DATE: February 9, 2015

AGENDA ITEM # 3

TO: Environmental Commission

FROM: J. Logan, Staff Liaison

SUBJECT: Greenhouse Gas Dashboard

RECOMMENDATION:

Receive report on the Greenhouse Gas Dashboard

BACKGROUND

The Environmental Commission Climate Action Plan/Dashboard sub-committee members, Commissioners Bray and Eyre, developed a Greenhouse Gas (GHG) Dashboard for presentation to the Commission and for discussion of its use as an educational resource.

DISCUSSION

Commissioner Bray's outline and presentation of the Dashboard provided the following information:

A City website-based Dashboard presenting annual community resources use data, GHG emissions and reduction targets will help engage the community in Climate Action Plan (CAP) implementation.

Dashboard objections are:

- Present foundational data on aggregate annual resources use, GHG emissions and associated trends
- Describe resource use and GHG emissions data relative to CAP targets to help answer the question "how are we doing?" year over year, and versus general CAP targets
- Provide the information in a visually interesting, easy to understand format that engages residents
- Address usage metrics and trends for key resources comprising the community GHG inventory:
  1. Total GHGs and pie chart breakdown vs goals
  2. Annual vehicle miles traveled/GHGs per VMT
  3. Residential natural gas use/GHGs
  4. Residential electricity use/GHGs
  5. Commercial electricity use/GHGs
  6. Commercial natural gas use/GHGs
  7. Annual community-wide water use/GHGs
  8. Annual community-wide solid waste disposal tonnage/GHGs
  9. Household/per capita averages

- Update with data reported by staff annually to the Environmental Commission and City Council utilizing implementation and monitoring tool described in Chapter 5 of the CAP.

The proposed usage of the Dashboard is to have the dashboard on the City of Los Altos website to provide status of environmental progress and measures for Los Altos Climate Action Plan on an ongoing basis. The GHG Dashboard is designed to have past usage, trends, and goals for water, natural gas, electric use, waste diversion, vehicle miles traveled, GHG emissions and other pertinent data.

The Commission will continue discussion of the GHG Dashboard and utilization of GHG data and review updates to the Dashboard as presented by the subcommittee.

City of Los Altos, California

Discussion Document

Draft 'Dashboard Reporting' Concepts
Community Resource Use and GHG Emissions

February 2015

A City website-based 'dashboard' presenting annual community resource use data , GHG emissions and reduction targets will help engage the community in CAP implementation.

Dashboard Objectives

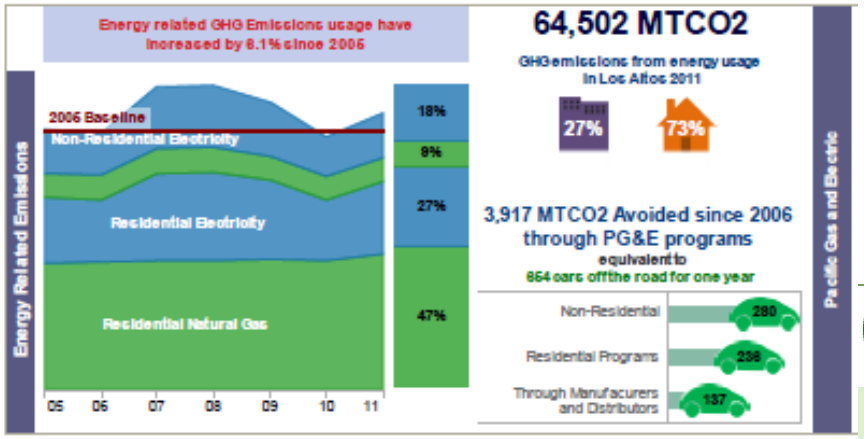
- Present foundational data on aggregate annual resource use, GHG emissions, and associated trends
- Describe resource use and GHG emissions data relative to CAP targets – to help answer the question "how are we doing?" year over year, and versus general CAP targets
- Provide the information in a visually interesting, easy to understand format that engages residents
- Address usage metrics and trends for key resources comprising the community GHG inventory:
  1) Total GHGs and pie chart breakdown, vs. goals
  2) Annual vehicle miles traveled/GHGs per VMT
  3) Residential natural gas use/GHGs
  4) Residential electricity use/GHGs
  5) Commercial electricity use/GHGs
  6) Commercial natural gas use/GHGs
  7) Annual community-wide water use/GHGs
  8) Annual community-wide solid waste disposal tonnage/GHGs
  9) Household/per capita averages

  - Solar? (kW installed)
  - EVs? (#, mileage)
  - Bike lanes (miles?)

