Cumulative ZNE Goal for City Facilities

UTILITIES & ENVIRONMENTAL SERVICES

Erik Pearson
Environmental Services Manager

July 11, 2016

Current Production

City facilities are producing:

- CoGen: 9,400,000 kWh
- WPCF Solar: 2,353,000 kWh
- Other Solar: 634,000 kWh
- Total: 12,387,000 kWh per year

Total Demand/Consumption

Electricity Used	21.8 million kWh
Electricity Produced	12.4 million kWh
Electricity needed for "grid neutrality"	9.4 million kWh
Natural Gas Used (157,000 therms)	4.6 million kWh
Total Renewable Energy to go "ZNE"	14 million kWh

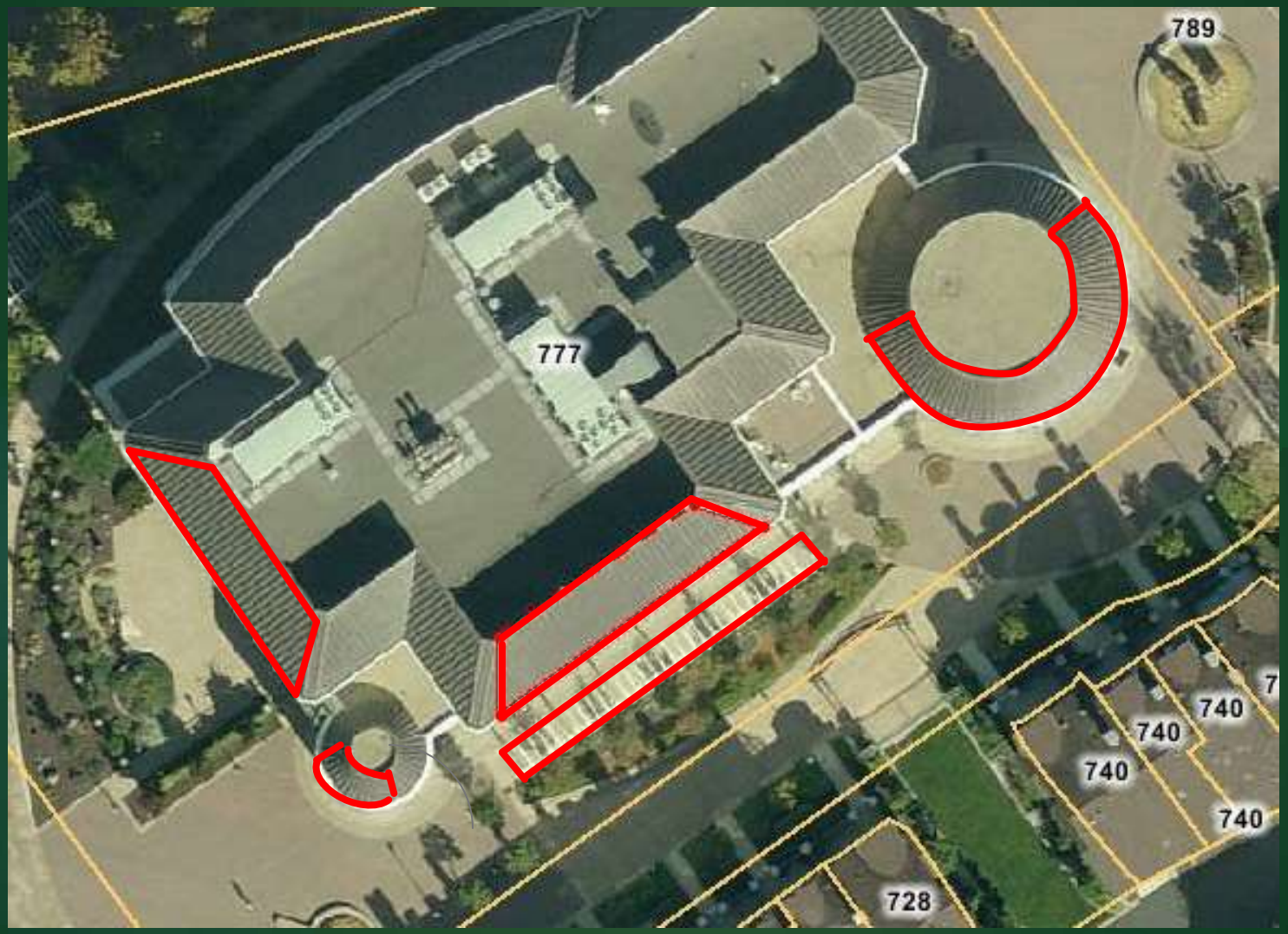
Potential

Description	Address	Square Feet	kW	kWh/year
Police Station	300 West Winton Avenue	23,000	345	604,440
Muni Lot (A, B, Main, Mission)	22550 Mission	10,000	150	262,800
Muni Lot (Foothill, A, Main, B)	1042 B St.	20,000	300	525,600
Cinema Parking Structure	22695 Foothill	10,100	152	265,428
Fire Station 2	360 West Harder Rd	1,000	15	26,280
Watkins Street Parking Structure (2nd half)	Watkins & B	14,600	283.0	495,816
Hesperian Pump Station - roofed canopy	28471 Hesperian Bl	11,000	165	289,080
Garin Reservoir	083-0464-024-00	6,800	102	178,704
Phase 2 Solar PV at WPCF	3700 Enterprise Way		1,000	2,352,936
2nd CoGen engine at WPCF	3700 Enterprise Way		800	7,008,000
		233,720	**5,025**	**15,615,226**

Fire Station 1

Muni Lot (A, B, Main, Mission)

City Hall



Cinema Parking Structure

Airport Admin Building

Recommendation

- That the Committee reviews and comments on this report and recommends that staff schedule this item for consideration by Council to set a goal of achieving cumulative municipal ZNE using renewable energy by 2025

Next Steps

- Present recommendation to Council
- Prioritize installation of renewable energy facilities
- Incorporate into CIP

