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Executive Summary

CLIMATE LA

Municipal Program Implementing the GreenLA Climate Action Plan



EnvironmentLA.org

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EXECUTIVE SUMMARY

Los Angeles is home to more than 4 million people in diverse communities covering 470 square miles. In economic terms, the City is far more than an iconic entertainment capital. It is a major global trade hub, taking in 43% of all U.S. imports and powering much of the Southern California economy, the 14th largest in the world.

Yet economic success has not prepared us for our biggest environmental challenge. In fact, our very progress has contributed to global climate change, one of history's greatest crises. Leading scientists predict that climate change will have major impacts on the environment, economies, and public health around the world. For Los Angeles, this means summers could be even hotter and longer, with double the number of heat-wave days per year. We could see 75-85% more days with poor air quality and high ground-level ozone, which could cause more heat-related deaths and strain on those with respiratory and cardiovascular disease. Rainfall patterns could change, increasing the number of severe droughts and decreasing the snowmelt that is our primary source of drinking water. Sea-level rise could impact coastal neighborhoods and increase salt-water intrusion into drinking water supplies. In the worst-case scenario, rising seas flood the Port of Los Angeles and sever the City's connection to international trade.

To protect the climate and safeguard our future, every city must take responsibility for its contributions to climate change. Los Angeles emitted more than 50 million metric tons of carbon dioxide (CO₂), in

2004—about the same amount as the entire country of Sweden. Mayor Antonio Villaraigosa and the City of Los Angeles have developed a bold response to the climate challenge, promising to reduce emissions of CO₂, the most common greenhouse gas (GHG), to 35% below 1990 levels by 2030.

In May 2007, the City published "*Green LA: An Action Plan to Lead the Nation in Fighting Global Warming.*" This climate action plan includes more than 50 actions to reduce our GHG emissions, as well as measures to adapt to the effects of climate change. The plan directs City departments, led by EnvironmentLA (ELA), to compile a set of actions that will meet Los Angeles' GHG reduction goals. The departments have been working hard to respond to the challenge ever since. The result is **ClimateLA**, a program that will carry out the Green LA Plan.

While the risks associated with climate change are high, the benefits of acting today are also high—and achievable. Reducing carbon emissions will improve air quality, create a more livable city, and promote cutting-edge green technology that can be marketed around the world. The threat of climate change is actually an opportunity to transform Los Angeles into the greenest big city in America—a model of sustainability for the 21st century.

ClimateLA Implementation of the GreenLA Plan

The GreenLA Climate Action Plan identifies over 50 individual action items—some new, many on-going—that will lead Los Angeles to lower GHG emission levels. These actions form the core of the City's program and include measures over which the City has a great deal of control. They include changes to City operations, goals for changing City employee behavior, further encouraging sustainable practices for the private sector and residents, and greening City facilities of regional importance.

ClimateLA, as the implementation program for the GreenLA Plan, describes each of these action items, providing a context, lead departments, and importantly, a timeline for completion of each measure. Where possible, we have calculated the potential CO₂ emission reductions from full implementation of the measures. We will continue to add calculations as we obtain more information about the specific GHG benefits of the measures.

In a reporting sense, many of the emission reductions achieved will be attributed to the municipality of Los Angeles. For example, as the City uses less diesel and gasoline in fleet vehicles, emission reductions will accrue to the City's emissions reporting. On the other hand, increased residential recycling rates due to the expanded curbside recycling program can be attributed to the "community" of Los Angeles. No matter the source, all of these emission reductions are necessary to meet our combined, community-wide goal of reducing GHG emissions to 35% below 1990 levels. Future documents will further explore the accounting of emission reductions as the methodologies and protocols for this mature.

While **ClimateLA** 2008 primarily addresses the measures from the GreenLA Plan, the **ClimateLA** program will continue to grow. As noted later in this Summary, the City is pursuing a public engagement strategy with residents and businesses on climate change and is soliciting input on the existing measures and new measures to add to the Program. We will expand the **ClimateLA** implementation program to incorporate new ideas, fill in gaps, and address strategies that are outside the City's direct control. Some of these new measures may require legislative action by the City to ensure implementation; the City may also consider incentive programs or other ways of encouraging private actions to reduce GHG emissions. The actions in this document set us on a solid path toward the City's goal, but we will continue to expand the program to become more comprehensive and to ensure continued progress and participation by all sectors in the community.

