



CALIFORNIA STATE UNIVERSITY
FULLERTON

Climate Action Plan Presentation

Assembly Bill 32 Goals

- AB32 requires reductions in carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.
 - To 1990 levels by the year 2020.
 - 80% reduction from 1990 levels by 2050.

Terminology

- eCO₂ – carbon dioxide equivalent. Each amount (by weight) of gas multiplied by its Global Warming Potential (GWP) to figure out its carbon dioxide equivalent.
- MT eCO₂ – Metric Ton (2,204.65 pounds) of eCO₂.

Greenhouse Gas	(GWP)
Carbon Dioxide	1
Methane	21
Nitrous Oxide	310
Hydrofluorocarbons	12-11,700
Perfluorocarbons	6,500-9,200
Sulfur Hexafluoride	23,900

CSUF Emission Divisions

On Campus Stationary Sources

- Consumption of Natural Gas, Propane, and Diesel
- Refrigerant & Chemical Leakage
- Fertilizer Application

Purchased Utilities Sources

- Purchased Electricity
- Electricity Transportation and Distribution Losses

Mobile Emission Sources

- Student Commuting
- Faculty/Staff Commuting
- Directly Financed Travel
- University Fleet Fuel Consumption

Carbon Emission Reporting

Scope 1 – Direct Emissions

- Consumption of Natural Gas, Propane, and Diesel
- Refrigerant & Chemical Leakage
- Fertilizer Application
- University Fleet Fuel Consumption

Scope 2 – Indirect Emissions

- Purchased Electricity

Scope 3 – Optional Indirect Emissions

- Student Commuting
- Faculty/Staff Commuting
- Directly Financed Travel
- Electricity Transportation and Distribution Losses

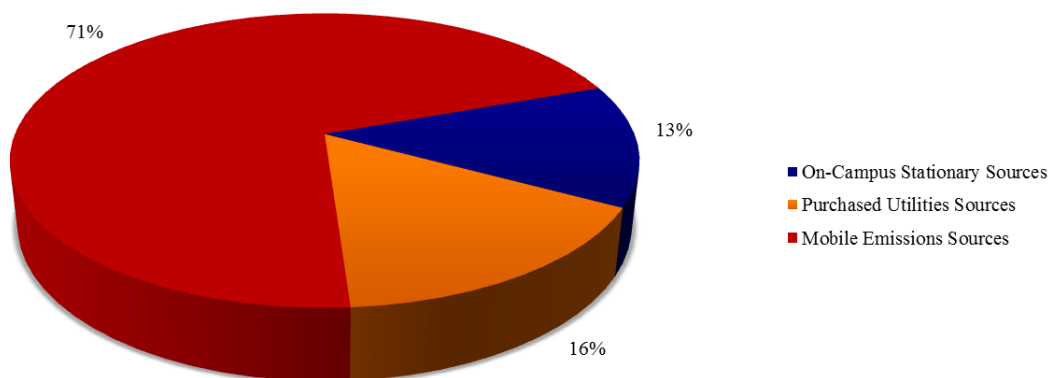
1990 Campus Emissions

In total the University accounted for 59,807 MTeCO₂ in 1990.

An 80% reduction from 1990 levels would be 11,961 MTeCO₂.

In order to complete data for 1990 we have assumed that the percentage of student, staff, and faculty members commuters has remained constant.

Percent breakdown of eCO₂ for 1990



2008 Campus Emissions

In 2008, the University accounted for 61,429 MTeCO₂.

In 2008, the University's greenhouse gas emissions were generated from the following sectors (MTeCO₂):

