

CITY OF
HAYWARD
HEART OF THE BAY

**Benchmarking the Energy Performance of
Hayward's Municipal Facilities**

April 4, 2012

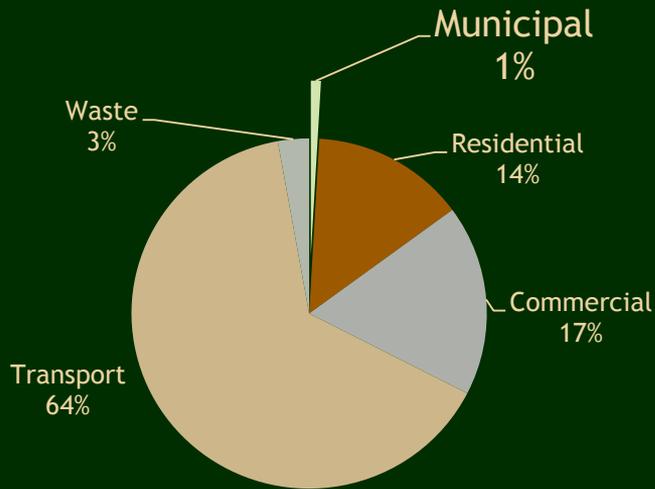
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East Bay Energy Watch
Quantum Energy Services & Technologies

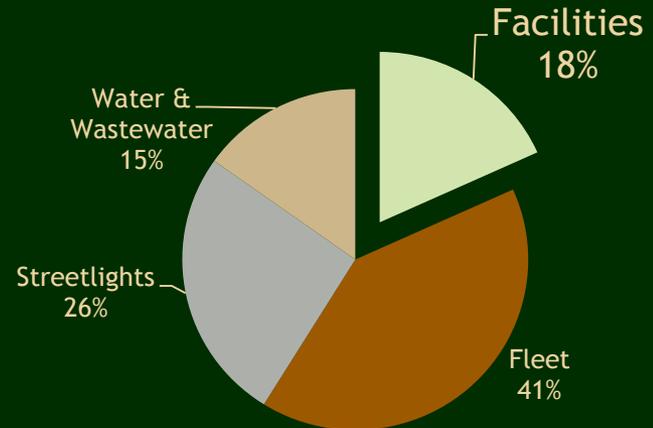


Hayward Municipal GHG Emissions

Hayward GHG Emissions 2010



Hayward Municipal GHG Emissions 2010



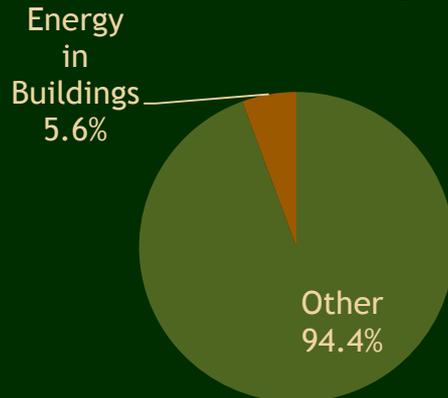
Annual GHG Emissions (MT CO ₂ e)		
Year	Municipal	Municipal Facilities
2005	9,475	1,871
2009	10,143	1,962
2010	8,460	1,789



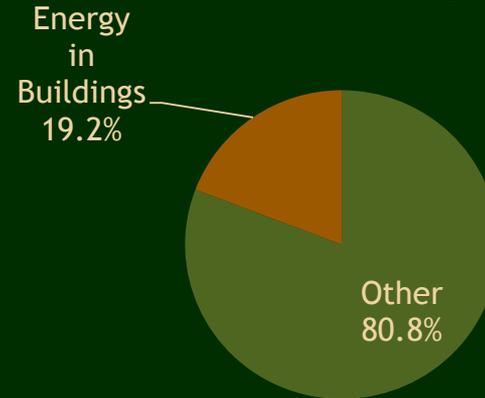
Building Emissions & Energy Use

- Building GHG emissions are directly related to:
 - Amount of energy used
 - Kinds of energy used
- Climate Action Plan Strategy 3 set reduction goals for energy use in all existing buildings in Hayward:
 - Electricity - 65% below BAU
 - Natural Gas - 50% below BAU