Priority Actions

The actions in this document are categorized by the focus areas of the Green LA Plan: energy, water, transportation, land use, waste, open space and greening, green economy, and proprietary departments. Much of the plan focuses on energy, including **greening the power from the largest municipal utility in the United States, helping Angelenos save energy, and making Los Angeles a world leader in green buildings**. To achieve these ambitious goals, the Los Angeles Department of Water and Power (LADWP) will increase its renewable fuel sources to 20% by the end of 2010 and to 35% by 2020. LADWP will develop new renewable energy projects in Southern California and the transmission lines needed to bring the power to Los Angeles. While greening the power supply, the City will help residents conserve energy in homes and offices. LADWP will distribute two compact fluorescent light bulbs (CFLs) to each of the 1.4 million households in the City and offer even more customer rebates for energy-efficient appliances, windows, lighting, and heating and cooling systems. Further, the City has adopted comprehensive green building policies to support private sector development. Projects of 50,000 square feet or more, and residential projects with 50 units or more, must meet the intent of the U.S. Green Building Council's Leadership in Energy and Environmental Design certified standard.

Transportation is another important focus of **ClimateLA**, owing to its large contribution to harmful air pollution and GHG emissions. The City will **cut the environmental impact and carbon intensity of transportation** by requiring **85% of the City fleet to be powered by alternative fuels**. The City will also convert its Commuter Express diesel buses to alternative fuel and continue cutting emissions from the DASH shuttle bus fleet. The alternative-fuel fleet has already grown by more than 20% per year on average since the City adopted its Clean Fuel Policy in 2000.

Limiting per capita water use will reduce the amount of electricity used for pumping and treating water,

thus leading to reduced GHG emissions from fossil-fueled electric power plants. Recycling is a reliable, economically feasible, and environmentally sensitive way to augment our water supply. The City will use water conservation and recycling to meet all additional demand for water resulting from population and business growth and reduce per capita water consumption by 20%. LADWP and the Bureau of Sanitation will also implement an integrated resources plan for water and wastewater that includes capture and reuse of stormwater.

One of the region's largest sources of air pollution is the Port of Los Angeles. With adoption of the Strategic Plan for the Port of Los Angeles in 2007, however, the port aims to become the world's greenest by raising environmental standards and further protecting public health. The port and LADWP will complete a strategic growth plan, featuring sustainable and green growth options. Environmental initiatives in the 2007 plan include implementing the San Pedro Bay Ports Clean Air Action Plan (CAAP), incorporating a sustainability ethic into all port activities, and protecting the water, soil, and local habitat.

The long-range goal of the Green LA Plan is to **create a more livable city** that offers a healthy environment and strong economy for all Angelenos. Transit-oriented development (TOD) is a land use strategy to accommodate new growth efficiently and strengthen neighborhoods by allowing people to work, shop, and recreate near home. Promoting TOD will create cohesive, vibrant, walkable communities where fragmented, automobile-dependent corridors now exist.

Summary of Actions

Energy

Green the power from the largest municipal utility in the United States

- Increase use of renewable energy (solar, wind, biomass, geothermal, etc.) to 20% by 2010.

- Increase use of renewable energy to 35% by 2020.
- Reduce use of coal-fired power plants.
- Increase the efficiency of natural gas-fired power plants.
- Increase biogas co-firing of natural gas-fired power plants.

Make Los Angeles a worldwide leader in green buildings

- Present comprehensive green building policies to support private sector development.

Transform Los Angeles into the model of an energy-efficient city

- Reduce energy use by all City departments to the maximum extent feasible.
- Perform energy-efficient retrofits on 500 City buildings to continually reduce energy consumption.
- Install the equivalent of 50 "cool roofs" on new or remodeled City buildings.
- Improve energy efficiency at drinking water treatment and distribution facilities.
- Maximize energy efficiency of wastewater treatment equipment.