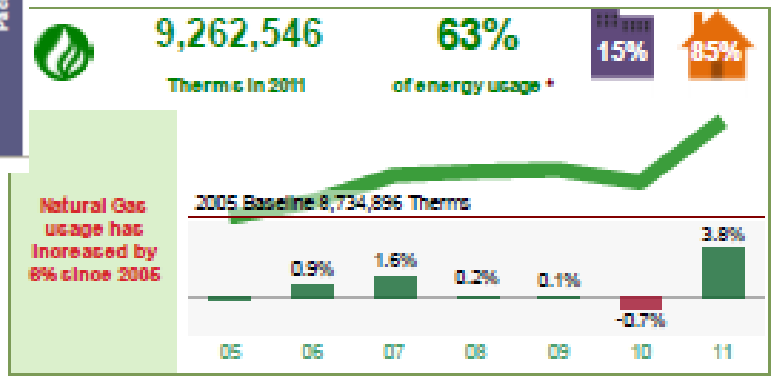
- Update with data reported by staff annually to the Environmental Commission and City Council, utilizing implementation and monitoring tool described in Chapter 5 of the CAP

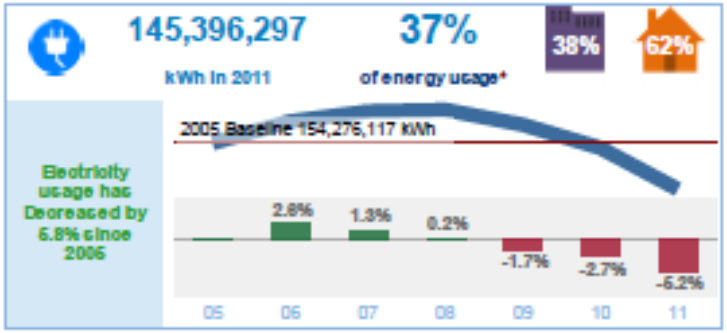
Next steps would involve meeting with staff and PMC to learn about the monitoring tool outputs, and to begin design of simple web-based reporting layouts.