2020 Hayward Emissions Reduction Targets

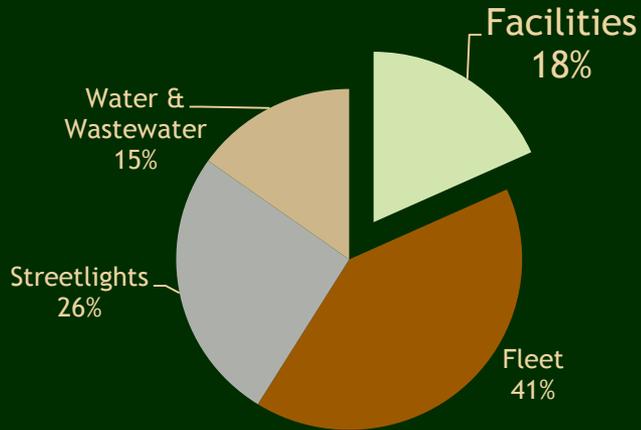


2050 Hayward Emissions Reduction Targets



Energy Use & GHG Emissions in Municipal Buildings

Hayward Municipal GHG Emissions 2010



City of Hayward has acted to implement *Action 3.12: Improve energy performance of City buildings.*

- Lighting retrofits planned for 5 facilities =
 - 394,443 kWh saved
 - 100 MT GHG emissions reduced
- HVAC retrofits implemented in 2 facilities =
 - 178,631 kWh & 9,957 therms saved
 - 98 MT GHG emissions reduced

How can Hayward's government:

- Know if municipal facilities are energy efficient?
- Target other facilities for energy efficiency improvements?
- Verify the persistence of energy savings and GHG reductions?
- Receive national recognition as a leader in energy efficiency?



Energy Benchmarking using EPA ENERGY STAR Portfolio Manager

Hayward can use Benchmarking to:

- Compare their energy performance to that of other, similar buildings.
- Target certain facilities for energy efficiency improvements.
- Identify facilities that are less energy efficient than their peers.
- Verify the persistence of energy savings and GHG reductions.
- Monitor energy performance and GHG emissions over time.
- Receive national recognition as a leader in energy efficiency.

Eligible buildings receive national ratings on a 1-100 scale. Buildings in the top 25% may apply for the ENERGY STAR Award.

*Portfolio Manager is not a diagnostic tool. It provides whole-building metrics that describe the relative efficiency of buildings.