Questions & Discussion

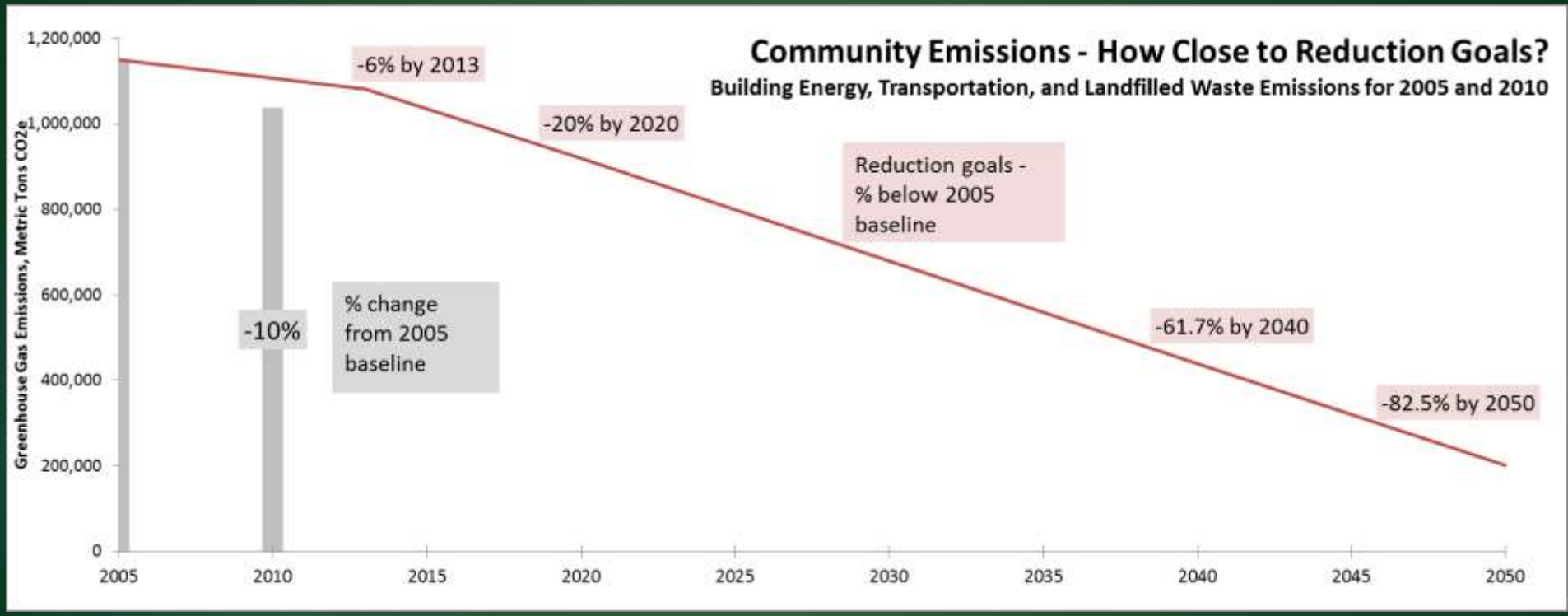
Update on Community Greenhouse Gas Inventory

UTILITIES & ENVIRONMENTAL SERVICES

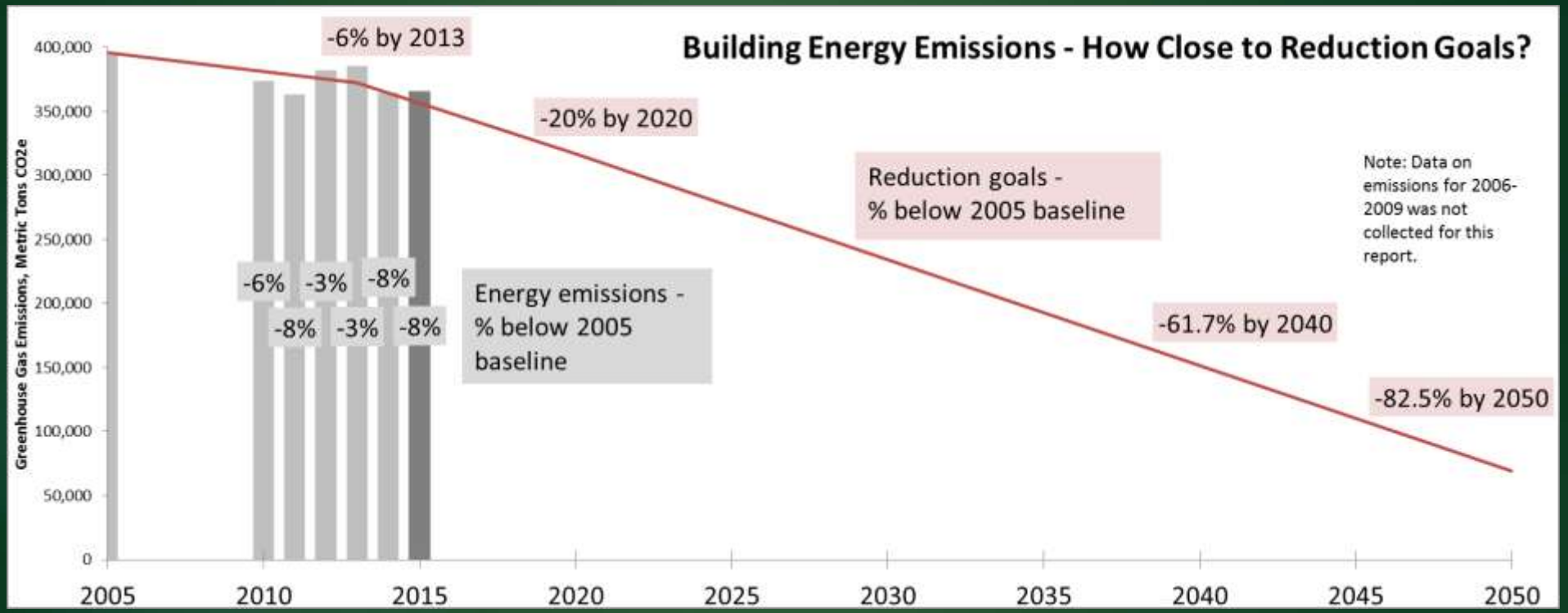
Gilian Corral
CivicSpark AmeriCorps Fellow