Annual Reporting of Resource Use and GHG Metrics



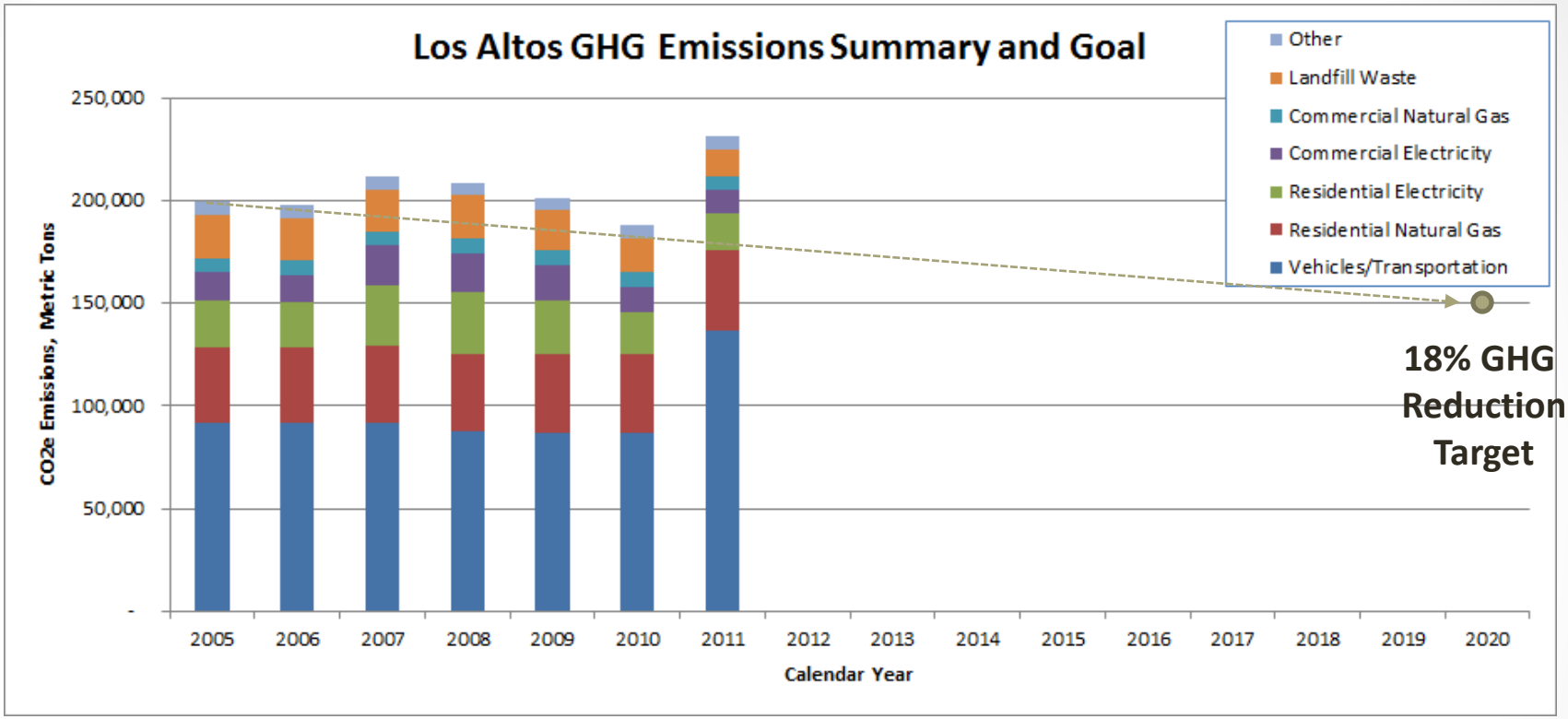
- Illustrative Examples -





Source: PG&E Energy Summary for Los Altos 2005 - 2011

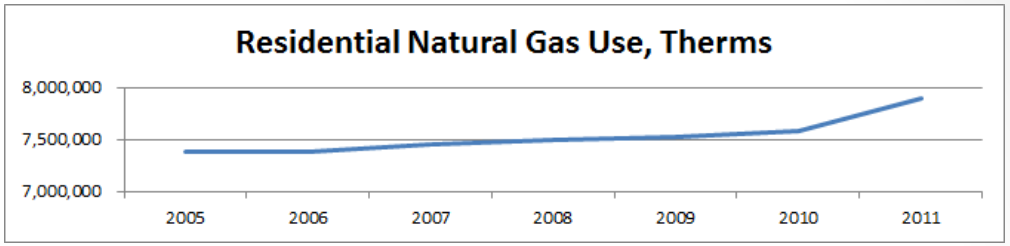
1. GHG Emissions Summary

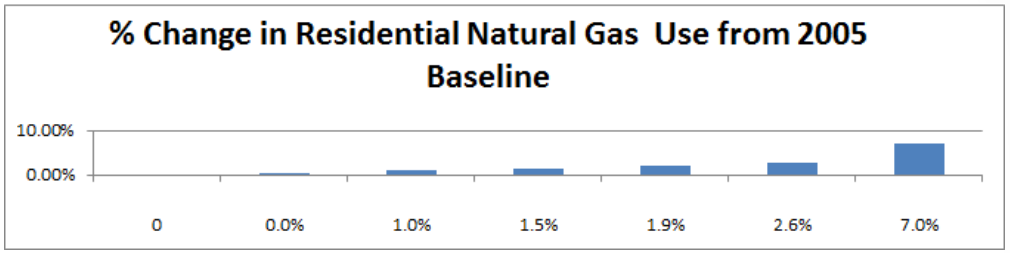


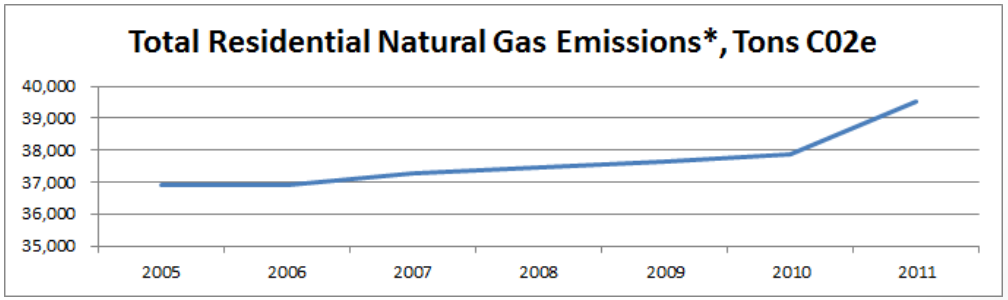
- City-wide GHG Emissions are trending up, despite an 18% reduction target by 2020
- An unexplained increase in vehicle emissions in 2011 is driving this trend

3. Trends in Residential Natural Gas Use and Associated GHGs

- Residential natural gas use is 7.0% higher in 2011 than 2005
- While homes are generally becoming better insulated and more energy efficient, they are also becoming larger – which is offsetting efficiency gains
- Year to year, natural gas use is also influenced by winters that are colder or warmer than usual

