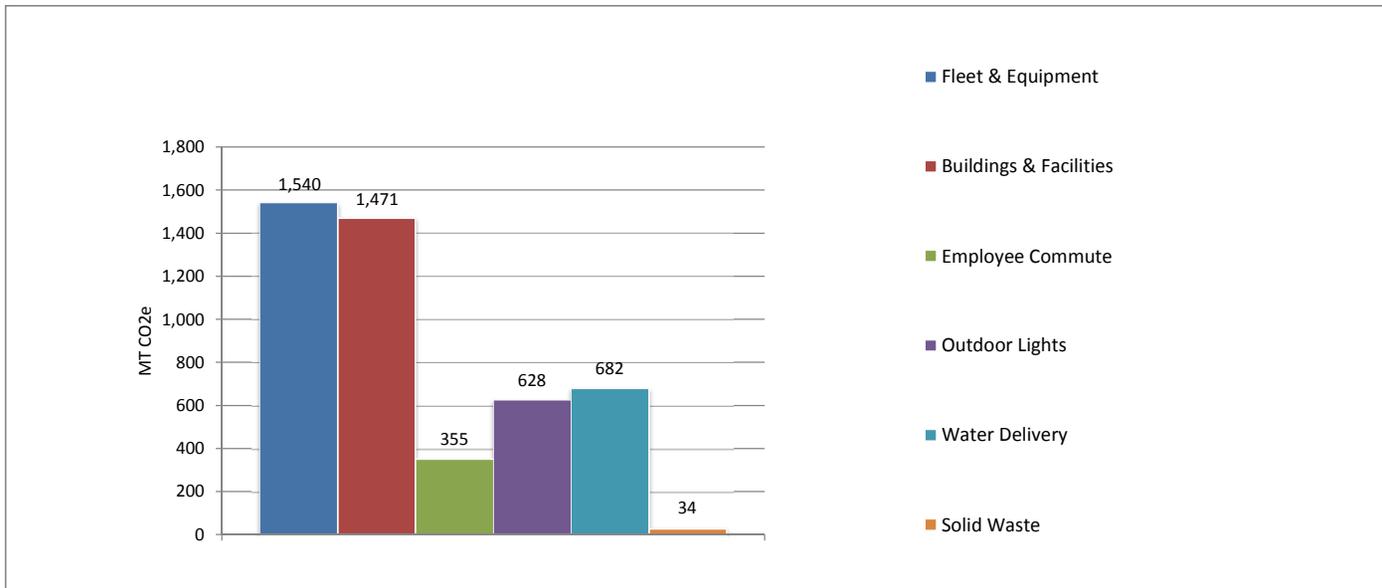
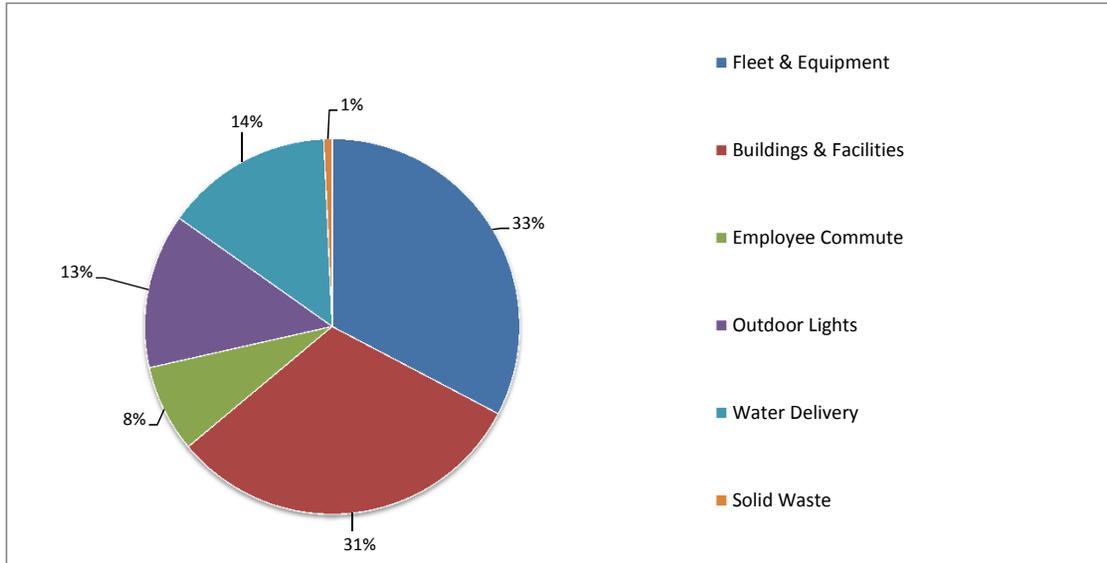