July 11, 2016

Community Emissions



Building Energy Emissions

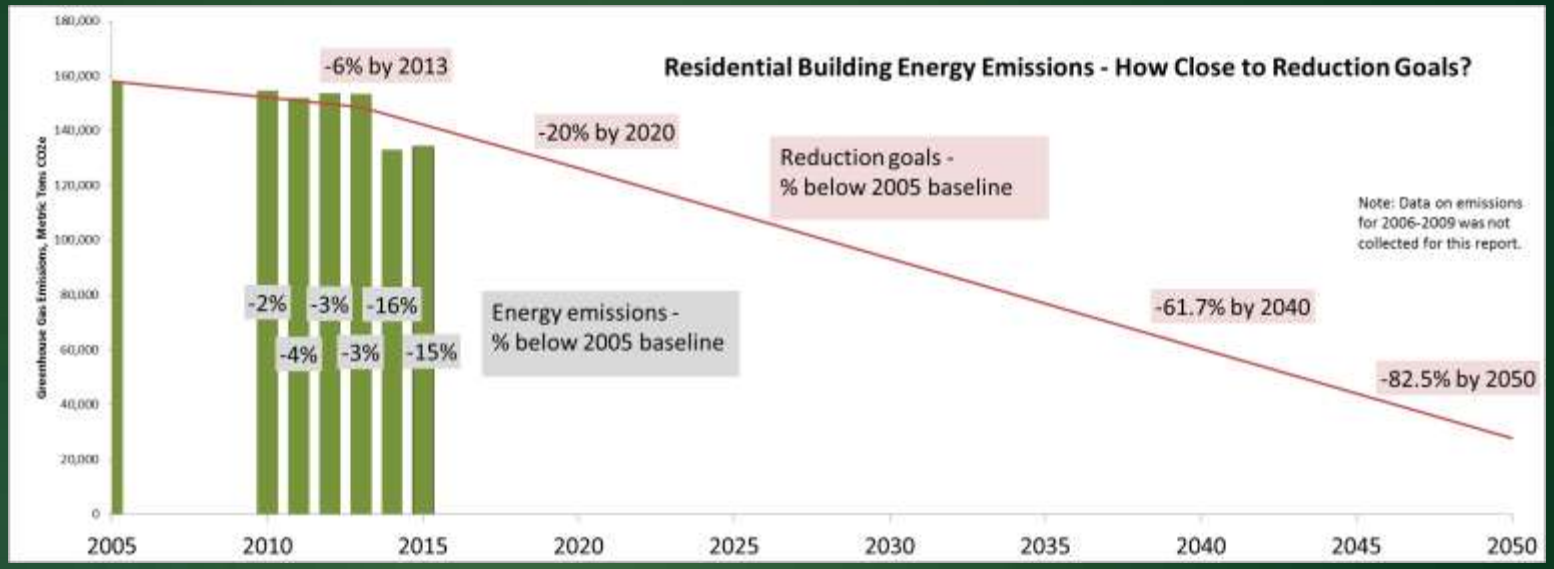


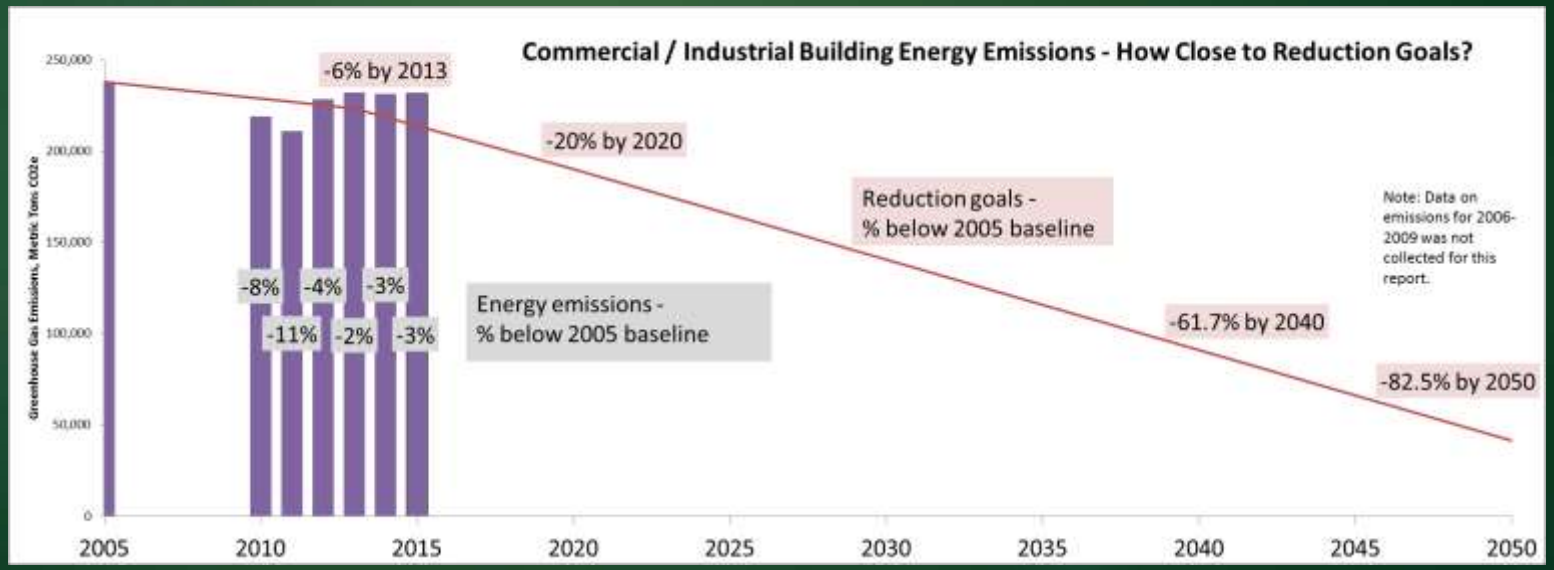
Building Energy Emissions

Residential

vs

Commercial

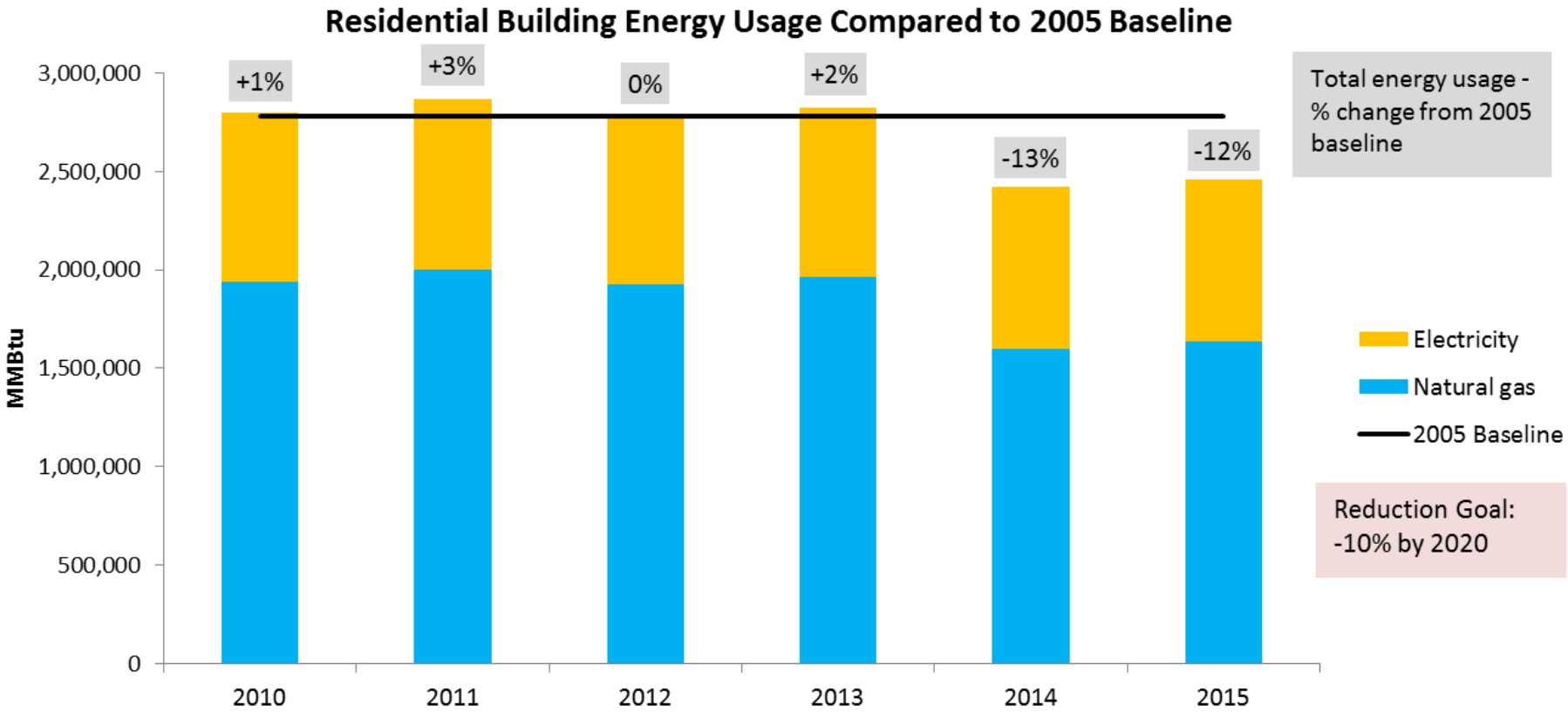




