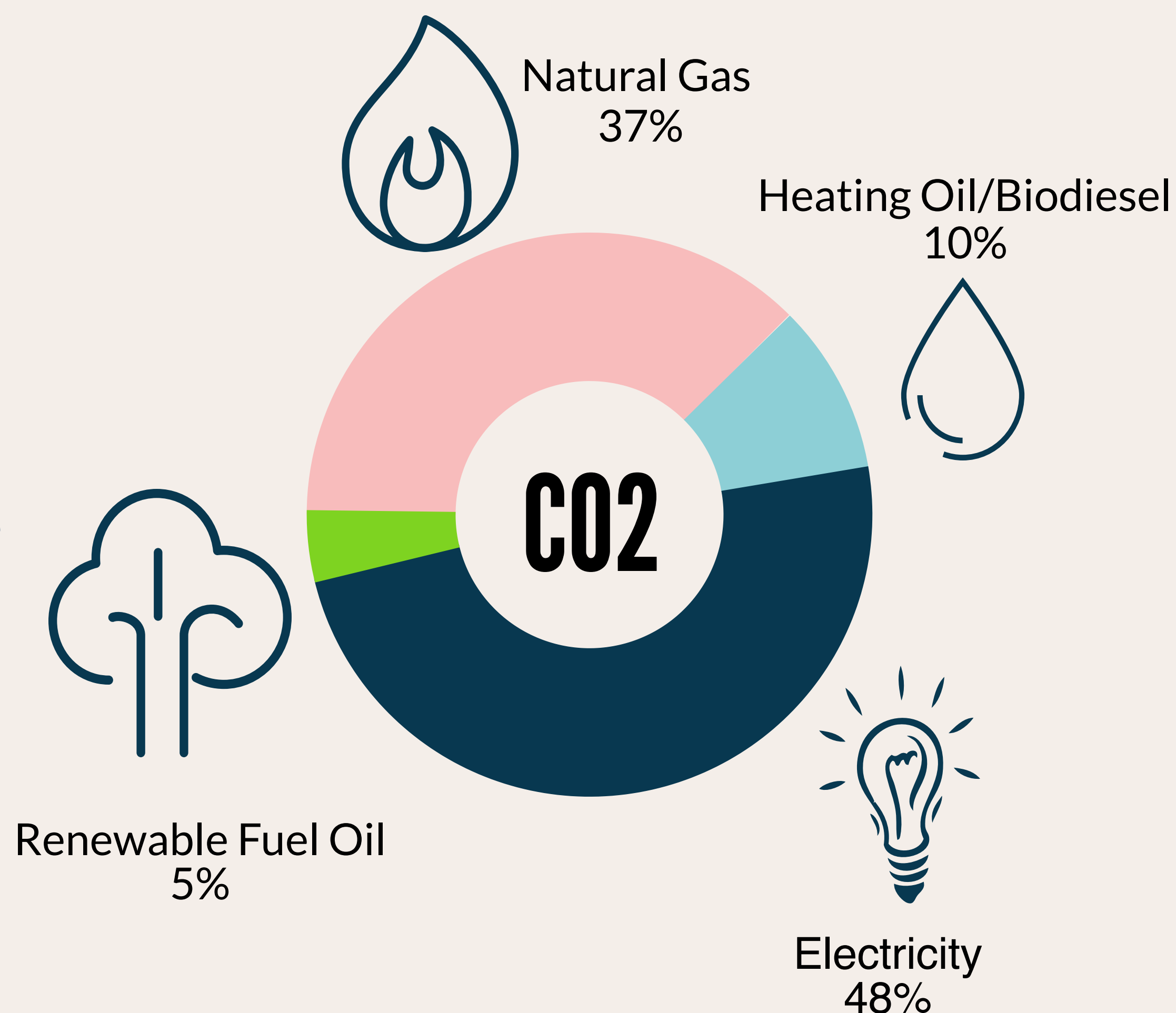


### Bates Campus Greenhouse Gas Emissions



### Emissions Breakdown

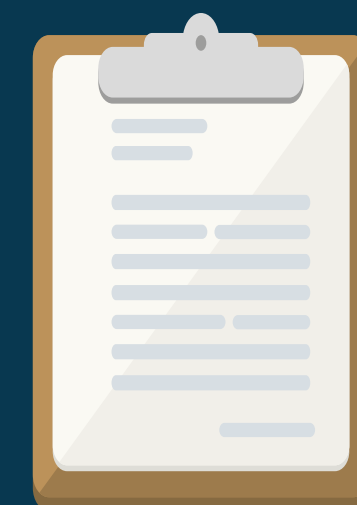
Our emissions profile is the result of four main sources of energy - natural gas, a biodiesel/heating oil blend, electricity, and our new renewable fuel oil - a wood-based liquid fuel. Despite the fact that we are using large amounts of the new renewable fuel for heating, it continues to have a very small emissions footprint.



