

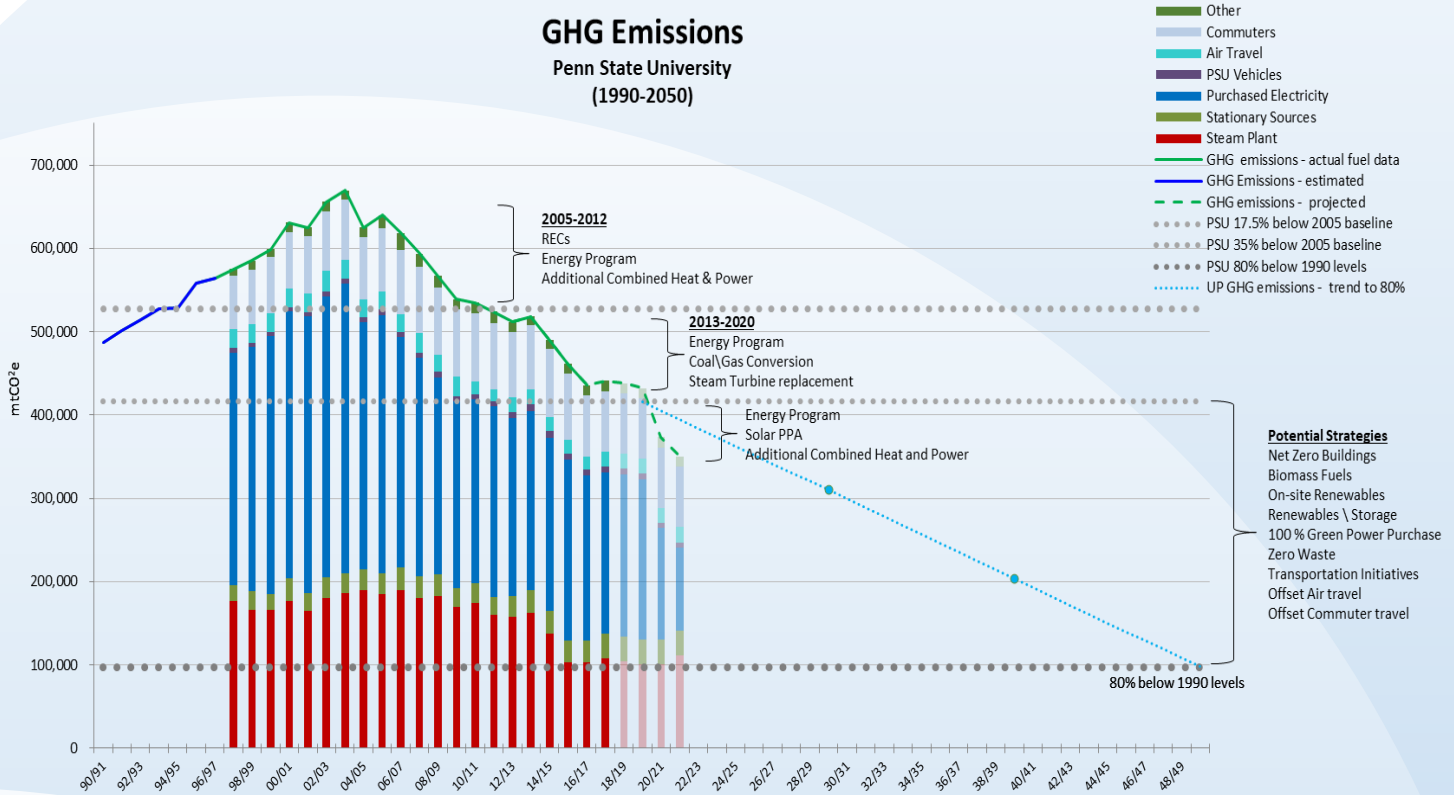
“We are Still In”

Penn State has a global reach that is focused on all aspects of climate change. We have signed the “We Are Still In” pledge to continue meeting the United States’ responsibilities under the Paris Climate Accord. We are committed to reducing greenhouse gas emissions at all of our campuses. Penn State has a greenhouse gas emissions reduction goal of 35% below a 2005 baseline by 2020 with a long-term goal of an 80% reduction by 2050 from 1990 levels.

Greenhouse Gas Emissions

Energy usage is the largest contributor to Penn State’s emissions profile. Penn State has reduced its campus greenhouse gas emissions by 32% since 2005. This reduction has been based on a foundation of energy conservation, increased efficiency, increased levels of Combined Heat and Power (CHP), targeted renewable purchases, awareness as well as programs in sectors other than energy.

GHG Emissions
Penn State University
(1990-2050)