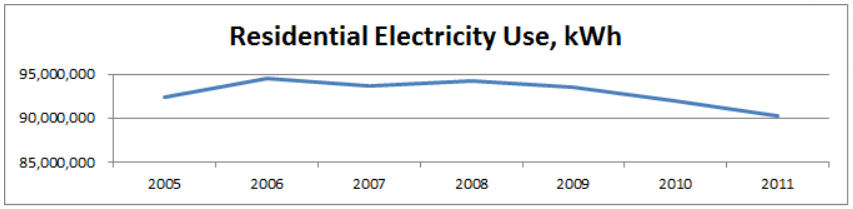


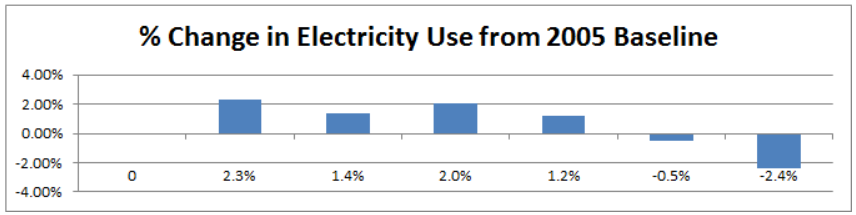


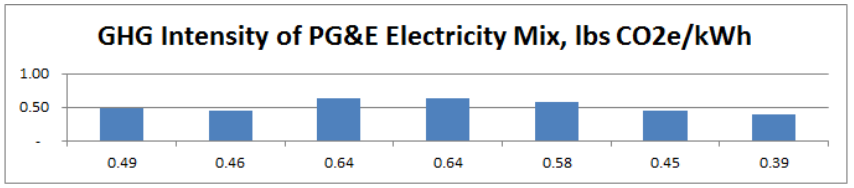


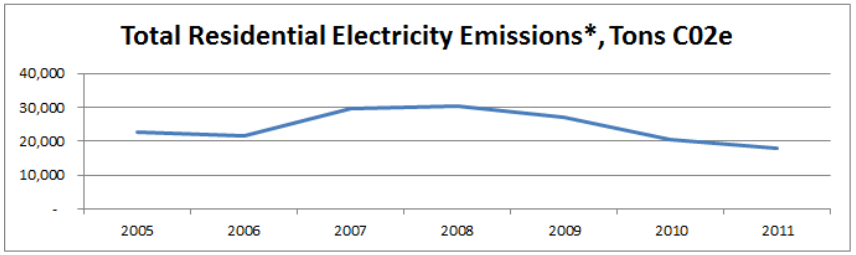
4. Trends in Residential Electricity Use and Associated GHGs

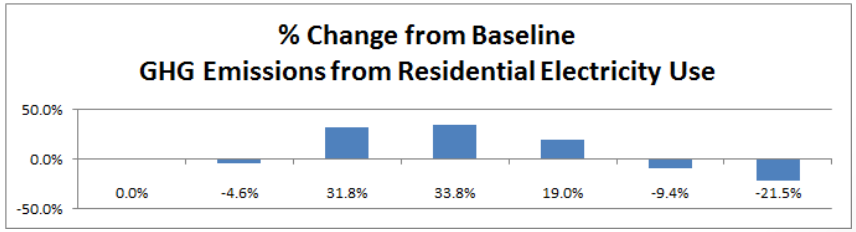
- Residential electricity use is 2.4% lower in 2011 than 2005, due to more efficient electronics and residential solar
- The PG&E energy mix is now 'greener' than in 2005, as more solar and wind power are on the grid
- With reduced use and greener electricity, GHG emissions from residential electricity are 21.5% lower in 2011 than 2005