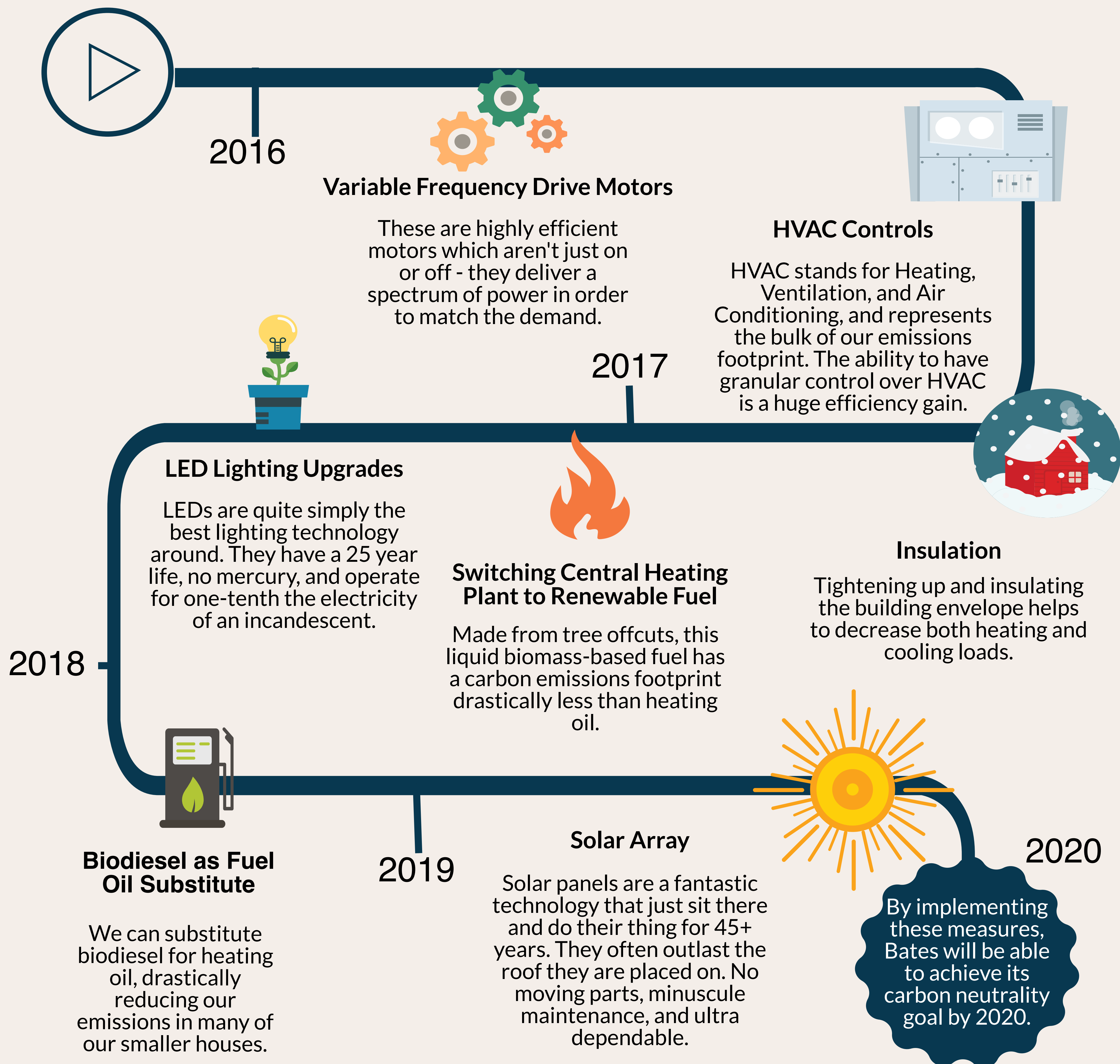


# The Plan

Where We're Going, and How We're Going to Get There



Fuel switching, lighting and heating efficiencies, and renewable electricity production will allow Bates to drastically reduce its emissions over the next several years. By implementing the following measures, we will be able to achieve our goal of carbon neutrality by 2020.