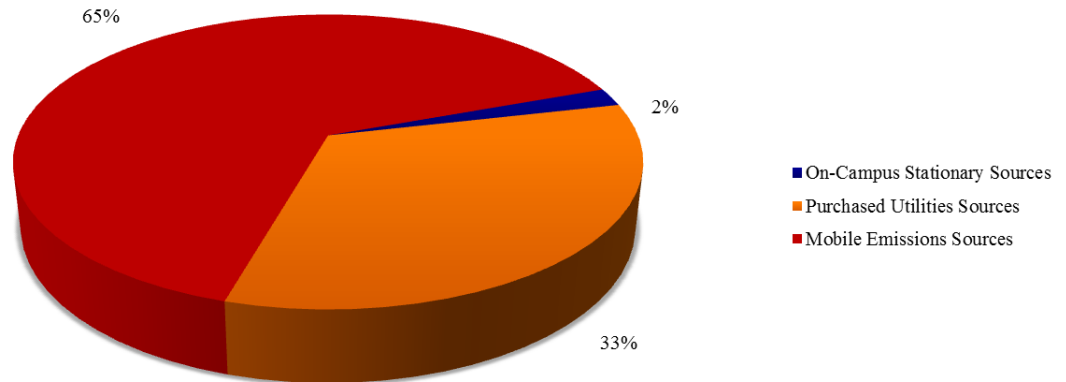
On-Campus Stationary – 1220.1

Purchased Utilities – 20,261.5

Mobile – 39,947.5

The increase in the Purchased Utilities percentage is due to the fact that the University changed from a gas boiler plant to electric resistance boiler plant in 1993.

Percent breakdown of eCO₂ for 2008

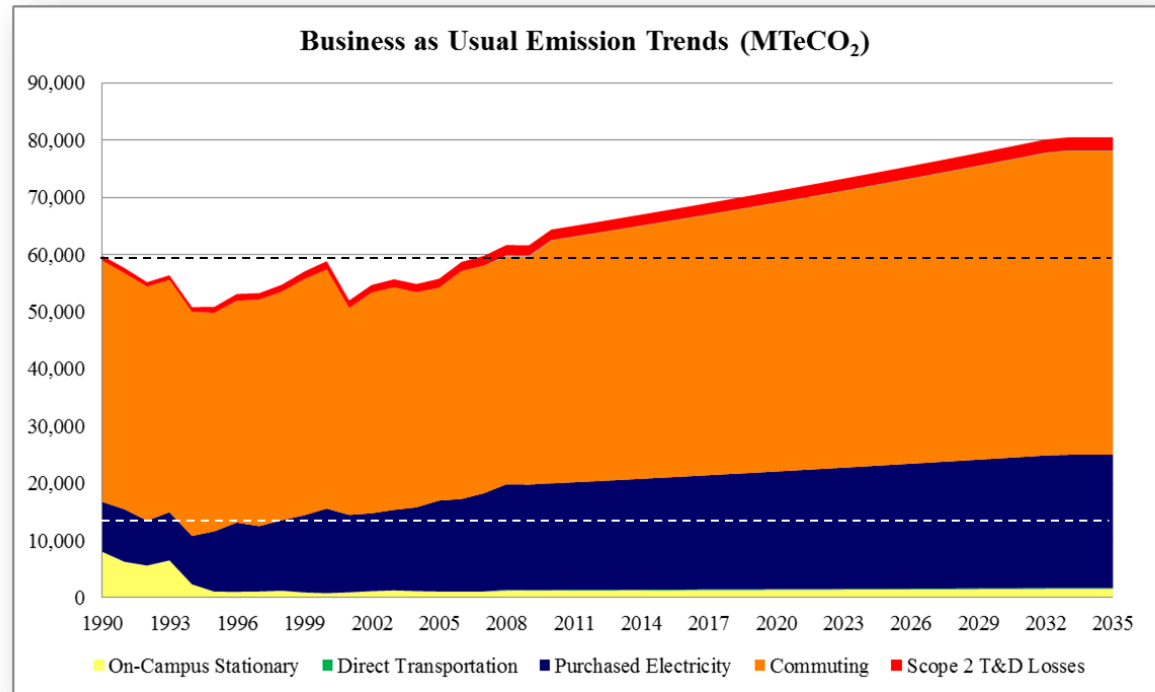


Emission Trends by Sector

By 2020, it is estimated that the University needs to reduce their annual greenhouse gas emission by 11,279 metric tonnes to meet 1990 emissions.

If University trends were to continue, it is projected that emissions would plateau by 2033*.

By 2050, it is estimated that the University needs to reduce their annual greenhouse gas emission by 68,522 metric tonnes to meet 80% of 1990 emissions.