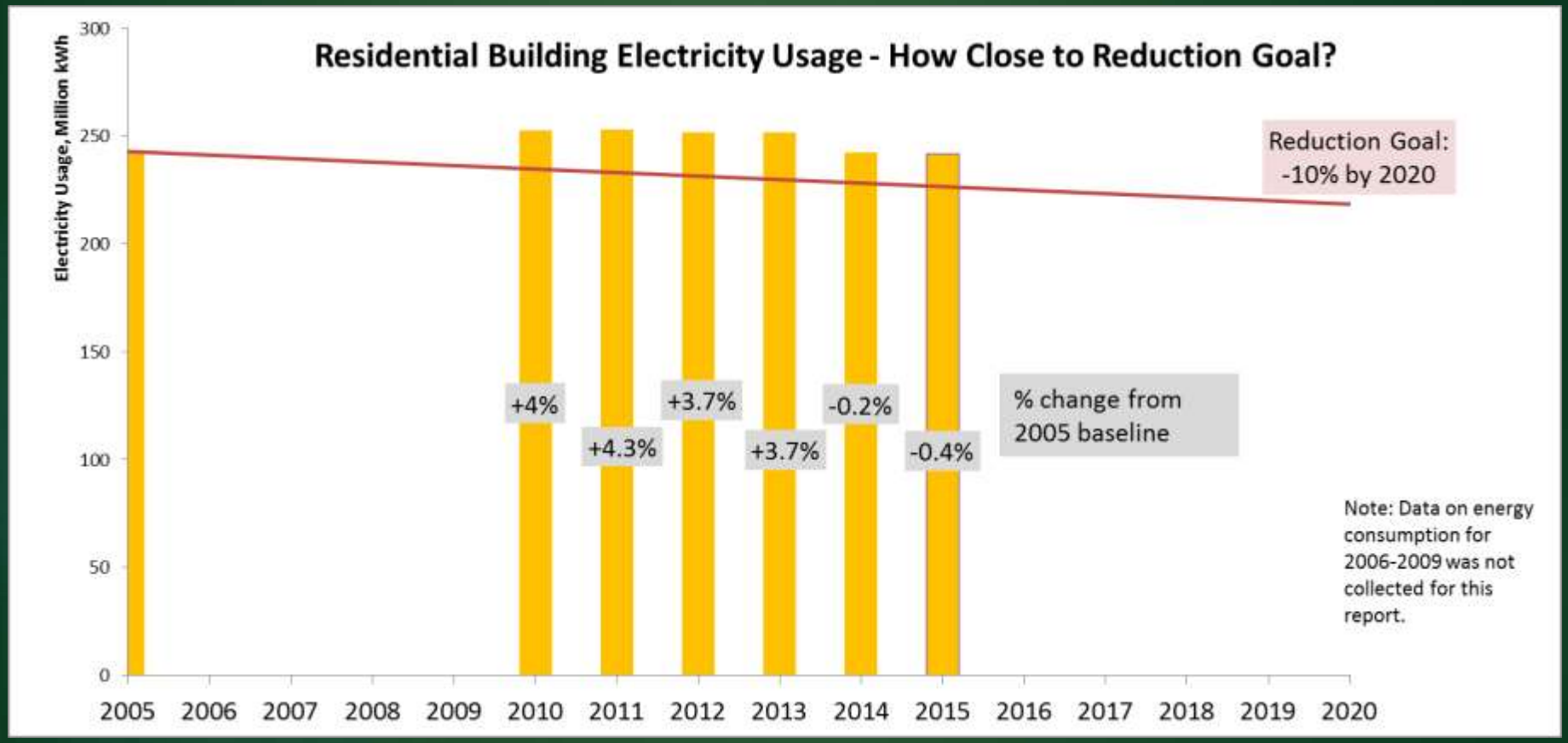
PG&E Emissions Factor

	Electricity Emissions % change	Emissions Factor % change	Electricity usage % change
2010	-10.28%	-9.10%	-1.31%
2011	-11.09%	-11.61%	0.48%
2012	13.36%	13.23%	0.22%
2013	-0.47%	-4.04%	3.69%
2014	3.39%	1.87%	1.78%