# Our New Fuel

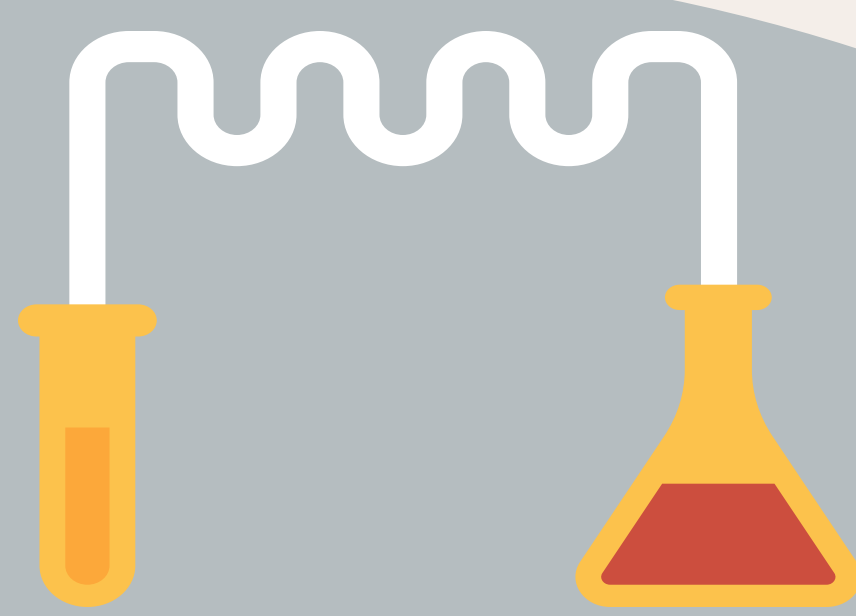
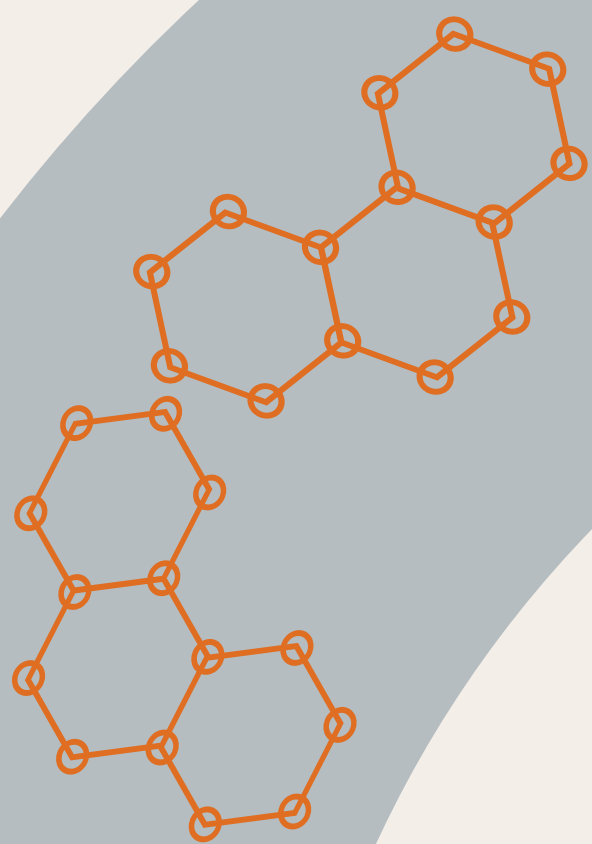
## Renewable Fuel Oil: What is it, How is it Made, and How Does it Help?