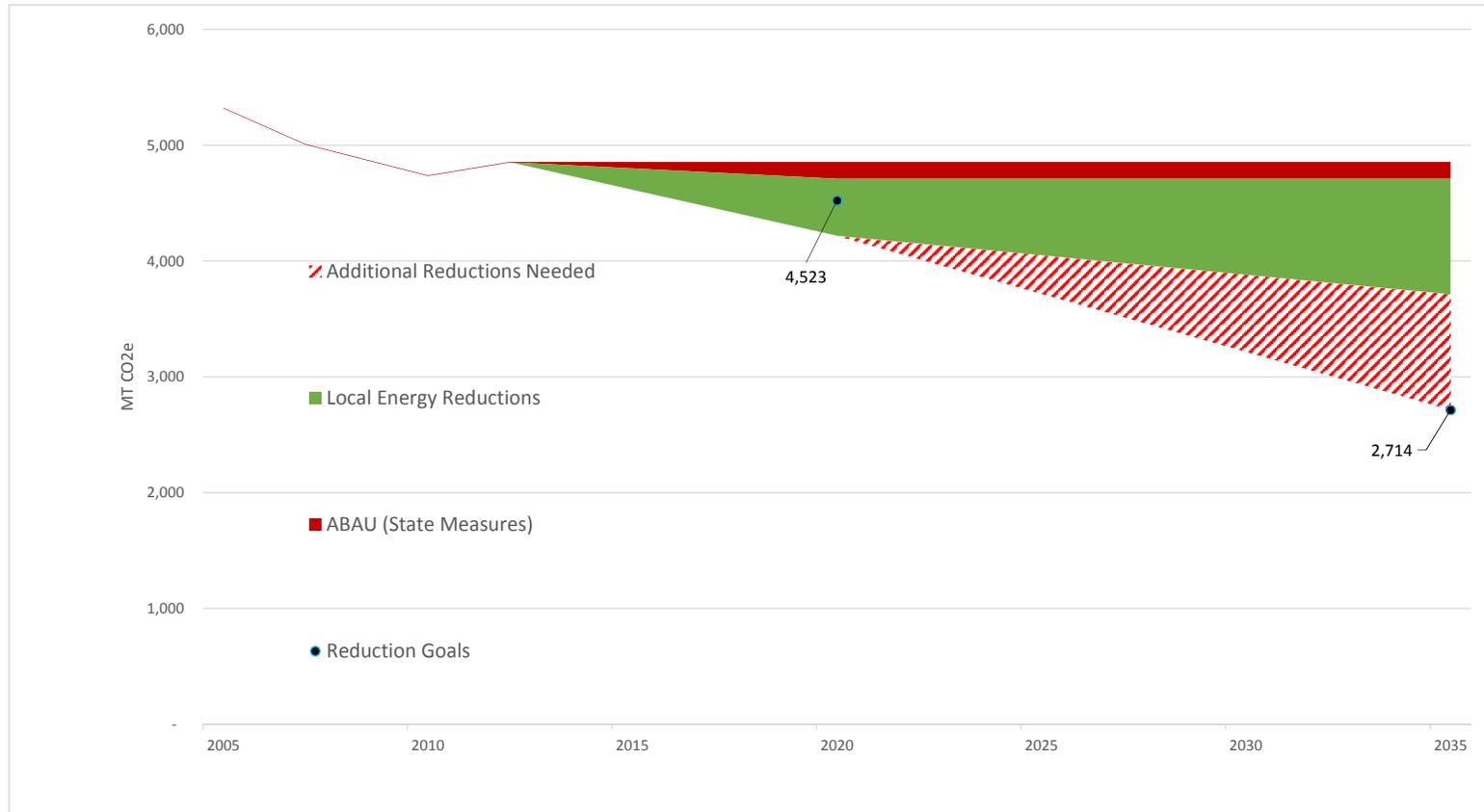