Help Angelenos save energy

- Distribute two CFLs to each of the 1.4 million households in Los Angeles.
- Increase the levels and types of customer rebates for energy-efficient appliances, windows, lighting, and heating and cooling systems.
- Increase distribution of energy-efficient refrigerators to qualified customers.
- Create a fund to "acquire" energy savings as a resource from LADWP customers.

Water

Decrease per capita water use

- Meet all additional demand for water resulting

from growth through water conservation and recycling.

- Reduce per capita water consumption by 20%.
- Implement the City's innovative water and wastewater integrated resources plan that will increase conservation and maximize use of recycled water, including capture and reuse of stormwater.

Transportation

Lower the environmental impact and carbon intensity of transportation

- Require 85% of the City fleet to be powered by alternative fuels.
- Convert 100% of City refuse collection trucks and street sweepers to alternative fuels.
- Convert 100% of Metropolitan Transportation Authority buses to alternative fuels.
- Convert Commuter Express diesel buses to alternative fuels and CityRide diesel vehicles to ultra low-emission gasoline.

Focus on mobility for people, not cars

- Complete the Automated Traffic Surveillance and Control System (ATSAC).
- Expand FlyAway shuttles serving Los Angeles World Airports, including Los Angeles International Airport, and convert existing FlyAway buses to alternative fuels.
- Make transit information easily available, understandable, and translated into multiple languages.
- Increase City employee participation in the rideshare program and increase the subsidy for mass transit.
- Promote walking and biking to work, within neighborhoods, and to large events and venues.
- Expand the regional rail network.

Land Use

Create a more livable city

- Promote high-density housing close to major transportation arteries.
- Promote and implement TOD.
- Make underutilized City land, especially near transit, available for housing and mixed-use development.
- Make underutilized City land available for parks and open space.
- Clean up brownfields for community economic revitalization and open space.

Waste

- Switch from waste disposal to resource recovery
- Reduce or recycle 70% of trash by 2015.

Open Space and Greening

Unpave paradise/create new paradises

- Create 35 new parks.
- Revitalize the Los Angeles River to create open space opportunities along the 32-mile corridor within the City.
- Plant 1 million trees throughout Los Angeles.
- Identify opportunities to "daylight" streams.
- Identify and develop promising locations for stormwater infiltration to recharge groundwater aquifers.
- Partner with schools to create more parks in neighborhoods.

Green Economy

Create demand and catalyze growth of the green economic sector

- Leverage City policy, purchasing, and regulation, and deepen local university partnerships, to promote local research, development, and production of green technology and products.
- Strengthen global economic relationships to promote investment in Los Angeles's green sector and help local, environment-focused companies penetrate local, national, and foreign markets.
- Identify and promote locations for green businesses.

- Develop programs to train residents of low and middle-income communities for jobs in the green economy.
- Work with the private sector to offer effective incentives for the growth of local green businesses.
- Work with local educational institutions such as universities, community colleges, and adult education programs to provide City residents the skills needed to work for green businesses.

Proprietary Departments

Green the Port

- Fully implement the San Pedro Bay Ports CAAP.
- Complete strategic plan for the Port of Los Angeles, including sustainable and green growth options.
- Complete economic development plan for the port, identifying ways to link its investment in green growth to new economic opportunities in the green sector.

Green Airports

- Fully employ the Sustainability Performance Improvement Management System to track and improve sustainability initiatives.
- Develop and implement comprehensive policies to help Los Angeles World Airports meet green building specifications, improve recycling, use alternate fuels, use recycled water and other water conservation methods, reduce energy requirements, and reduce GHG emissions.
- Evaluate options to reduce aircraft-related GHG emissions.

LADWP

(see *Energy and Water sections above*)

A Living Document Ensuring Progress Toward Our Goal

Completing the programs described in *ClimateLA* to reduce our carbon footprint will take coordination across City agencies and the ability to act quickly

while maintaining a long-term vision. It will require a partnership with Los Angeles communities, which will allow us all to learn more about climate change and how each of us can contribute to solutions. The partnership will involve outreach, education, and public input into City programs and policies. Many of the programs identified in *Climate LA* are well underway, such as purchasing alternative-fuel vehicles for the City's fleets and greening LADWP's power portfolio. More than half the programs and projects in this document are expected to reach their targets over the next five years.