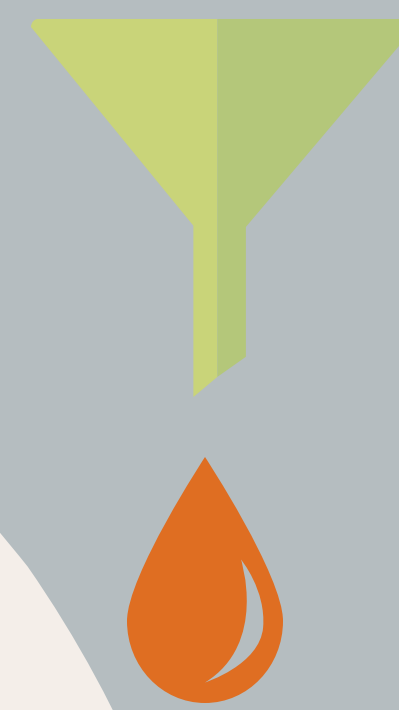
The wood is heated to a high temperature in the absence of oxygen. Instead of combusting, the wood gives off volatile compounds which contain energy.

The volatile compounds are cooled and condensed in to a liquid form.

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## Renewable Fuel Oil

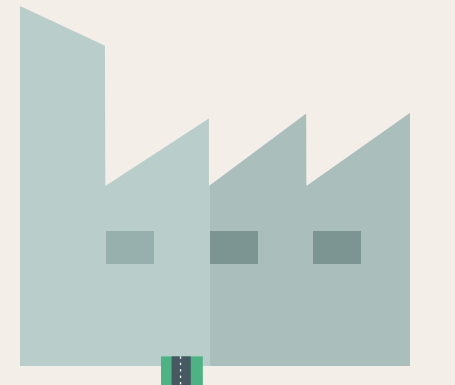
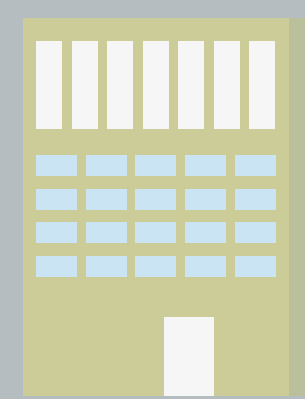
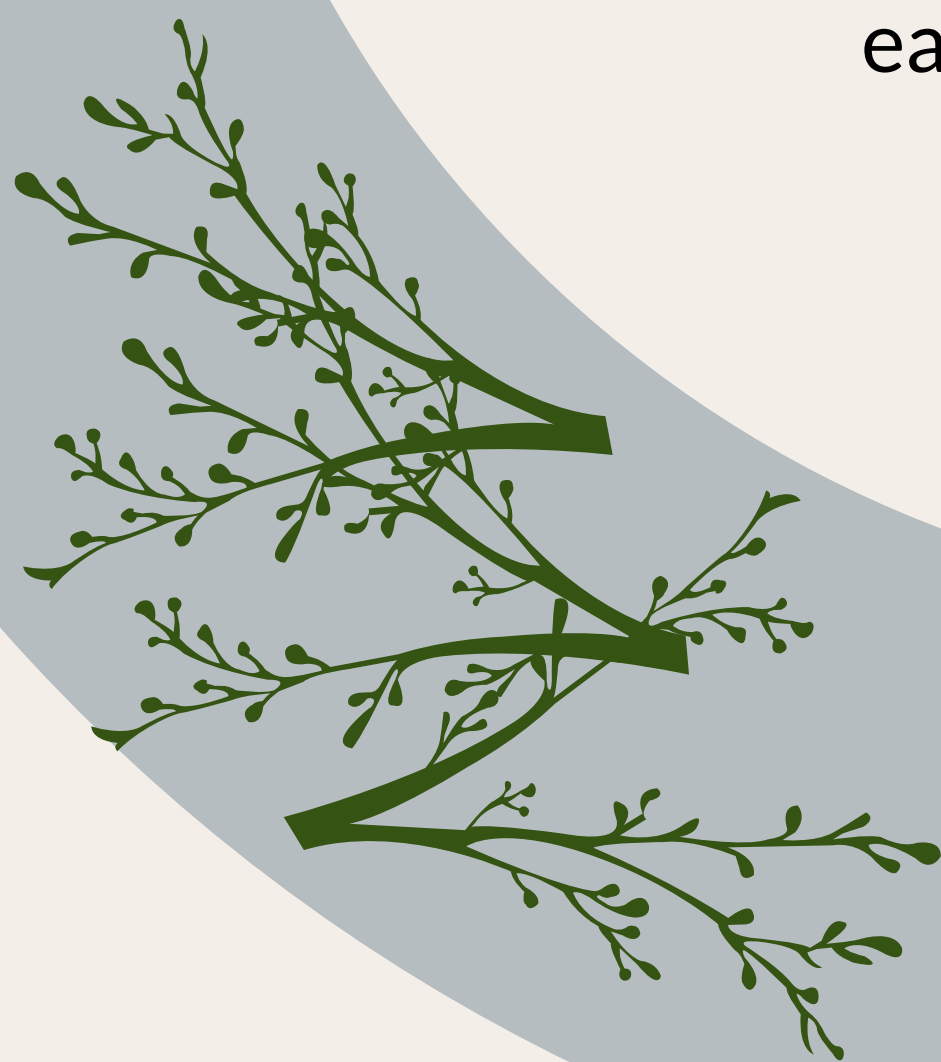
Renewable Fuel Oil is a biomass-based, sustainable fuel that is made from wood waste products. Because it is a liquid, it is much easier to retrofit into existing heating systems.