City of Manhattan Beach Municipal Energy Reduction Measures				2015	2020	2035
Goal	Measure	Action	Notes/Assumptions	GHG (MTCO2e)	GHG (MTCO2e)	GHG (MTCO2e)
<b>Goal 1: Participate in Education, Outreach, and Planning for Energy Efficiency</b>				-	-	-
	<b>Measure 1.1</b>	Increase Energy Savings through the SCE Energy Leader Partnership	Platinum Level		Supporting Measures	
<b>Goal 2: Increase Energy Efficiency in Municipal Buildings</b>				<b>217.44</b>	<b>296.79</b>	<b>386.86</b>
	<b>Measure 2.1</b>	Conduct Municipal Building Energy Audit	Completed an Integrated Demand Side Management audit at all eligible facilities greater than 200kW in 2011. Interested in updating energy audits in 2016.		Supporting Measure	
	<b>Measure 2.2</b>	Require Green Building Certification	All applicable City buildings are required to meet at a minimum LEED Gold rating.		<i>Under Consideration</i>	
	<b>Measure 2.3</b>	Implement Water Leak Detection Program	In 2014, the City participated in the Water Leak Detection Program; however, no leaks were detected.	-	-	-
	<b>Measure 2.4</b>	Participate in Demand Response Programs	Implemented/in progress		Supporting Measure	
	<b>Measure 2.5</b>	Adopt a Procurement Policy for Energy Efficient Equipment	Not adopted by council. Procurement policies can reduce government facility energy costs by about 5–10 percent (LBNL, 2002). Since the city has already significantly reduced its energy consumption through other measures, it is assumed that the reduction potential of the procurement policy would be closer to 5%.	-	42.03	132.10
	<b>Measure 2.6</b>	Install Cool Roofs	Will identify potential buildings through upcoming energy audit. Replacing a 1,000 sq. ft. dark roof with a cool roof can reduce approximately 10 MT CO2e.		<i>Under Consideration</i>	
	<b>Measure 2.7</b>	Require New or Retrofitted Buildings to Exceed Title 24	Upcoming energy audit will address this.			
	<b>Measure 2.8</b>	Increase Recycled Water Use	Three percent of the City's water supply comes from recycled water and is used to irrigate many of the City's parklands and roadway medians. Approximately 350 acre feet (AF) of potable water have been replaced by recycled water since 2012. There are no plans for building new reclaimed water lines. Approximately 1,873 kWh can be saved for every AF of water use replaced by recycled water.	209.63	209.63	209.63
	<b>Measure 2.9</b>	Retrofit HVAC Equipment	HVAC units account for approximately 32% of a (commercial) building's energy use. Newer, higher efficiency units are approximately 47% more efficient than older models.	7.80	45.12	45.12
	<b>Measure 2.10</b>	Utilize an Energy Management System	Already in place. COG supported.		Supporting Measure	
<b>Goal 3: Increase Energy Efficiency in City Infrastructure</b>				<b>0.04</b>	<b>194.79</b>	<b>612.19</b>
	<b>Measure 3.1</b>	Retrofit Traffic Signals and Outdoor Lighting	Future projects	-	194.65	611.75
	<b>Measure 3.2</b>	Upgrade or Incorporate Water-Conserving Landscape	The City converted Strand Garden in 2013 into a water conservation demonstration project and replaced approximately 0.05 acres of landscaping. The City can save 2,282 kWh annually per acre of lawn converted to water conservation landscaping.	0.04	0.14	0.44
	<b>Measure 3.3</b>	Plant Trees for Shade and Carbon Sequestration	The City is not currently planting trees due to the drought. The average mature tree can save an average of 170 kWh and absorb as much as 48 lbs. of CO2 per year.		<i>Under Consideration</i>	
<b>Goal 4: Reduce Energy Consumption in the Long Term</b>				-	-	-
	<b>Measure 4.1</b>	Develop an Energy Reinvestment Fund	Interested		Supporting Measure	
<b>TOTAL</b>				<b>217.48</b>	<b>491.57</b>	<b>999.04</b>