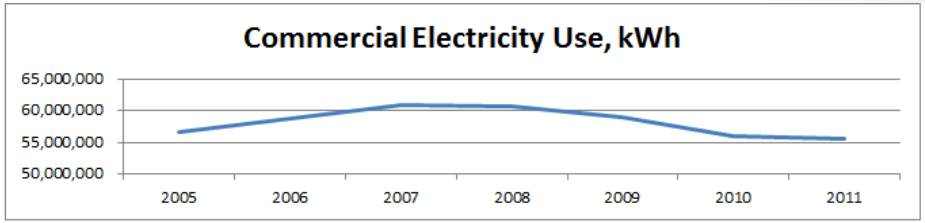


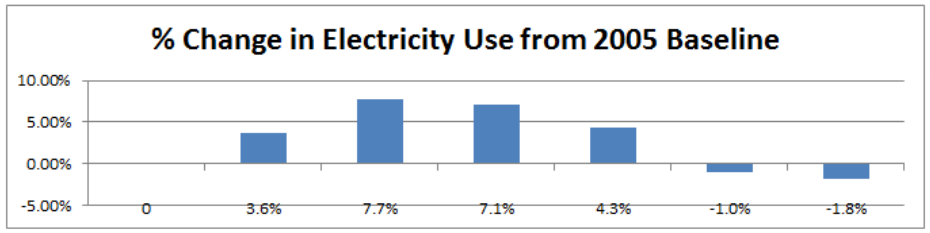


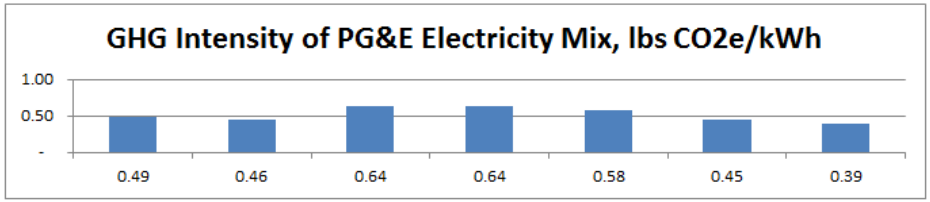


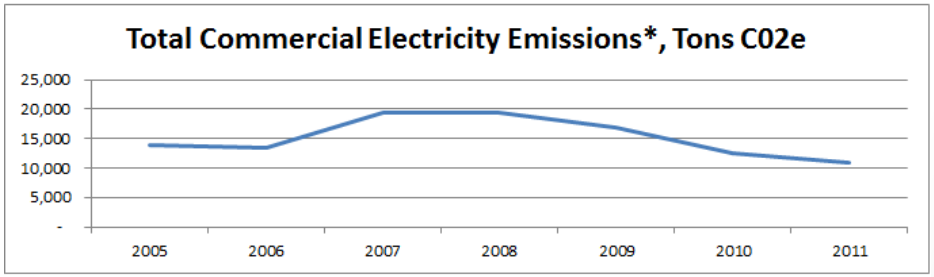
5. Trends in Commercial Electricity Use and Associated GHGs

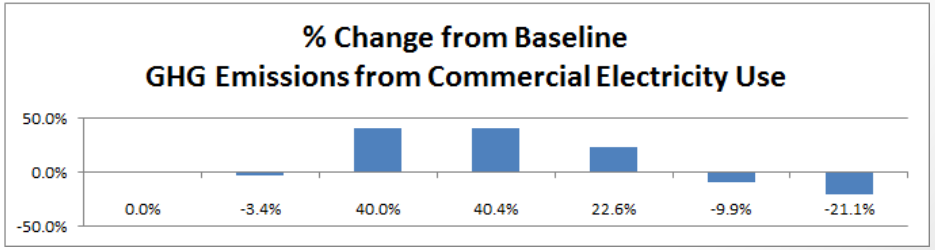
- Commercial electricity use is 1.8% lower in 2011 than 2005, due to energy efficiency improvements
- The PG&E energy mix is now 'greener' than in 2005, as more solar and wind power are on the grid
- With reduced use and greener electricity, GHG emissions from commercial electricity are 21.1% lower in 2011 than 2005