4

The wood-based, liquid fuel is collected, transported to Bates, and used to run our central heating plant, which heats our main campus.

1

The starting product is wood off-cuts and sawdust from sustainably harvested timber.

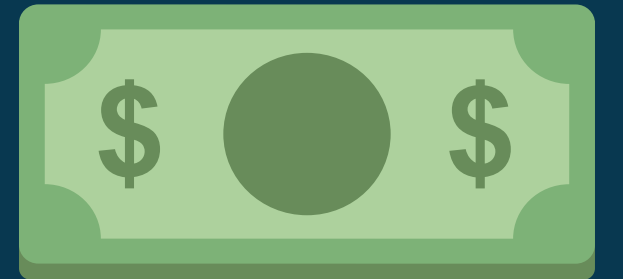


Because the feedstock for this fuel is sustainably-harvested wood, its lifetime greenhouse gas emissions profile is very low.



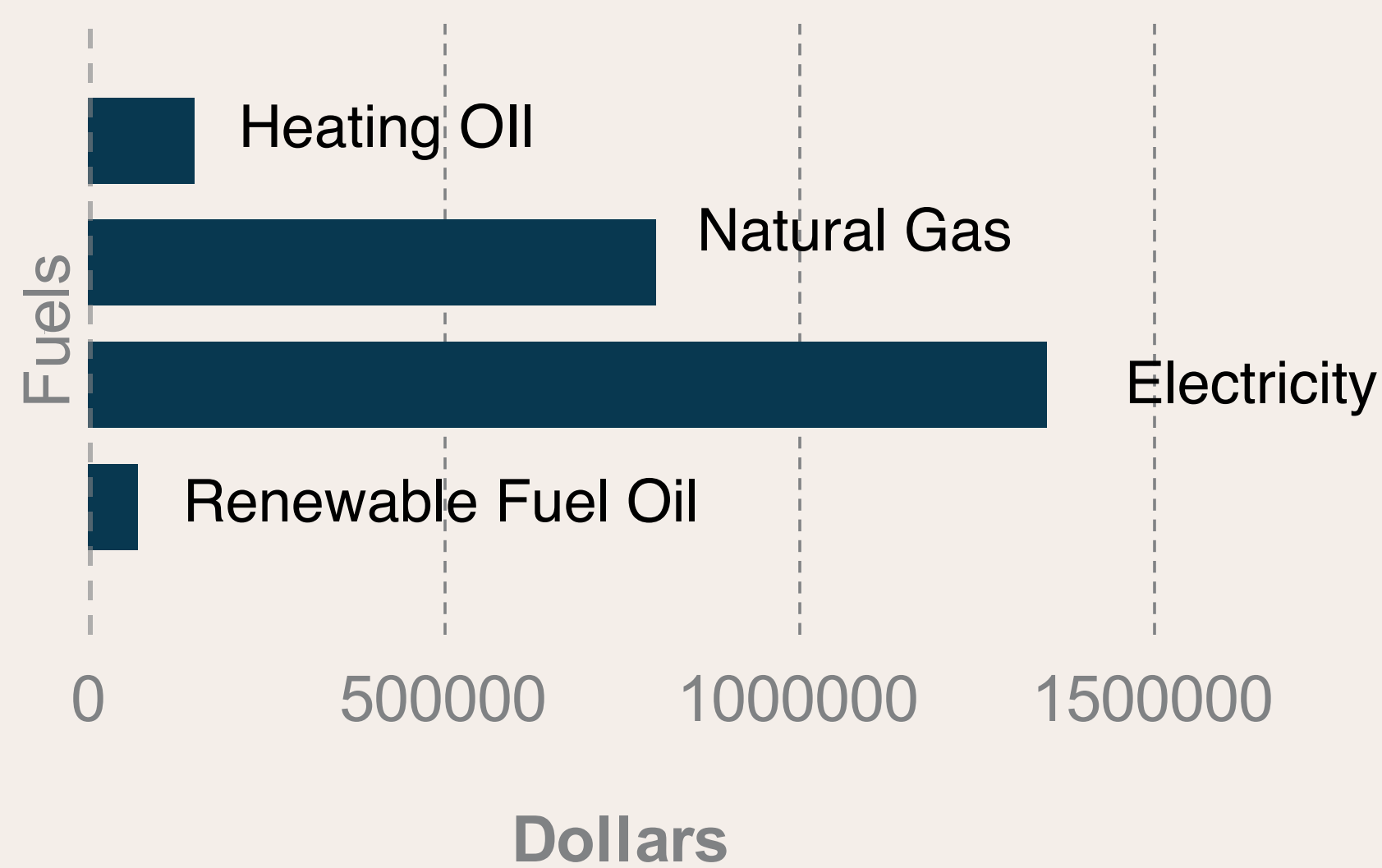
# The Money

## Growth within Economic and Environmental Sustainability



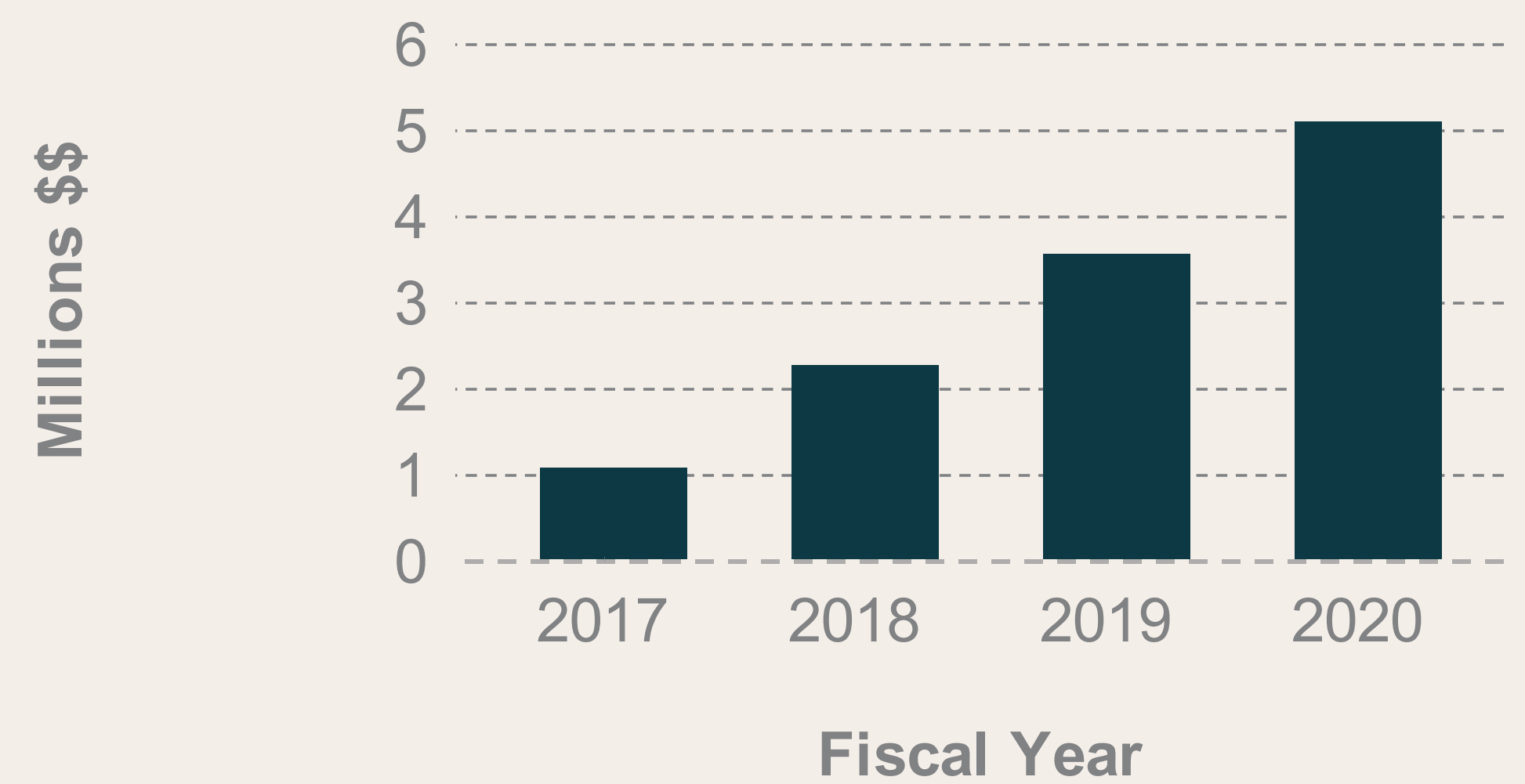
The big question is, how are we going to pay for all this stuff? It's not enough to have good intentions. There are several ways to go about paying for energy efficiency and renewable energy production projects. Here are a few -