### City of Manhattan Beach Municipal 2020 ABAU Inventory



**FIGURE 1: State and Local Reductions Comparison with Targets  
City of Manhattan Beach, 2005 - 2035**



State measures and reduction goals are from the *City of Manhattan Beach GHG Inventory, Forecasting and Target-Setting Report for an Energy Efficiency Climate Action Plan, 2015*.

Local energy reductions are based on City's feedback on measures selection.

City of Manhattan Beach will meet their reduction goal in 2020 with the help of both state and local reduction measures. Additional reductions are needed to meet the 2035 reduction goal. Changes to Fleet & Equipment are recommended.

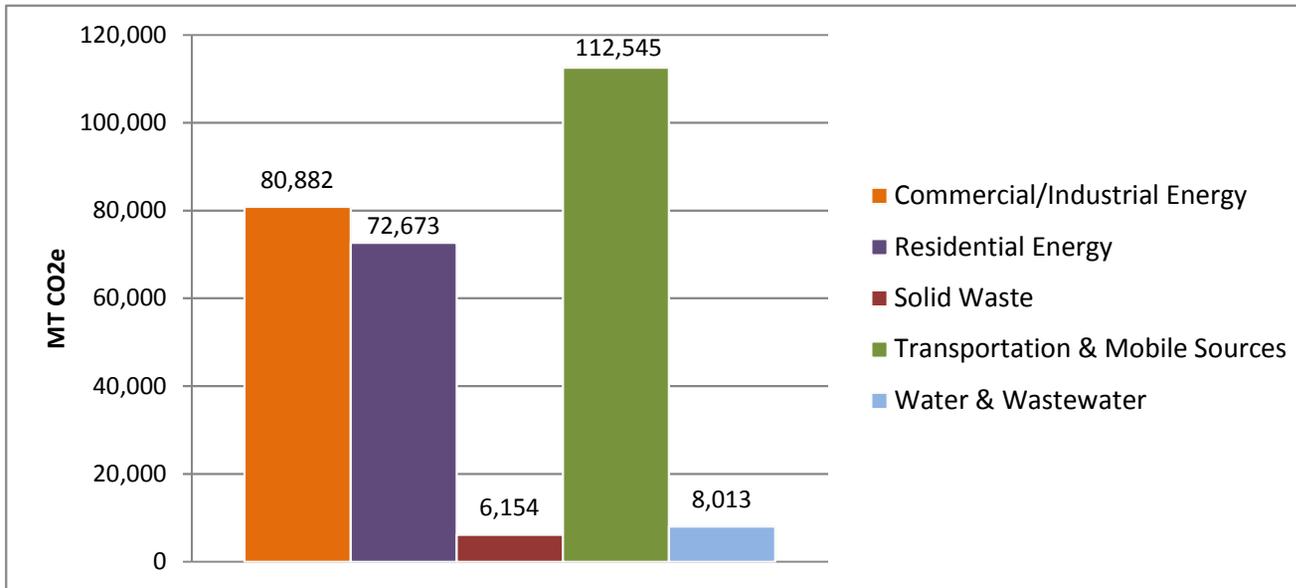
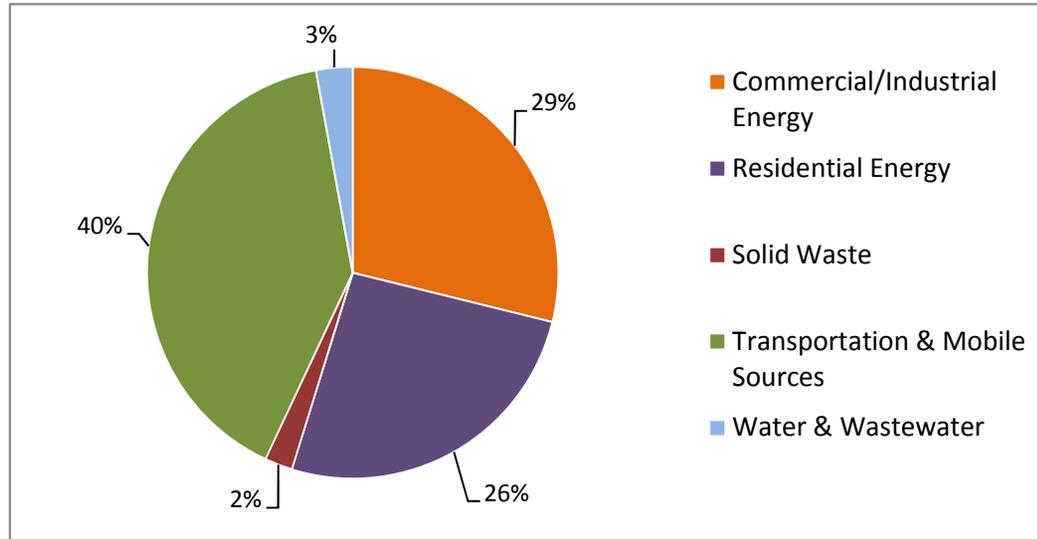
**City of Manhattan Beach Community Energy Reduction Measures**