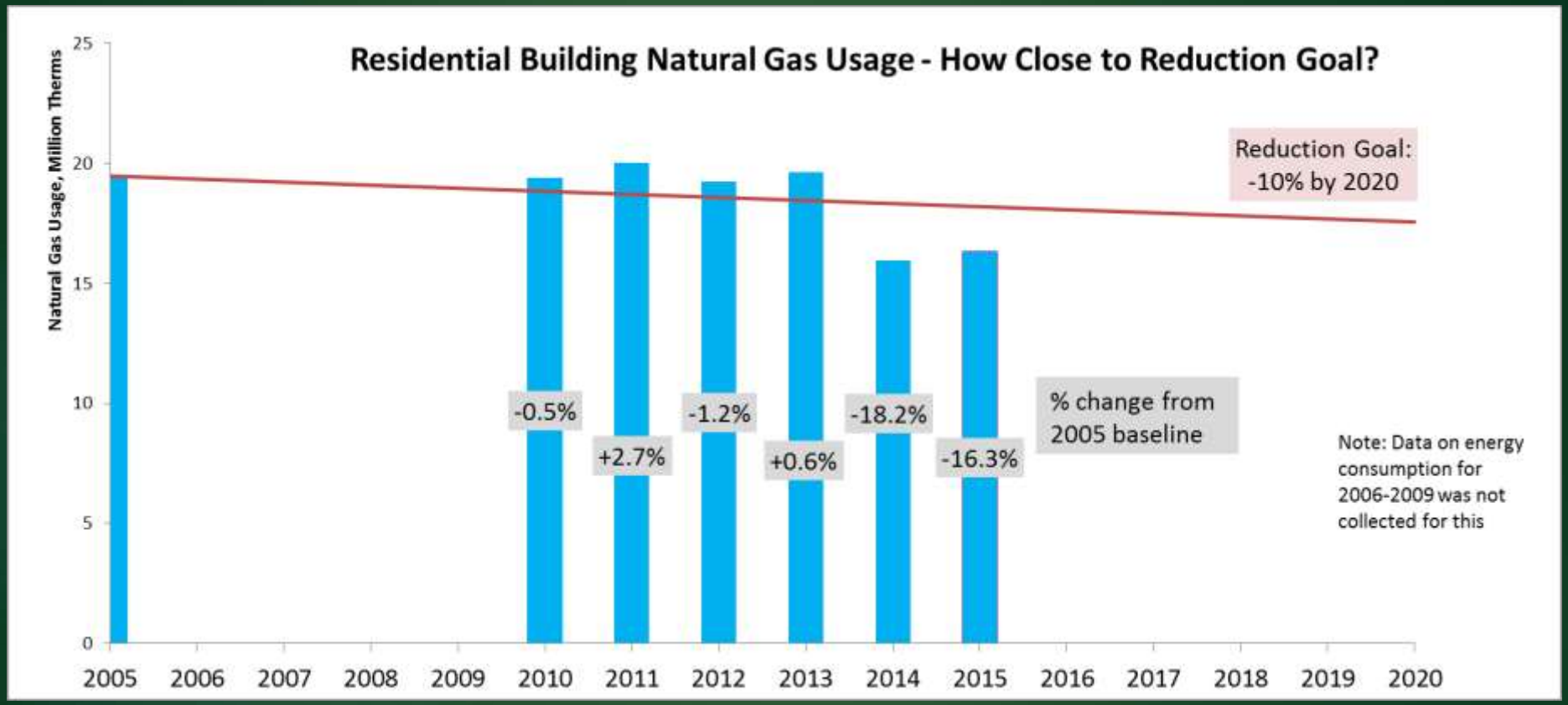
Residential Energy Usage



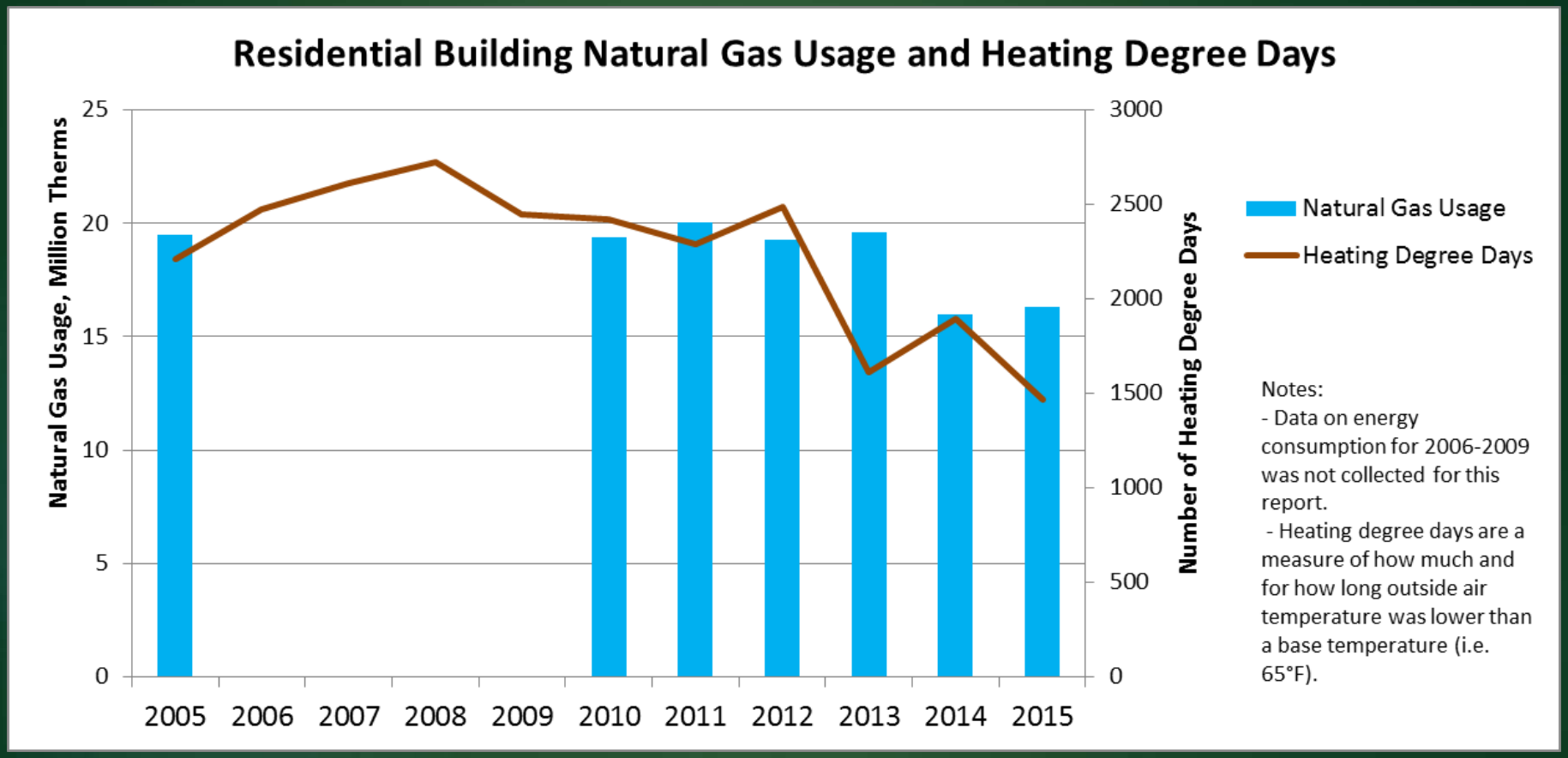
Residential Electricity Usage



Residential Natural Gas Usage



Residential Natural Gas Usage



Questions & Discussion

Net Energy Metering 2.0 Regulations

UTILITIES & ENVIRONMENTAL SERVICES

Mary Thomas
Management Analyst

July 11, 2016

General Plan Policies

NR-4.6 Renewable Energy

The City shall encourage and support the generation, transmission, use, and storage of locally-distributed renewable energy in order to promote energy independence, efficiency, and sustainability. The City shall consider various incentives to encourage the installation of renewable energy projects (i.e. reduced permit fees and permit streamlining).