### Utility Annual Spending



Bates pays about \$3 million each year in utility bills, down from about \$4 million a few years ago, due to energy efficiency projects. Each insulation or LED lighting project decreases our overall operating costs.

### vs. Cumulative Annual Savings

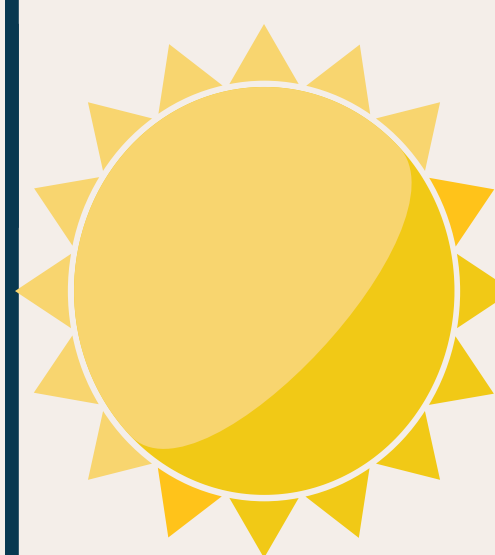


Our energy efficiency initiatives are reaping rewards, saving us a little over a million dollars annually in avoided utility spending. A portion of this money goes towards future energy efficiency projects - on the docket for the coming years - continued LED lighting conversions, as well as ventilation upgrades.



### Green Innovations Grants

Our utilities savings are also being allocated to a initiative called our Green Innovations Grants. These sustainability-themed internal grants are meant to crowd-source good sustainability ideas from the Bates community. If students, staff, or faculty have an initiative that they'd like to see happen, they submit a grant proposal to the Committee for Environmental Responsibility (CER). The CER awards the most impactful proposals money to make the idea happen. The grant is meant to empower the Bates community to be thinking and acting on sustainability initiatives on the campus.



### Solar Power Purchase Agreements (SPPAs)

A Solar Power Purchase Agreement is similar to a lease for solar panels. It works like this: a company or individual buys, owns, and maintains a solar array on your roof. You buy power from them the way you would from a utility. After six years, the company has recouped its investment from a combination of tax incentives and your utility bills. At this time, you can buy the array for a drastically reduced price, and become your own power provider. These work especially well for nonprofits, which can't access the large tax incentives for solar installations. It can be a way for organizations to essentially "go solar" overnight, without having to spend more that they're already paying on their utility bills.



# How to Get Involved



Bates is on the cusp of emerging as a leader in the sustainability realm - but it will take a collective effort. Here's how to help pitch in.



## Green Innovations Grants

If you have a good sustainability idea, we would like to give you money to make your idea happen. Bates awards grants up to \$2,000 to students, staff, or faculty for sustainability projects around campus.

## Committee for Environmental Responsibility

This faculty, staff, and student group work to craft high-level sustainability policy and help provide direction for the college.