Goal	Measure	Action	Responsibility/ action needed for implementation	2020 GHG Reductions Achieved	2035 GHG Reductions Achieved	GHG Reduction Potential	Participation Rate	
Goal 1.	<b>Increase Energy Efficiency (EE) in Existing Residential Units</b>							
	Measure 1.1	<b>EE Training and Education</b>			The actions taken by the City and COG can increase participation levels of other programs within Goal 1 by 175%	Supporting Measure		
		Actions	Post Links on Website/social media and provide materials at public events	COG/Ongoing, expecting updated info from COG				High
			Email list for e-mail blasts of new information or trainings	Ongoing, quarterly newsletter				Low
			Establish an annual EE Fair	Ongoing, Earth Day/Hometown Fair in Oct				High
			Create a resource center	Potential, a kiosk in new library				Low
			Hire/Designate Energy Advocate	Ongoing, 1 staff facilities supervisor				High
	Measure 1.2	<b>Increase Participation in Existing EE Programs</b>			25	120		
		Actions	Partner with COG and utilities in outreach programs	COG/Ongoing			Low	High
			Direct staff outreach	Ongoing, outreach on EE fairs				High
	Measure 1.3	<b>Establish, Promote, or Require Home Energy Evaluations</b>			The actions taken by the City and COG can increase participation levels of other programs within Goal 1 by 50%		Supporting Measure	
		Actions	Promote home energy audits	COG/City does not do much				Low
			Establish new "checkup" program	Participate in COG supported program				Low
	Measure 1.4	<b>Promote, Incentivize, or Require Residential Home Energy Renovations</b>			9,256	43,968		
Actions		Promote existing incentivized programs such as Energy Upgrade California					High	
		Develop/promote green building program	Promote				Low	
		Promote financing programs such as PACE programs	Ongoing, LA PACE residential start in 2015, HERO potential			Medium-High	High	
		Permit processing facilitation: waived fees	Ongoing, waiver for solar projects				High	
		Permit processing facilitation: online	In progress. Online by 2017.				High	
		Develop a Residential Energy Conservation Ordinance (RECO)	Ongoing, toilet upgrades at time of sale				High	
Goal 2.	<b>Increase Energy Efficiency (EE) in New Residential Development</b>							
	Measure 2.1	<b>Encourage or Require EE Standards Exceeding Title 24</b>			31	148		
		Actions	Train staff on programs and measures that exceed current EE requirements	In the future				Low
			Promote green building programs or Tier 1/Tier 2 at plan check	Promote			Low-Medium	Low
			Permit processing facilitation: waived fees	Ongoing, waiver for solar projects				High
		Permit processing facilitation: online	In progress. Online by 2017.				High	
	Create an Energy Award Program for near net-zero energy homes	Ongoing, promote on website				High		