AB32 2020

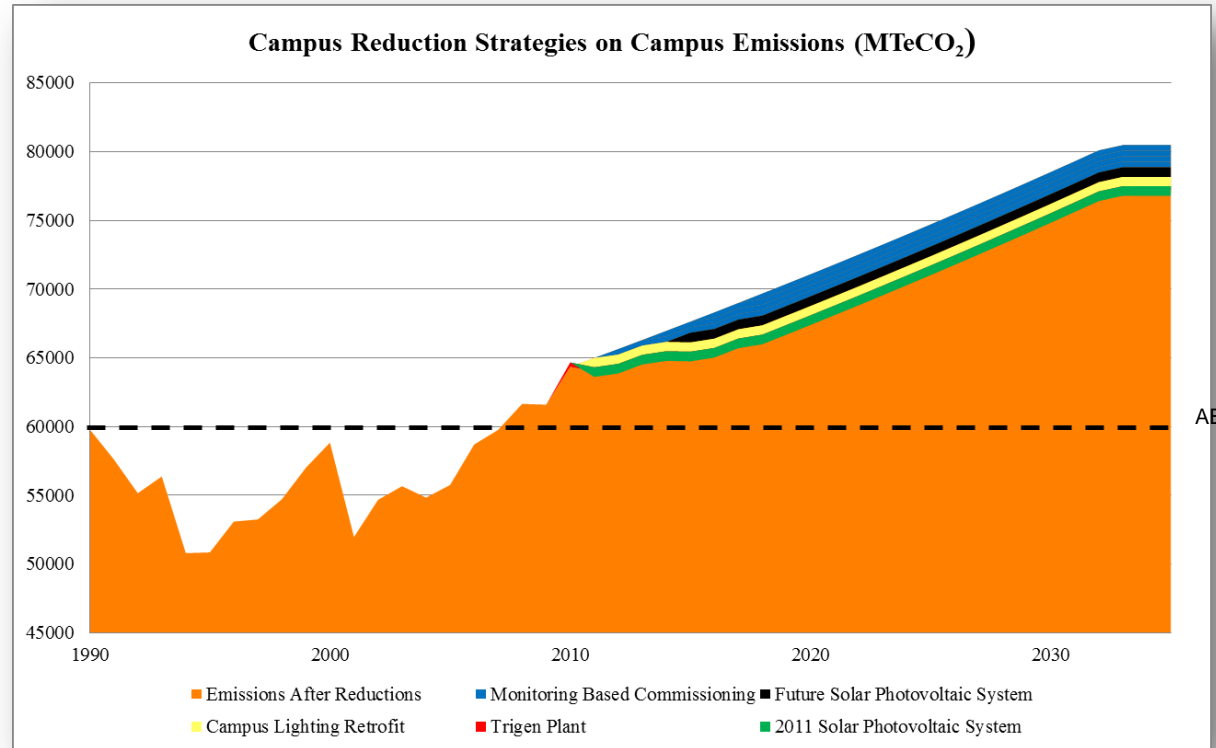
AB32 2050

* Based on Student population growth.

Emission Reduction Strategies

The University has plans to implement strategies to reduce their overall greenhouse gas emissions.

All strategies shown are directed towards reducing the greenhouse gas emissions of campus facilities.