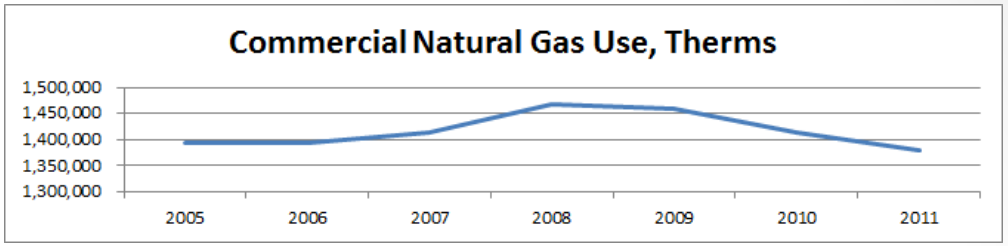


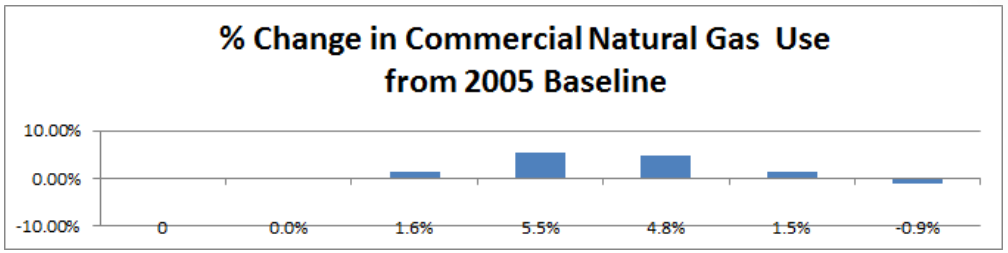


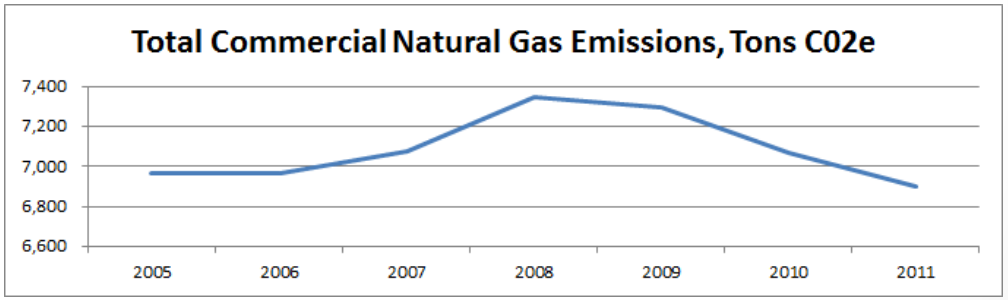


6. Trends in Commercial Natural Gas Use and Associated GHGs

- Commercial natural gas use is 0.9% lower in 2011 than 2005
- Commercial buildings are generally becoming better insulated and more energy efficient
- Growth in commercial space has been negligible
- Year to year, commercial sector natural gas use is also influenced by current economic conditions