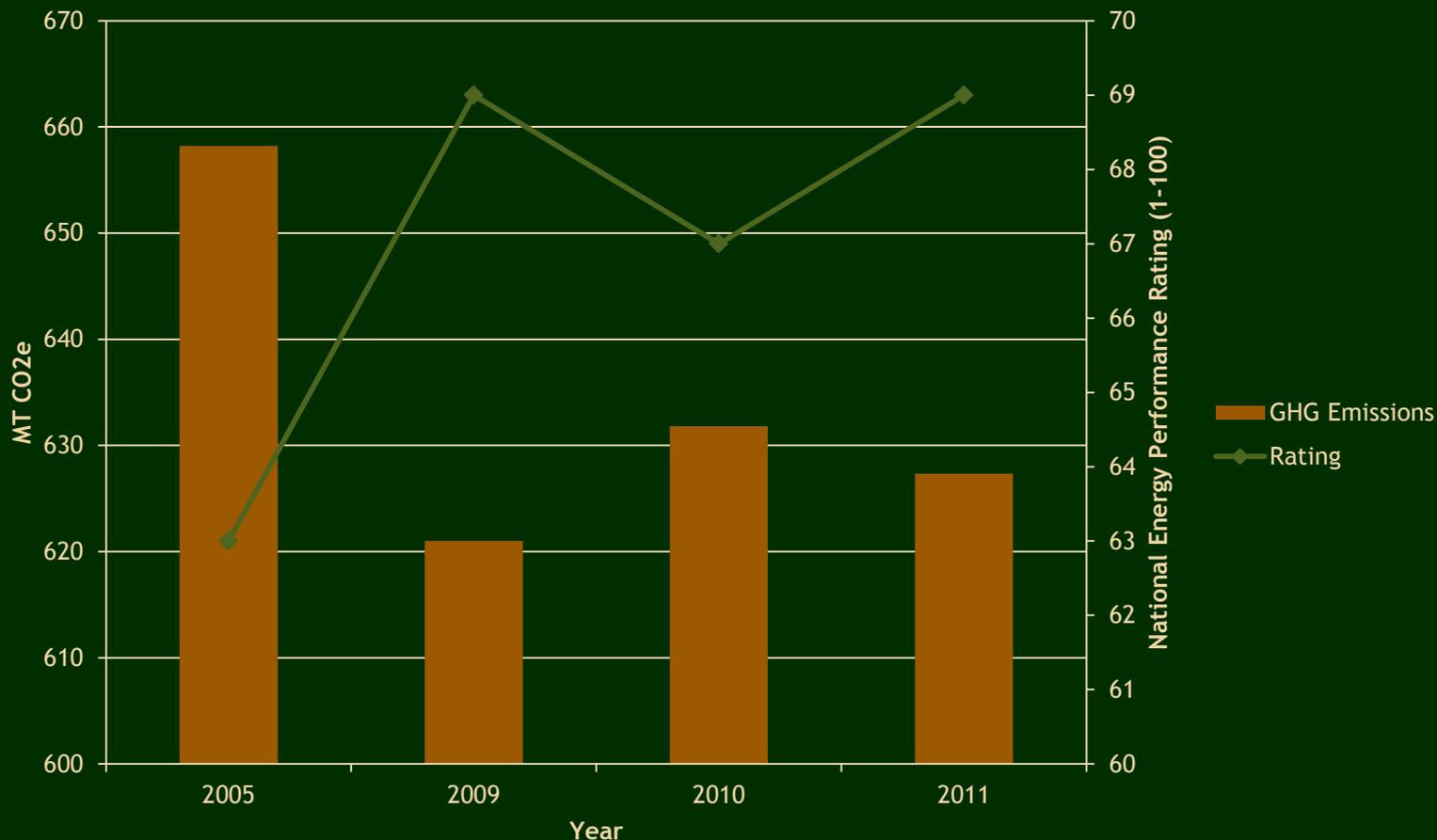


Energy Performance of Hayward's Municipal Buildings

	2005		2009		2010		2011	
	Source Energy Intensity	% Difference from National Median	Source Energy Intensity	% Difference from National Median	Source Energy Intensity	% Difference from National Median	Source Energy Intensity	% Difference from National Median
Cinema Place Parking Garage	N/A	N/A	N/A	N/A	19.4	-84.7	19.4	-84.7
City Hall	201.4	-14.3	190.1	-20.3	192.2	-18	190.5	-20.1
City Hall Parking Garage	N/A	N/A	1.5	-98.8	1.7	-98.7	1.4	-98.9
Fire Station 1	156.9	7.5	160.8	10.1	160.3	9.8	157	7.5
Fire Station 2	142.3	-2.5	109.8	-24.8	105.7	-27.6	108.6	-25.6
Fire Station 3	177	21.2	188	28.8	162.1	11	182.7	25.1
Fire Station 4	179.7	23.1	164	12.3	145.6	-0.3	141.3	-3.2
Fire Station 5	107.1	-26.6	124.1	-15	122	-16.4	123.8	-15.2
Fire Station 6	133.3	-8.7	151.2	3.6	92.7	-36.5	92.2	-36.8
Fire Station 7	186.9	28	190.7	30.6	223.3	52.9	227.8	56
Fire Station 8	50.6	-65.3	N/A	N/A	85.9	-41.2	86.6	-40.7
Fire Station 9	86.5	-40.8	145.1	-0.6	140.2	-4	143.3	-1.8
Fleet								
Mgmt/Streets	139.3	45.1	148	54.2	142.7	48.6	148.9	55.1
Main Library	192.3	-21.8	219.6	-10.7	228.5	-7.1	269	9.3
Police Department	321.1	119.9	325.3	122.8	330.4	126.3	325.6	123
Utilities Building	107.1	-15.7	108.2	-14.8	115.6	-9	118.1	-7
Weekes Branch Library	133.1	-45.9	135.6	-44.9	136.8	-44.4	139.4	-43.3



Energy Performance & GHG Emissions of City Hall



Current National Energy Performance Rating (2011): **69**
Rating Needed to Achieve ENERGY STAR Award: **75**



Next Steps and Recommendations

- All municipal facilities have been audited for energy savings opportunities. Staff members that are trained in Portfolio Manager should monitor energy and emissions.
- Use the results of benchmarking as a way to educate and build awareness among building occupants.
- Take an active role in promoting the use of Portfolio Manager among large commercial property owners.



Questions?

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