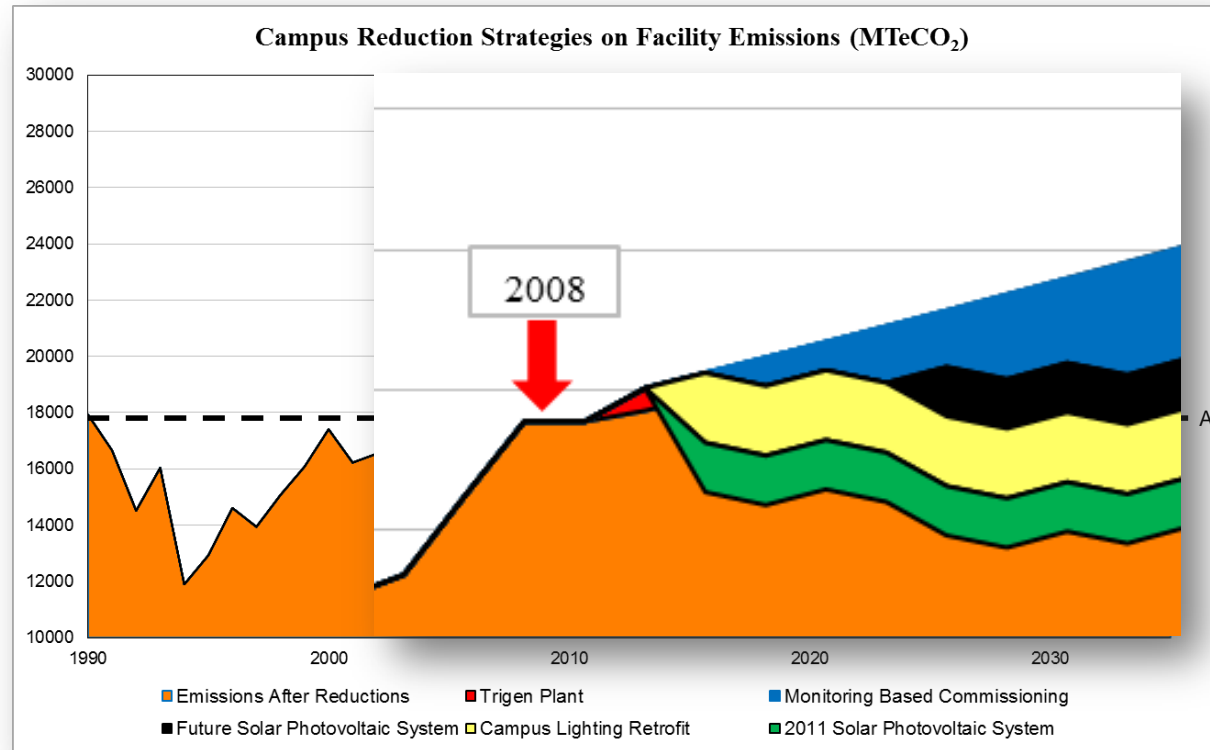


Emission Reduction Strategies - Facilities

The Trigen plant has a slight INCREASE in campus greenhouse gas emissions.

The Campus Lighting Reduction and 2011 Solar Photovoltaic System projects DECREASE the campus greenhouse gas emissions.

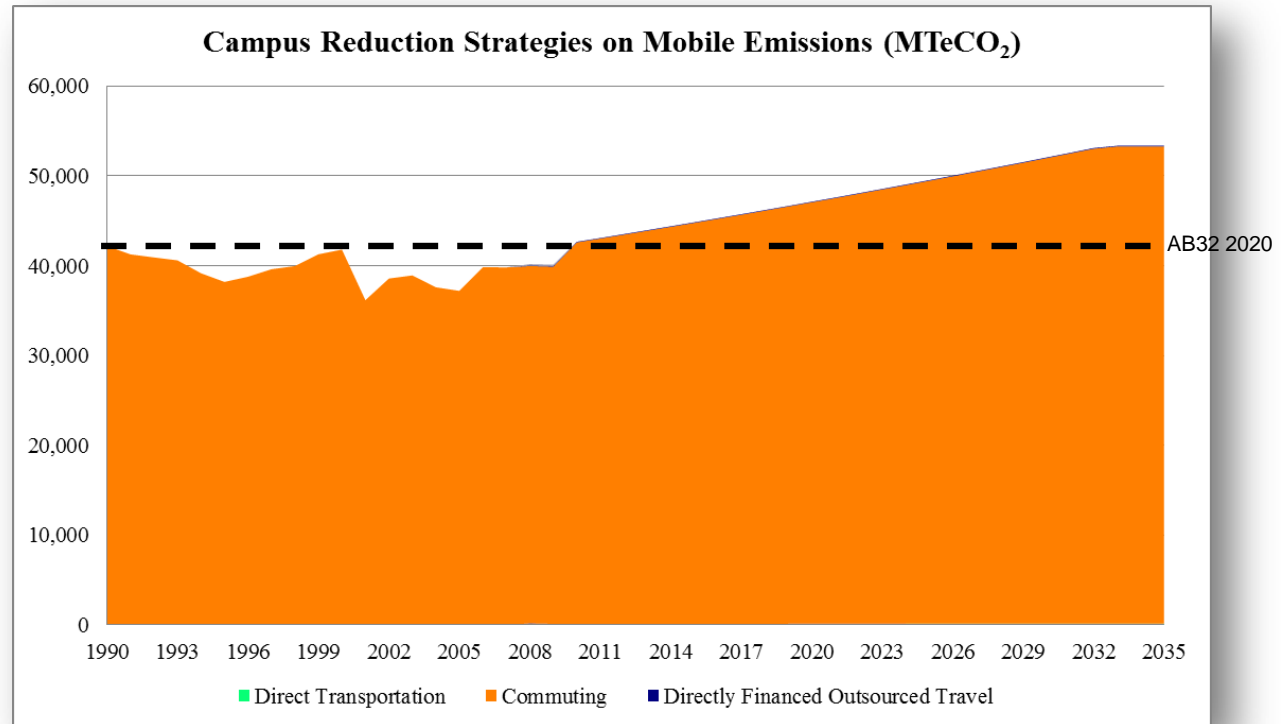
In total the planned facilities projects will reduce campus greenhouse gas emissions by 3,689 metric tonnes per year (32.7% of 2020 goal).