Goal	Measure	Action	Responsibility/ action needed for implementation	2020 GHG Reductions Achieved	2035 GHG Reductions Achieved	GHG Reduction Potential	Participation Rate
<b>Goal 3.</b>	<b>Increase Energy Efficiency (EE) in Existing Commercial Units</b>						
	<b>Measure 3.1</b>	<b>EE Training and Education</b>					
		Post Links on Website/social media and provide materials at public events	Ongoing	The actions taken by the City and COG can increase participation levels of other programs within Goal 3 by 175%		Supporting Measure	High
		Email list for e-mail blasts of new information or trainings					Low
		Establish an annual EE Fair	Ongoing, Earth Day/Hometown Fair				High
		Create a resource center					Low
		Hire/Designate Energy Advocate	Ongoing, 1 staff				High
	<b>Measure 3.2</b>	<b>Increase Participation in Existing EE Programs</b>		361	1,716		
		Partner with COG and utilities in outreach programs	COG/Ongoing			Medium	High
		Direct staff outreach	Ongoing, monthly board meetings presentation, send through email				High
	<b>Measure 3.3</b>	<b>Promote or Require Non-Residential Energy Audits</b>					
		Promote business energy audits	Ongoing, part of 2012-2013 environmental action plan	The actions taken by the City and COG can increase participation levels of other programs within Goal 3 by 25%		Supporting Measure	Low
	<b>Measure 3.4</b>	<b>Promote or Require Commercial Energy Retrofits</b>		11,286	53,609		
		Promote existing incentivized programs such as Energy Upgrade California					High
		Develop/promote green building program	City & COG/Ongoing, reward sustainable behavior, Cal green bus network from COG			Medium-High	High
		Promote financing programs such as PACE programs	Ongoing, LA PACE				High
		Permit processing facilitation: waived fees	Ongoing, waiver for solar projects				High
		Permit processing facilitation: online	In progress. Online by 2017.				High
		Develop a Commercial Energy Conservation Ordinance (CECO)	Ongoing, require LEED Silver for >10,000sf, potential for smaller facilities				High
<b>Goal 4.</b>	<b>Increase Energy Efficiency (EE) in New Commercial Development</b>						
	<b>Measure 4.1</b>	<b>Encourage or Require EE Standards Exceeding Title 24</b>		1,648	7,826		
		Train staff on programs and measures that exceed current EE requirements	Ongoing				High
		Promote green building programs or Tier 1/Tier 2 at plan check	Ongoing, require LEED Silver for >10,000sf new dev.			Low-Medium	High
		Permit processing facilitation: waived fees	Ongoing, waiver for solar projects				High
		Permit processing facilitation: online	In progress. Online by 2017.				High
		Create an Energy Award Program for near net-zero energy businesses	Add category to existing green business award program				High