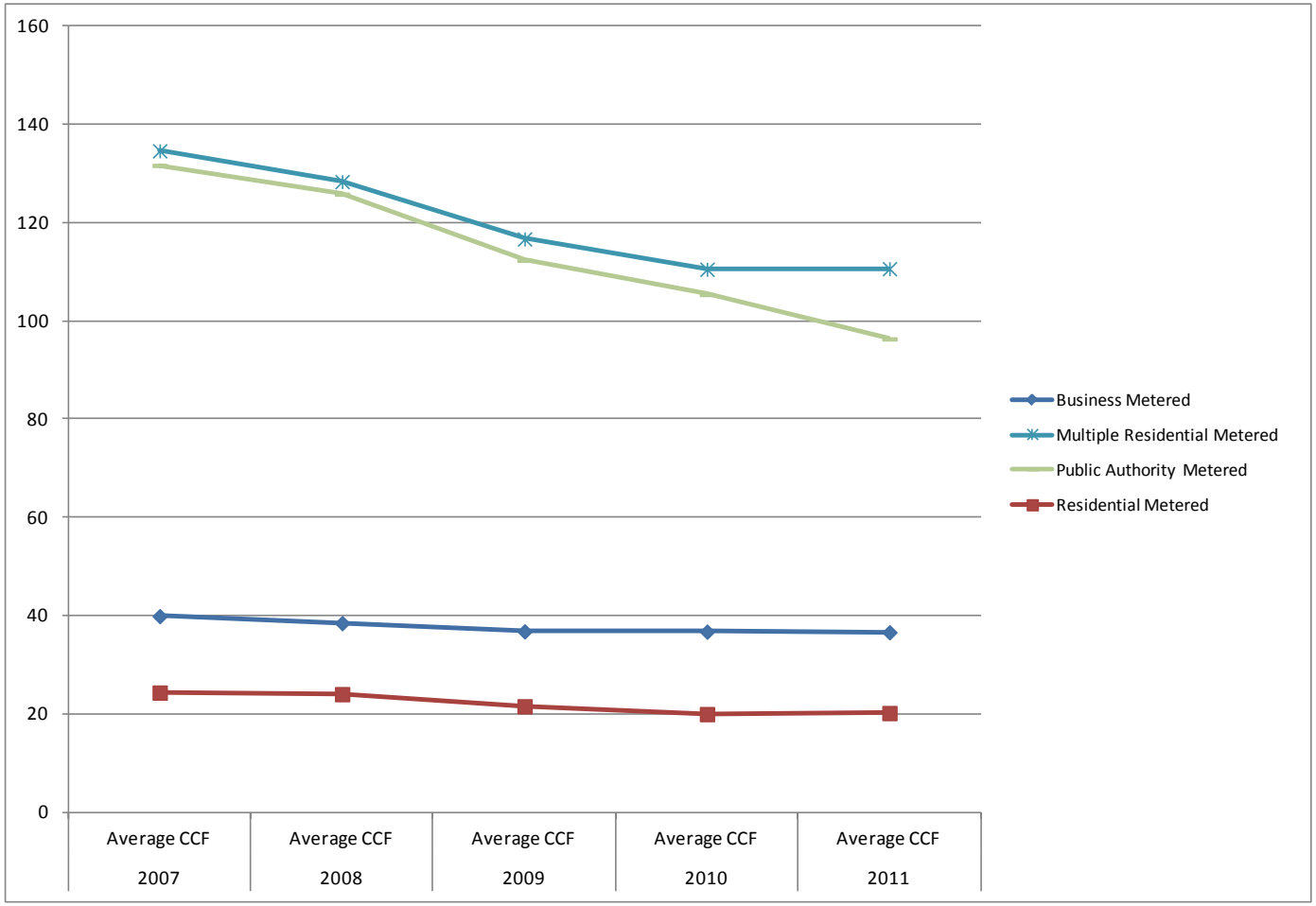






7a. Los Altos Water Usage Summary and Trends, by Sector

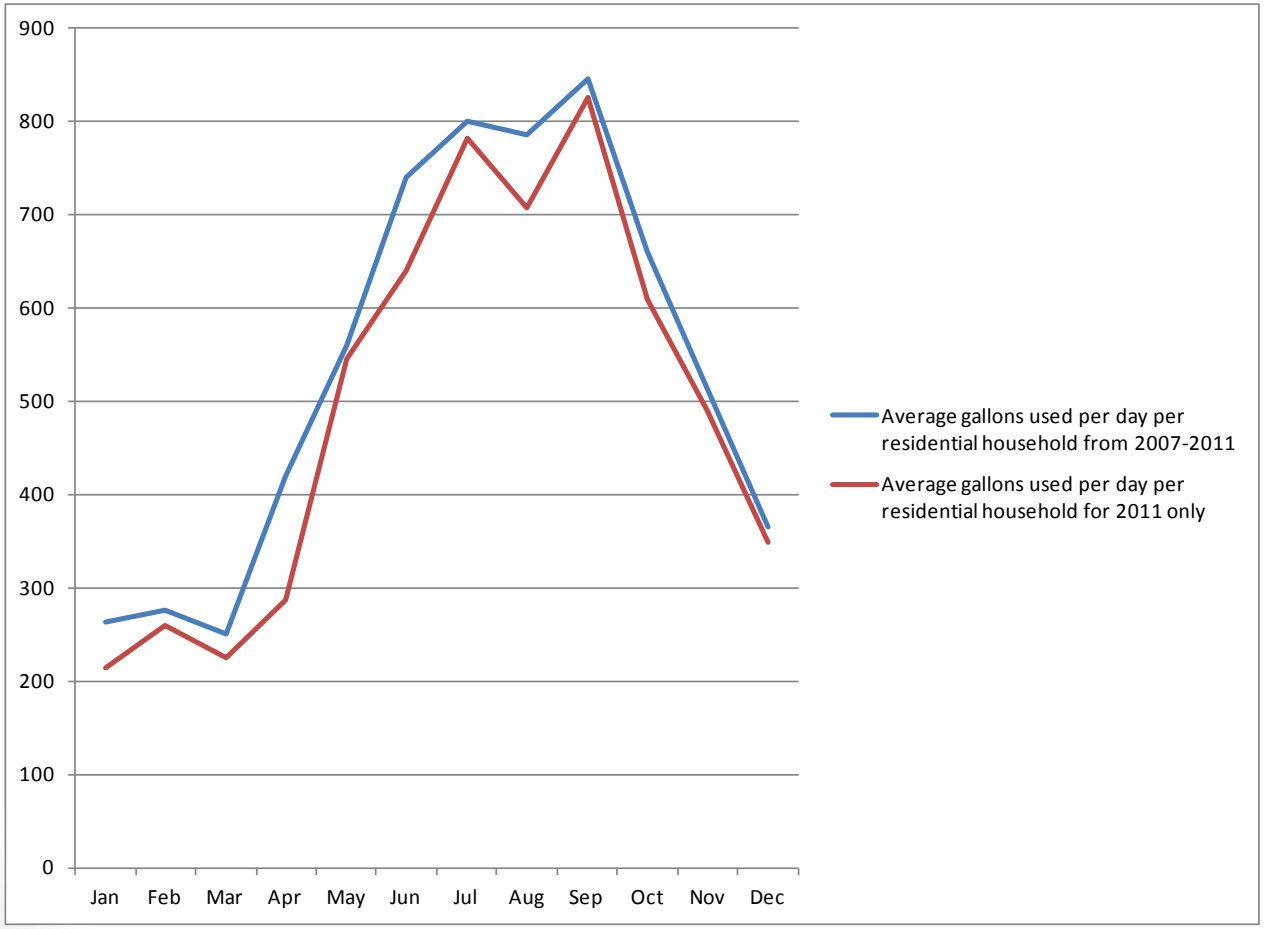
The following is for 2007-2011 only. Need to add more recent data



