

Cal Poly Pomona Greenhouse Gas Projections through 2030 –
Assuming Moderate Campus Growth

| Year | MTCDE |
|------|--------|
| 2005 | 64,689 |
| 2010 | 62,145 |
| 2015 | 57,902 |
| 2020 | 55,016 |
| 2025 | 52,753 |
| 2030 | 51,511 |

1. Uses 5-year increments for Projections. Changed “Fiscal Year” categories in “input” spreadsheet to reflect 5-year increments.
2. Assumed 20% campus population growth through 2030. Added 20% to 2030 populations of full-time students, part-time students, summer school students, faculty, staff. Assumed uniform growth between 2005 and 2030.
3. Expanded total building square footage by 900,000 square feet through 2030. Assumed uniform growth in square footage between 2005 and 2030.

Energy Use in Buildings.

4. Determined 2005 kWh/Sq. Ft. figure = 12.9 kWh/SF. Assumed construction between 2005 and 2030 are expected to use 30% less electricity over current building stock (Source: Wong, 2005). Therefore, new building square footage assumes 9 kWh/SF electrical consumption. Total kWh were added at this rate to the projections through 2030 (180,000 sf/5yr increment X 9 kWh = 1,620,000 Addition kWh added to estimate every 5 years).
5. Determined 2005 MMBtu/sq. Ft. figure = 0.063 MMBtu/Sq. Ft. Assumed construction between 2005 and 2030 are expected to use 5% less gas over current building stock (Source: Wong, 2005). Therefore, new building square footage assumes 0.060 MMBtu/SF gas consumption. Total MMBtu were added at this rate to the projections through 2030 (180,000 sf/5yr increment X 0.060 MMBtu = 10,800 Additional MMBtu added to estimate every 5 years).

Energy Mix

6. Assumes shift to 100% electricity purchases from standard So Cal Edison Power Mix during projection period. Assumes % renewables will be 20% by 2010, per California law, and will rise to 30% by 2030. Assumes shift away from other energy sources in relatively equal proportions, and uniform growth in the % renewables between 2010 and 2030.

Transportation

7. Assumes increases in University Fleet use, although this must be tempered with increases in fuel efficiency and changes in energy sources. Increase of 1000 gallons of gasoline and diesel assumed every 5 years. Natural Gas Fleet remains constant.
8. Assumes 20% increase in air miles traveled (both faculty/staff and student), to keep pace with population growth. Assumed uniform growth between 2005 and 2030.
9. Based on recent legislation an average increase in fleet fuel efficiency is assumed, beginning in 2010. We need to account for the fact that turnover (about 10 years) means that the average fleet economy is not the same as the standard for new vehicles. The cohort analysis used assumes a 1 MPG per year scenario, starting in 2010, and got 23 mpg in 2010, 27.5 mpg in 2015, 33 mpg in 2020, 38 mpg in 2025, and 43 mpg in 2030. Reference: Consumer Federation of America, Technology, Cost and Timing: An Analysis of Competing Congressional Proposals to Raise Fuel Economy Standards, Mark Cooper, July 2007.
10. Changed commuting mix as follows:
 - On-campus living increases by 2,000 beds, meaning 4,000 students (19%) live on campus in 2030
 - Bus riders increase to 3% in 2030 (bus efficiency increases by 50% by 2030)
 - 76% of students commute by auto in 2030. Carpooling increases by 20% across all sectors by 2030.
 - Number of days commuting per year are reduced by 10% in 2030.
 - Miles remains constant
 - Assumed similar standards for Summer Students
 - Assumed same changes in commuting mix for Faculty and Staff (for staff, no 10% reduction in trips)

Agriculture

11. Used 2005 data, extended through 2030 (no change).

Solid Waste

12. Assumed 50% growth in solid waste tons, to keep with campus population.

Refrigerants and Offsets

13. Assumed consistent usage with previous levels (no increase)