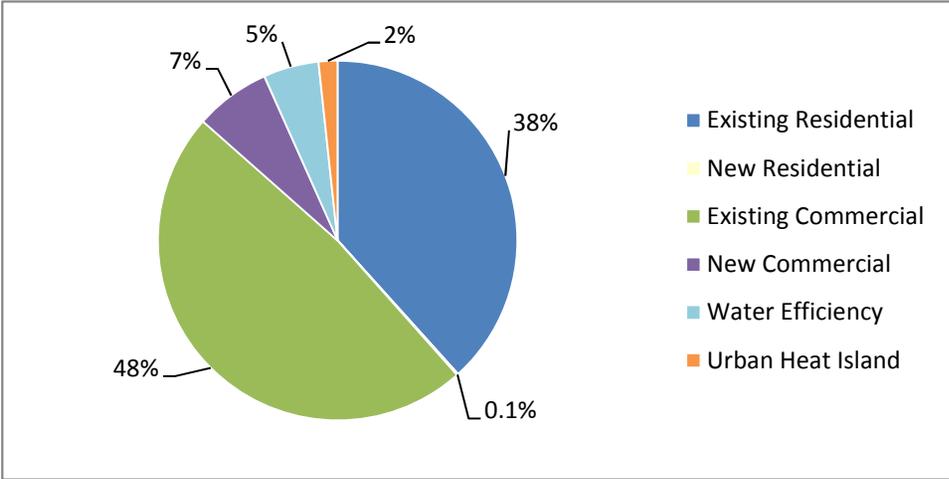
Goal	Measure	Action	Responsibility/ action needed for implementation	2020 GHG Reductions Achieved	2035 GHG Reductions Achieved	GHG Reduction Potential	Participation Rate
<b>Goal 5.</b>	<b>Increase Energy Efficiency (EE) through Water Efficiency (WE)</b>						
	<b>Measure 5.1</b>	<b>Promote or Require WE through SBX7-7</b>		1,189	5,648		
	<b>Actions</b>	Post Links on Website/social media and provide materials at public events	Ongoing			Medium	High
		Email list for e-mail blasts of new information or trainings	Ongoing, water info in newsletter and bills				High
		Require low-irrigation landscaping	Completed				High
	<b>Measure 5.2</b>	<b>Promote WE Standards Exceeding SB X7-7</b>		14	66		
	<b>Actions</b>	Staff conduct direct outreach to HOAs, businesses, community groups	Ongoing, landscape audit program, promote irrigation audit				High
		Promote use of greywater systems	Ongoing, since 2010			Low-Medium	Low
		Work with Water District to increase recycled water potential	Ongoing, since 2010				High
		Promote rain harvesting rebates	Ongoing, promote with rest of watersmart				High
<b>Goal 6.</b>	<b>Decrease Energy Demand through Reducing Urban Heat Island Effect</b>						
	<b>Measure 6.1</b>	<b>Promote Tree Planting for Shading and EE</b>		415	1,971		
	<b>Actions</b>	Promote tree planting at plan check	Trees required for new development or major reconstruction			Low	High
		Work with community to develop tree-planting groups	Ongoing, tree committee since 2008				High
		Develop a tree-planting program	Ongoing. Urban Forest Master Plan.				High