PFS-8.8 Renewable Energy Integration

The City shall encourage energy providers (e.g., PG&E) to offer their support and assistance in integrating individual renewable energy systems (e.g., solar systems) into the electricity grid.

Solar Permits

Same-Day Solar Tuesday began on September 23, 2014

*2016 data is from January 1 – June 21

Solar Capacity (end of 2015)

1,061 residential sites
Capacity of 4,005 kW

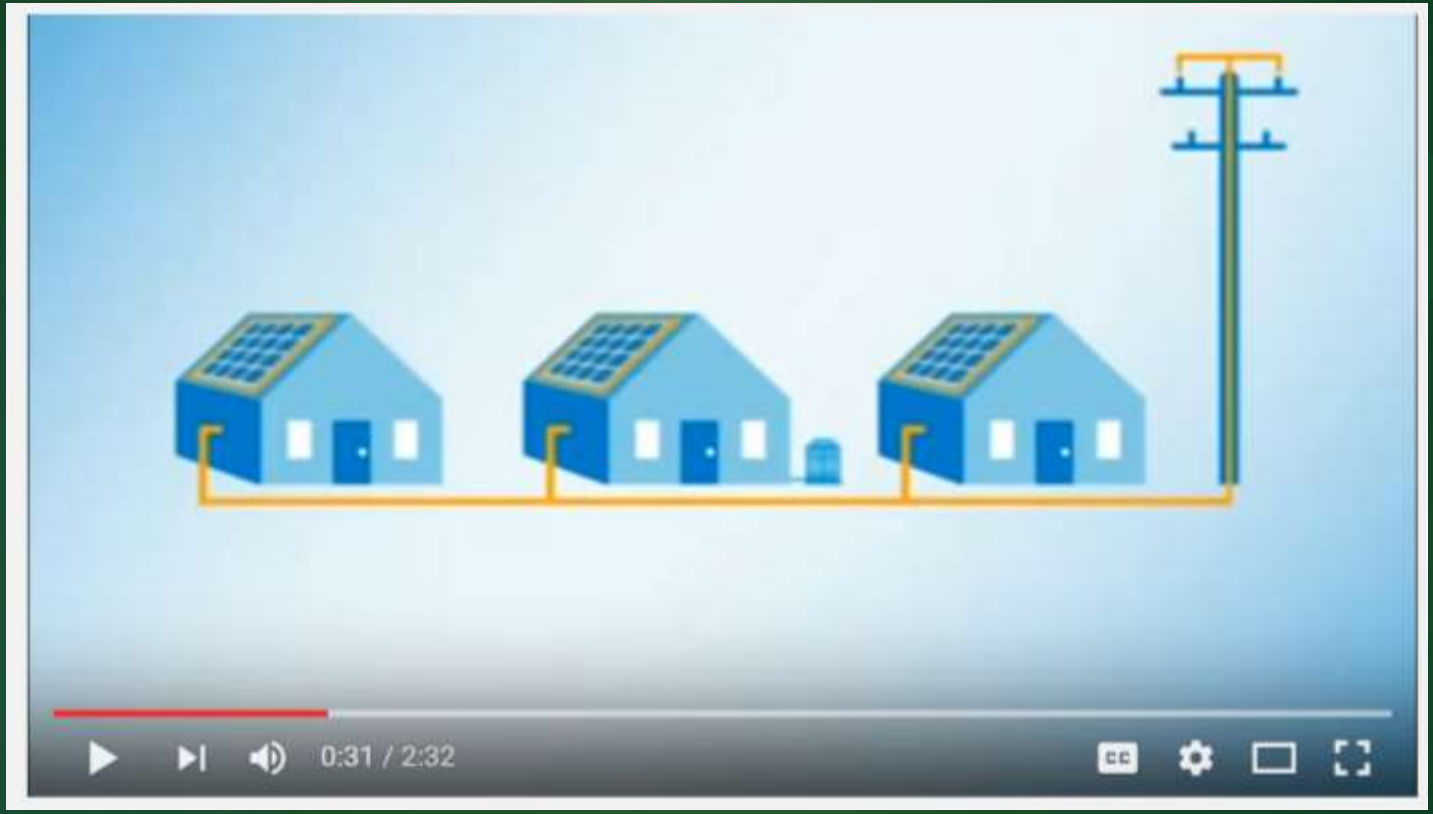
60 non-residential sites
Capacity of 10,278 kW

All systems active and operating at full capacity = 14,283 kW

Average demand for all Hayward PG&E accounts = 110,599 kW

Net Energy Metering

What is it?