Business Metered: Commercial businesses, apartments, private schools, churches, etc.	Average Count:	421
Multiple Residential Metered : Attached dwellings such as a duplex, condos, without sub-meters	Average Count:	72
Public Authority Metered: City government, police, schools, etc. (Fire water usage is not metered)	Average Count:	96
Residential Metered: Individually metered single family residential units	Average Count:	9,530
Other Sales & Svc: Mostly portable construction meters or temporary services (NOT SHOWN)	Average Count:	2
Industrial Metered: Manufacturing or processing activities (NOT SHOWN ABOVE)	Average Count:	1

7b. Los Altos Residential Water Use, 2011 Versus Previous Years

This is showing that household gallons per day in the most recent year is less than average of all years, which is progress. Need more recent data.

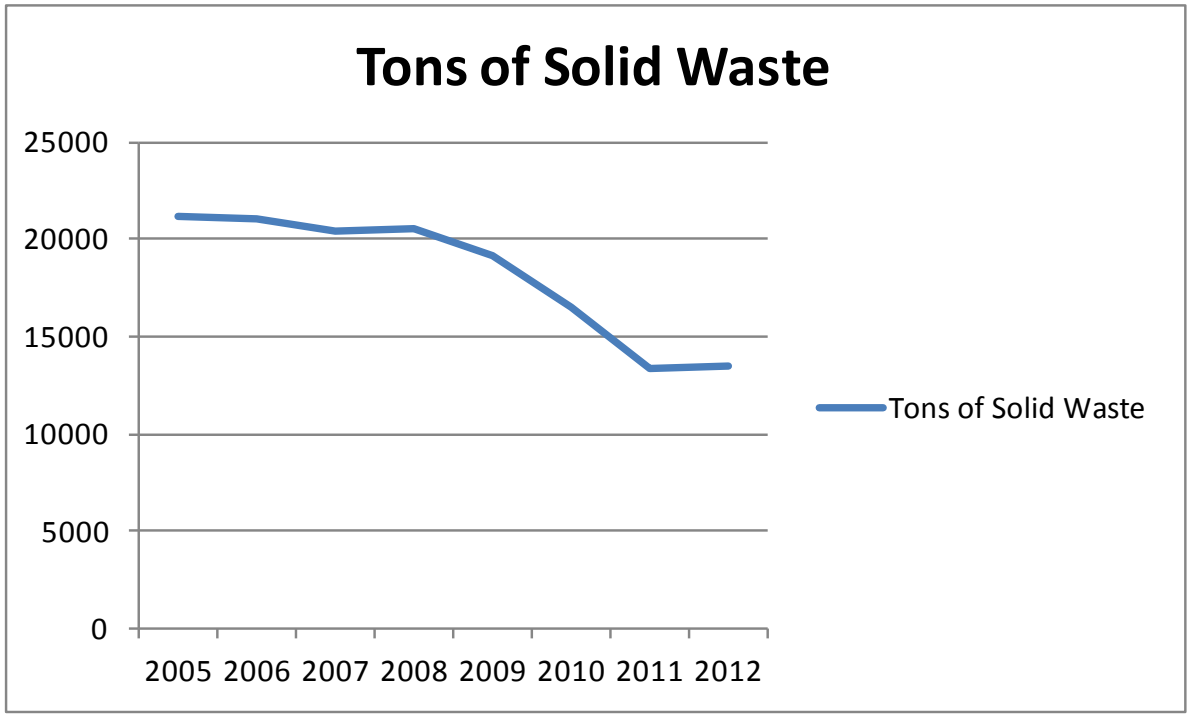


7c. Los Altos Water Use versus Neighboring Communities

This shows Los Altos usage compared to surrounding communities and improvement in conservation. It appears we are not improving as fast as others. Need more recent data.

Los Altos compared to Neighboring Cities (average monthly use in CCF)				
		2009	**2,010**	% Decrease
	Los Altos	22	20	7%
	Menlo Park	15	13	12%
	Palo Alto	14	13	9%
	Hillsborough	31	28	11%
Purissima Hills (Los Altos Hills)		36	31	15%

8. Los Altos Solid Waste Disposal Summary and Trends



Need more recent data.

WOULD ALSO LIKE TO SHOW TWO ADDITIONAL CHARTS: 1) TONS/RESIDENTIAL HOUSEHOLD PER MONTH AND 2) POUNDS PER HOUSEHOLD PER DAY