# City of Manhattan Beach Community 2020 ABAU Inventory

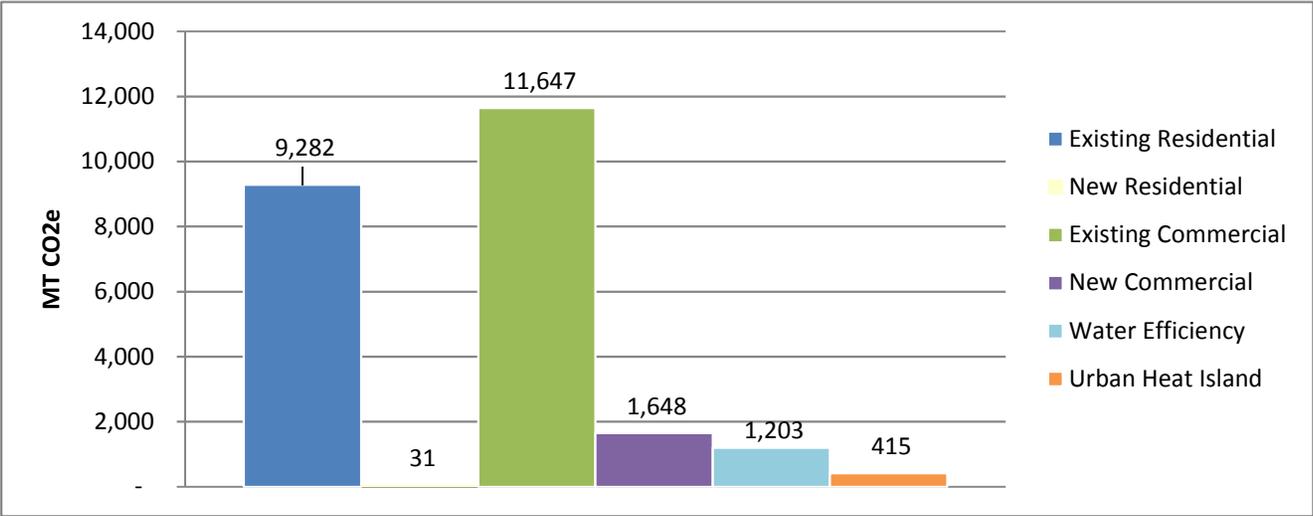


# City of Manhattan Beach Community Energy Reduction Measures

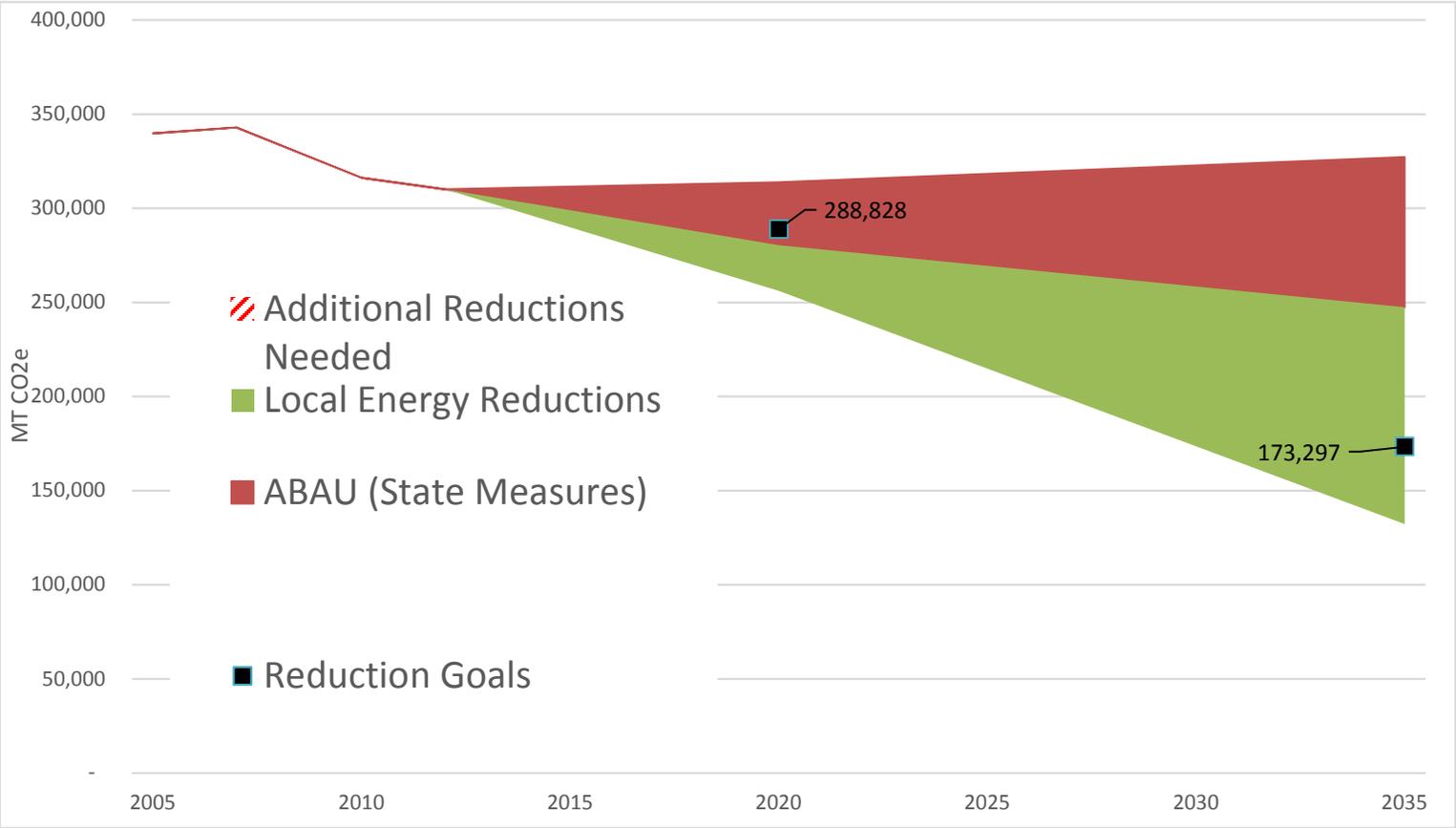
**FIGURE 1: Local Energy Reduction Quantification by Goal (2020)**



**FIGURE 2: Local Energy Reduction Quantification by Goal (2020)**



**FIGURE 3: State and Local Reductions Comparison with Targets  
City of Manhattan Beach, 2005 - 2035**



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