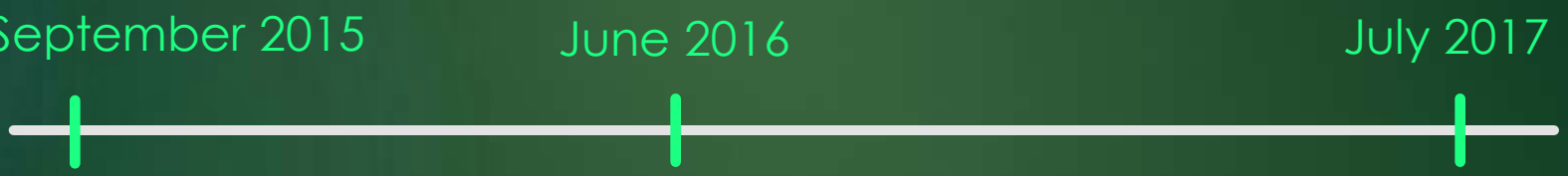


NEM Successor Tariff

CPUC conducted hearings to adopt a NEM Successor Tariff

PG&E reached its 5% cap

Existing NEM tariff structure expires (or when NEM capacity reaches 5% of an IOU's peak demand)



All new solar customers in Hayward will now be enrolled under the Successor NEM Tariff.

NEM Successor Tariff

New residential and small commercial =

- Similar NEM rate structure to existing solar customers
- Added interconnection fee of $75-$150
- An estimated $8-10 in additional monthly charges for public good programs

Large commercial customers =

- Similar NEM rate structure to existing solar customers
- Same flat interconnection fee of $75-$150
- Will pay more each month for public good programs - charges are based on kWhs consumed

NEM Successor Tariff

CPUC will revisit NEM in 2019.

New solar customers will be grandfathered in for 20 years.

Utilities are required to make solar available to multifamily tenants through Virtual Net Metering.

Questions & Discussion

East Bay Community Energy

UTILITIES & ENVIRONMENTAL SERVICES

Erik Pearson
Environmental Services Manager

July 11, 2016

EBCE Update

- Letter to County (with Council comments from June 28)
- Revised Joint Powers Agreement
- Addendum to Tech Study for "Greater Local Renewable Development Scenario"
- Hayward's Priorities
- Next Steps

EAST BAY community energy
The Power to Choose

Joint Powers Agreement

Revisions –

- Section 4.2.1 – revised so that both Directors and alternate Directors must be elected officials.
- Section 4.13 – revised to include term limits for the Chair and Vice Chair of the Board.
- Section 7.3 – time to withdraw changed from 15 to 30 days
- Section 4.11.2 – two or more Directors may request a voting shares vote

Tech Study Addendum

Fourth Scenario Added –

	Scenario 1 Minimum RPS Compliance	Scenario 2 More Aggressive	Scenario 3 Ultra-Low GHG	Scenario 4
Renewable Content	33% in 2020 & 50% in 2030	50% from 1st year	50% from 1st year & 80% by 5th year	**Same as Scenario 2**
GHG compared to PG&E	Higher in every year	Higher for 1st few years	Lower in every year	**Same as Scenario 2**
Anticipated Rate Savings	7%	6.5%	3%	**5.7%**

