Buildings and Energy Use - DRAFT

Source of emissions: stationary combustion of natural gas, electricity use, and lifecycle emissions of materials

Goal: Reduce building energy consumption, source 80% of electricity from renewable sources by 2030, and reduce natural gas use by 50%

Pathway to success: Increase electricity sourced from renewables combined with distributed energy storage; update utility infrastructure; increase building and appliance efficiency, replace natural gas appliances with electric

	Related 2010 CAP Action (if applicable)	Comments:
Objective: Reduce Residential Building Energy Use by 65%		
Measure: Disclose building energy consumption		
Develop a residential and/or multi-family energy assessment ordinance requiring disclosure at the time of sale, major remodel, rental, or other trigger point	**BE-2.1 A**	
Partner with home energy audit providers to develop public outreach programs on residential energy efficiency retrofits, with a focus on post audit follow-through	**BE-2.3A**	
Increase knowledge of and encourage residents to use PGE's "My Energy" analyses to compare and understand energy and natural gas use	**BE-6.3A**	
Measure: Reduce electricity and natural gas consumption		
Encourage utilities' to develop and implement demand-side management programs		
Promote and incentivize residential energy conservation and efficiency retrofits (i.e. insulation, energy-efficient windows, etc.) for existing buildings	**BE-2.2A, BE-2.2B, BE-2.2C**	
At point of replacement, consider requiring the installation of energy conserving appliances and fixtures, such as on-demand tank-less water heaters, Energy Star appliances, and LED lightbulbs		
Promote Property Assessed Clean Energy (PACE) financing and other energy improvement financing programs	**BE-2.2A**	
Consider requiring Zero Net Energy (ZNE) construction for new construction		
Develop an energy roadmap for homeowners - a basic 'how-to' guide on reducing energy consumption and making cost-effective energy efficiency renovations		
Host educational events on the availability of statewide code changes, energy retrofits, financing options, and the benefits of GHG reduction efforts		
Create a residential energy reduction challenge program		
Provide case studies/awards/highlights for property owners who set good sustainability examples (i.e. solar, LEED, drought-tolerant landscape, etc.)		
Measure: Switch from natural gas to electric appliances, paired with renewable energy		
Educate residents on the options for electric appliances, such as furnaces, water heaters, dryers, stoves, and more, as well the importance of pairing electrification with the installation of renewable energy		
Consider requiring electric appliances for new construction		
Provide incentives to convert existing residences from natural gas to electric appliances		
Objective: Reduce Commercial Building Energy Use by 50%		
Measure: Disclose building energy consumption		
Develop a commercial energy assessment ordinance requiring disclosure at the time of sale, major remodel, rental, or other trigger poin	**BE-3.1A**	
Partner with energy audit providers to develop public outreach programs on commercial energy efficiency retrofits, with a focus on post audit follow-through	**BE-3.2B**	
Measure: Reduce electricity and natural gas consumption		
Educate commercial building owners on PG&E's Automated Demand Response and other energy management programs		
Provide 100% of commercial building owners with information on Smart Lights, BEST, and other commercial energy efficiency programs	**BE-3.2C, BE-3.3A**	
Promote and incentivize commercial energy conservation and efficiency retrofits (i.e. insulation, energy-efficient windows, etc.) for existing buildings	**BE-3.2A, BE-3.2B, BE-3.2C, BE-3.3A**	
At point of replacement, consider requiring the installation of energy conserving appliances and fixtures, such as on-demand tank-less water heaters, Energy Star appliances, and LED lightbulbs		
Promote Property Assessed Clean Energy (PACE) financing and other energy improvement financing programs	**BE-3.2A, BE-3.2C**	
Require Zero Net Energy (ZNE) construction for new construction		
Measure: Switch from natural gas to electric appliances, paired with renewable energy		
Educate business owners on the options for electric appliances, such as furnaces, water heaters, and more, as well the importance of pairing electrification with the installation of renewable energy		
Consider requiring electrification of appliances for new construction		
Provide incentives to convert existing commercial buildings from natural gas to electric		

Objective: Increase Renewable Energy to 100%		
Measure: Pass a City resolution committing Piedmont to being a renewable energy city		
Resolve to meet 100% of community-wide electricity demand with renewable energy sources by the year 2030		
Measure: Install on-site renewable energy		
Consider requiring all new construction or existing buildings that increase their area by more than 75% to install on-site solar to off-set at least 75% of their electricity usage		
Target 100% of buildings with solar to install battery storage		
Consider requiring buildings that undergo roof replacements to be "solar ready'		
Increase outreach for solar installation programs and incentives, including community-based social marketing campaigns, public workshops, and partnering with utilities	**BE 5-1A, BE-5.1B**	
Develop a reach code to phase-out electric service panels below a 400-amp capacity at time of upgrade		
Measure: Increase the amount of renewable energy delivered through the grid		
Join East Bay Clean Energy (EBCE) and provide educational support to residents throughout to transition to Community Choice Energy (CCE)	**BE-6.2A**	
Encourage EBCE to have a deep green (100% renewable) option and target 50% of residents selecting this option by 2025 and 75% by 2030		
Objective: Partner with Schools to Reduce Energy Use		
Measure: Reduce energy consumption in school buildings		
Create a building energy performance challenge in schools to both reduce energy use and educate students on energy efficiency		
Partner with public schools to implement green building strategies for new construction or renovations		
Objective: Reduce Local Air Pollution and High Global Warming Potential Gases		
Measure: Decrease the impact of Piedmont's building stock on pollution and GHG emissions		
Prohibit wood-burning fireplaces in new development and encourage retrofitting existing wood-burning fireplaces with natural gas or electric alternatives		
Consider requiring that new air conditioning and refrigeration units use refrigerants with low global warming potential (e.g. CO2 or ammonia instead of hydrofluorocarbons)		
Consider requirng the installation of exterior electrical outlets to promote the use of electric landscape maintenance equipment		
Objective: Investigate Infrastructure Upgrades and New Technologies		
Measure: Consider district heating		
Assess the potential for district heating in Piedmont, including a density assessment to evaluate potential costs, mapping the City's heating and cooling demand (including building stock and consumption data)		
Map the city's local heat and cooling demand (data on building stock, owners, storage, consumption data)		
Create an energy plan that integrates district energy into land use, require energy assessments for new developments		
Measure: Investigate possibilities for micro-grids		
Explore micro-grids as a carbon reduction and resiliency strategy		
Coordinate and map micro-grids for energy reliability in the case of a natural disaster		
Measure: Explore deep decarbonization infrastructure changes		
Phase out natural gas appliances and reduce the need for new natural gas lines		