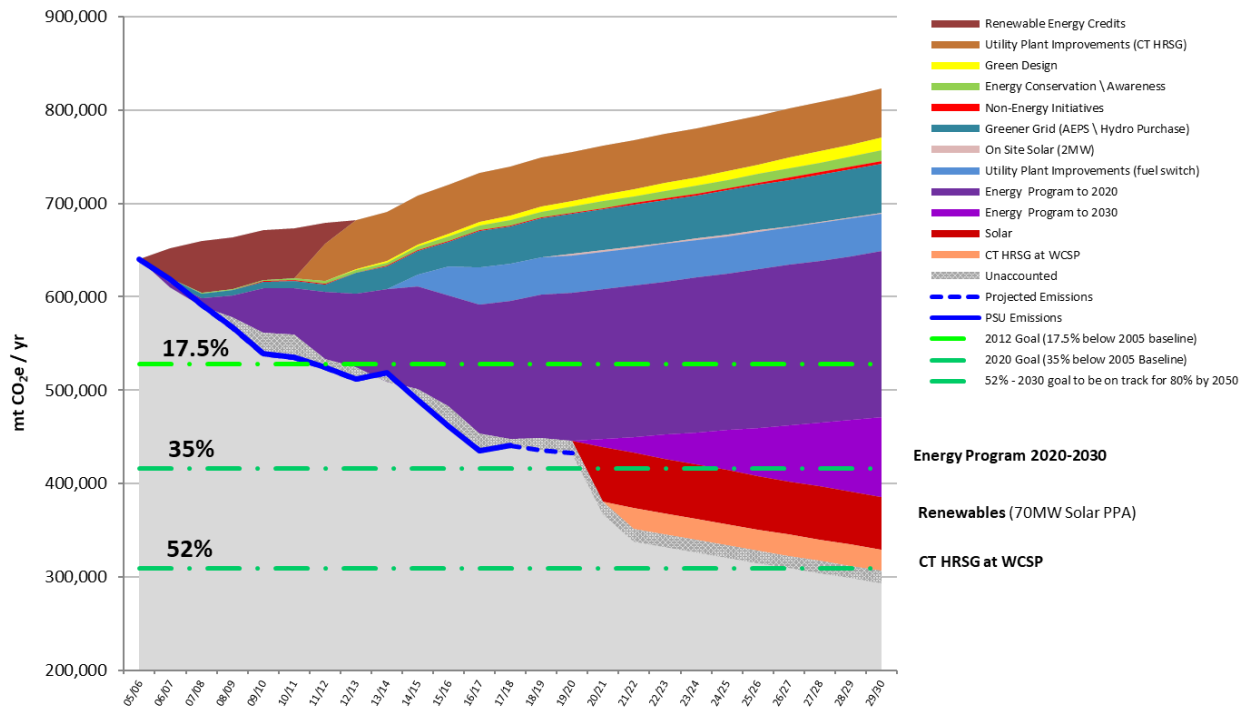
Penn State GHG Emissions include stationary sources, purchased electricity, OPP & Fleet vehicles and estimated commuter miles, air travel, waste, refrigerants and animal management. Hershey Medical & Pennsylvania College of Technology not included.

BEYOND THE GHG INVENTORY: EDUCATION, RESEARCH & AWARENESS

Penn State's efforts go well beyond what is measured by the Inventory. Penn State offers courses and its faculty conduct research in areas that are critical to reducing GHG emissions, including renewable energy, energy storage, energy efficiency, carbon capture and storage, and other areas that have the potential to affect emissions far beyond our campus boundaries. Penn State is home to world-renowned scientists who study climate change and its impact on natural resources, human populations and the economy – and propose solutions for mitigating and adapting to those impacts. The Sustainability Institute at Penn State supports efforts of faculty, staff, operational units and the community to advance the U.N. Sustainable Development Goals which call for “concerted efforts towards building an inclusive, sustainable and resilient future for people and planet.”



Greenhouse Gas Emissions Reduction Strategies



ENERGY

Supply

- Combined Heat and Power (CHP)
 - 200+ buildings on steam system
 - 80% plant efficiency
 - UP onsite generation – 20% of campus consumption
 - 100% emergency power
- Plant/Utility Improvements
- Fuel Switch – Coal to Natural Gas
- Campus Chilled Water System (120+ buildings)
- Renewables
 - 70 MW Solar PPA (Franklin County)
 - 2 MW onsite Solar PPA (University Park Campus)
 - 6MW Hydroelectric PPA (Mahoning Creek)
 - 2015 class gift—solar bus stop near Beaver Stadium
- Greener Grid – State Alternative Energy Portfolio Standard (AEPS)
- Studies
 - University Park Campus Solar Study
 - Geothermal Study
 - Fuel Cell Study
 - Hot Water Study

Demand

- Energy Program (Buildings & Utilities)
 - Coordination with Major Maintenance
 - ESP - Energy Savings Program (Loans) - over \$100 million invested, 10-12 year paybacks
 - ECM - Energy Conservation Measures (Grants) 5 year paybacks
 - Continuous Commissioning (CCx) - 5 year paybacks
- Demand Response Events
- Design and Construction Standards
 - Green Design - LEED Certified buildings
- Energy Conservation Policy (AD64)
- Building Automation Systems - Approx. 350 buildings at the University Park campus are controlled via building automation systems (BAS)
- Enterprise Utility Management System

WASTE

- Goal – Zero Waste
- Reduce – Reuse – Recycle
- Trash to Treasure Events
- Compost
- Water Bottle Filling Station
- Eco-Coin – reduce plastic bag use
 - Central PA Food Bank partnership
 - Student Farm partnership
 - Student Sustainability Coordinators
- Dining Initiatives
- Green2Go
- Waste Audits
- Lion's Pantry
- Purchasing Initiatives
- Ag Digester

TRANSPORTATION

- Electric Vehicle Charging Stations
- Service Fleet - Electric, hybrid, bio-diesel, flex-fuel, CNG as well as traditional gasoline and diesel vehicles
- Campus Shuttle
- CATA Partnership (Centre Area Transportation Authority)
 - Free on-campus shuttle buses
 - RIDEpass
 - RIDShare - Carpool/Vanpools
- Zimride (online ride-matching)
- Enterprise CarShare
- Bicycle Master Plan
- Zagster Bike Share
- Bicycle Friendly University - Silver