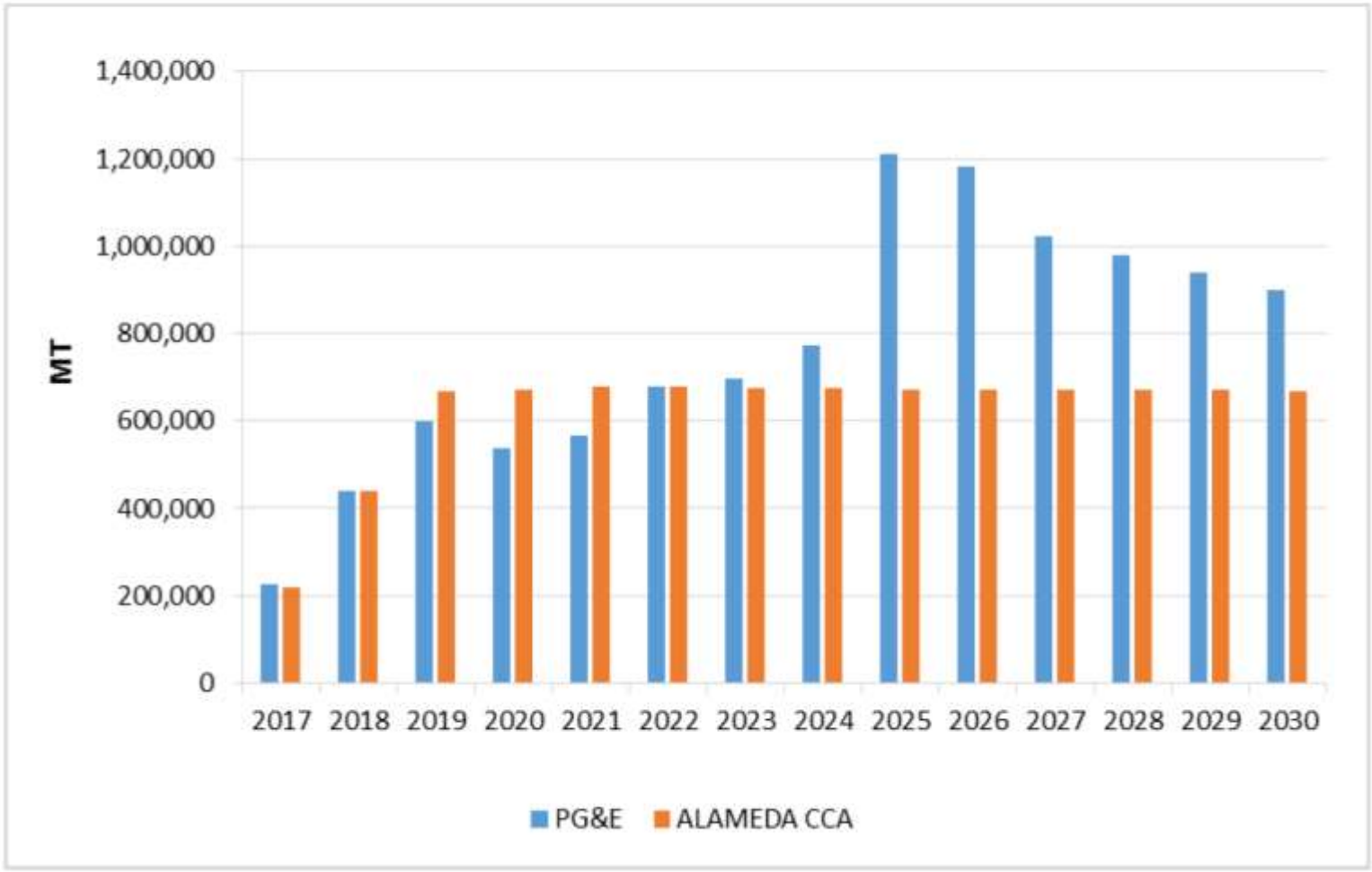
Tech Study Addendum

Fourth Scenario – Job Creation

	Scenario 1 Minimum RPS Compliance	Scenario 2 More Aggressive	Scenario 3 Ultra-Low GHG	Scenario 4
Average Annual Direct Jobs	165	166	174	**579**
Average Annual Total Jobs	1,322	1,286	731	**1,671**

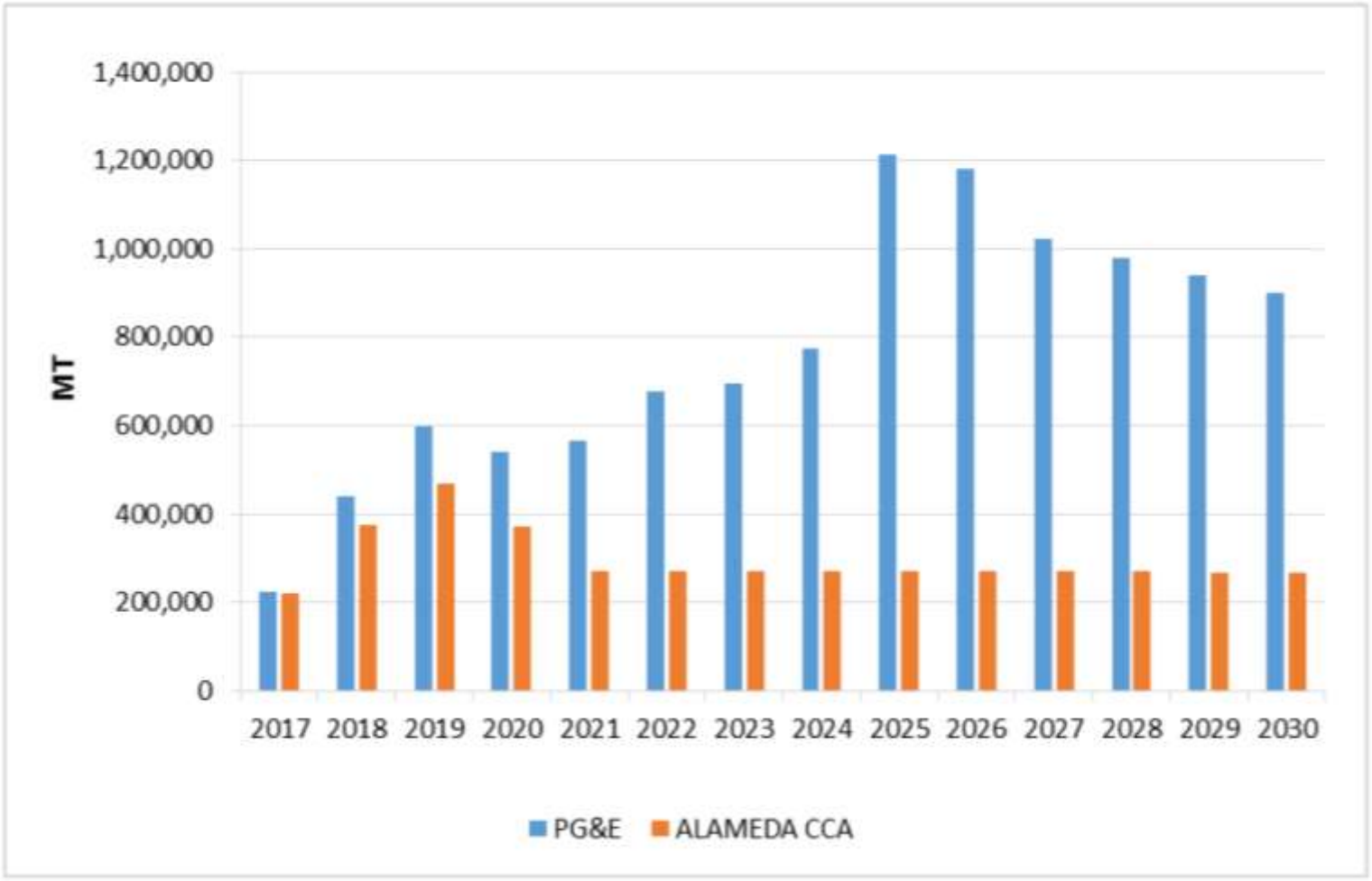
Scenario 2 & 4 Emissions

Figure ES-5. Scenario 2 GHG Emissions by Year (PG&E Normal Hydro Conditions)



Scenario 3 Emissions

Figure ES-6. Scenario 3 GHG Emissions by Year PG&E Normal Hydro Conditions



EBCE

Priorities for Hayward – Should the highest priority be:

- GHG emissions lower than PG&E?
- more renewables (RPS eligible) than PG&E?
- more local renewables?
- local control?
- rates lower than PG&E?
- minimize the use of RECs?
- maximize job creation?
- energy efficiency programs

Sustainability Features

Energy

- EBCE would strive to source cleaner electricity and reduce reliance on fossil fuels

Air

- EBCE would minimize pollutants & GHG Emissions

Purchasing

- EBCE would meet environmental and economic priorities

Next Steps

August 2	County Board of Supervisors to Approve JPA
October 18	Update to City Council
November 1	City Council: Introduce Ordinance to Join JPA
November 15	City Council: Adopt Ordinance to Join JPA

Questions & Discussion