Emission Reduction Strategies - Transportation

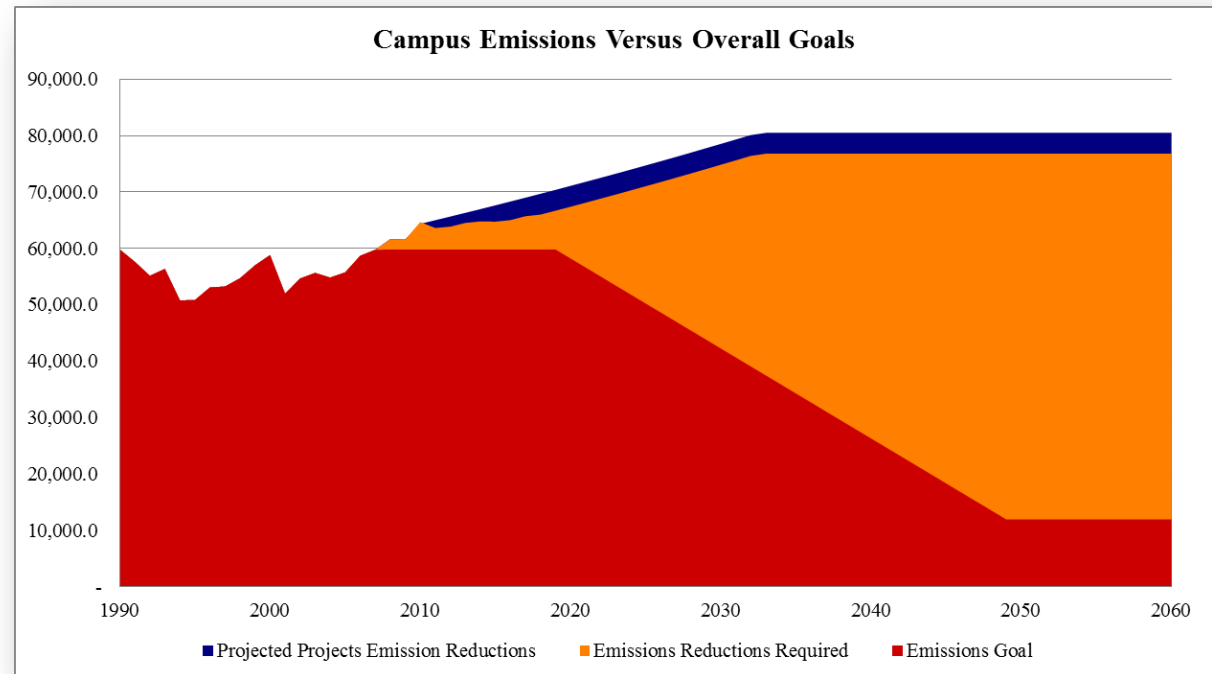
There are currently no projects planned to reduce the amount of greenhouse gas emissions from Mobile sources.

Currently each student parking permit that is purchased accounts for approximately 0.85 MTeCO₂. In 2008, 25,770 parking permits were purchased by students.



Moving Forward to Meet AB32 2050 Goals

In order to meet the ambitious goals of AB32 (80% below 1990 levels by 2050), the University will have to come up with a strategic plan to reduce greenhouse gas emissions from student and staff commuting.



Thank You

It has been a pleasure working with the University to baseline your greenhouse gas emissions. We look forward to working further on reduction strategies to reach this ambitious goal.

We would like to thank the following CSUF employees for their assistance in compiling and analyzing this data.

- Doug Kind
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