## Student Clubs

Here are just a few of the clubs that are actively involved in sustainability:

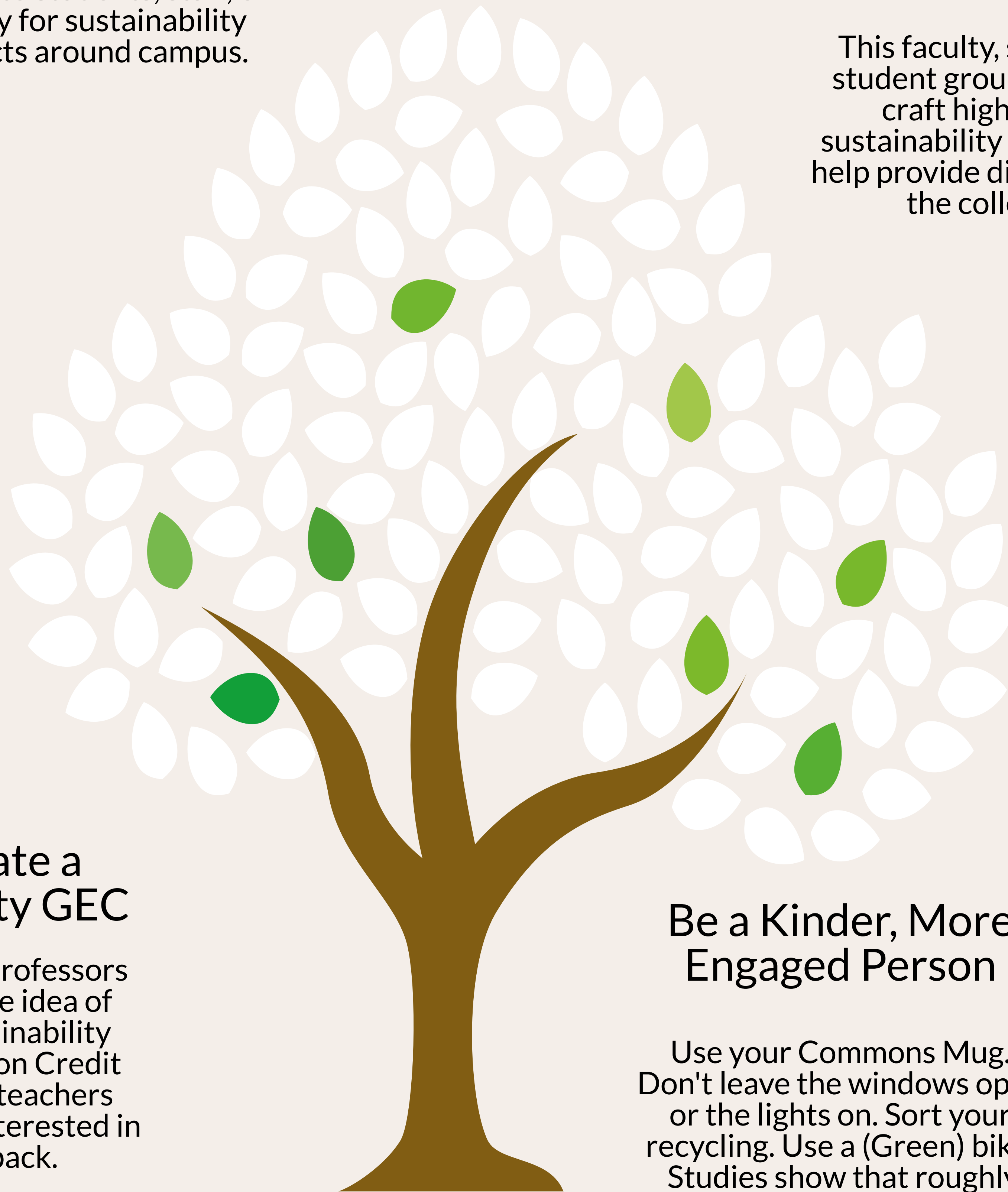
- EcoReps
- Environmental Coalition
- Bates Outing Club
- CHEWS
- Food Action Committee
- Garden Club
- Bates Gleaners

## Help Create a Sustainability GEC

A core group of professors are exploring the idea of creating a Sustainability General Education Credit (GEC). Let your teachers know if you are interested in giving feedback.

## Be a Kinder, More Engaged Person

Use your Commons Mug. Don't leave the windows open or the lights on. Sort your recycling. Use a (Green) bike. Studies show that roughly 65% of greenhouse gas emissions can be altered with behavioral change alone. Please don't think that you can't or aren't already making a positive difference!



Please contact us if you have questions or would like to help us in our efforts. Our goal is to pave the way towards sustainability with real-world, practical solutions. Check out the Bates Sustainability website or email Tom Twist at [ttwist@bates.edu](mailto:ttwist@bates.edu).