As the City moves forward, we will need to incorporate new technologies, ideas, and discoveries that will help us reduce GHG emissions from our municipal operations and community programs. We may modify some programs as a result of public input, and occasionally may need to jettison actions that cannot be funded or do not reduce emissions as expected. We will update *ClimateLA* regularly to reflect any such changes. Thus, we are introducing *ClimateLA* as a living document that will be modified to reflect our GHG emissions reduction program as it changes over time.

Public Engagement

The GreenLA Climate Action Plan calls for an aggressive public participation and outreach effort to solicit public input to the Climate Program and to challenge all Angelenos to reduce their individual carbon footprint. To that end, working with the Environmental Affairs Commission (EAC), the ELA contracted with the Urban and Environmental Policy Institute at Occidental College and the Green LA Coalition to develop an outreach and participation strategy for the City's Climate Program. The resulting report, *Engaging the Public in the Fight Against Global Warming*, provides a series of key findings and recommendations for a Climate Action Campaign. The report was developed after substantial research into other municipal outreach efforts, and a lengthy series of interviews (over 150) with representatives of various sectors, including environmental organizations, financial institutions,

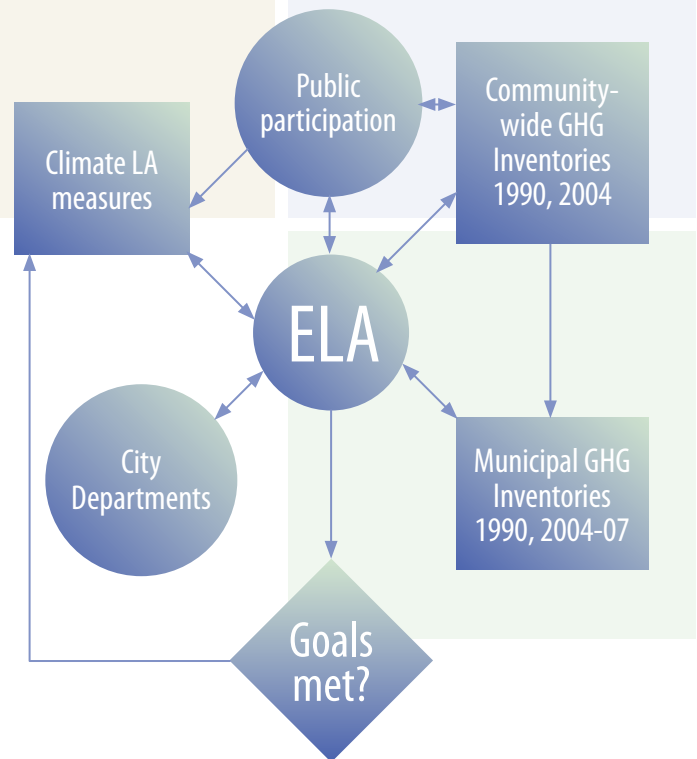
business interests, media and movie industries, and youth groups. These interviews represent the beginning of public engagement on climate issues. ELA, in partnership with the EAC and other City departments, looks forward to implementing many of the recommendations in the report in the coming months. Our formal outreach and public participation program is now in development, and we expect to release more information this Spring. The public engagement report is available at www.environmentla.org.

Tracking Our Progress

A significant component of *ClimateLA* is tracking the City's progress in implementing the actions described in this document, and in achieving the GHG emission reductions called for in the Green LA Plan. There are two primary methods of tracking our progress: action item monitoring and annual GHG emissions inventories. These tracking methods are informed and supported by interaction with city departments and the public. See Figure 1.

Action Item Monitoring Program. ELA is developing a comprehensive monitoring program to help track the progress made by City departments. Each action item in this document, along with its milestone dates, will be tracked in a computer application held at ELA. Departments will submit regular progress reports to ELA, detailing any changes in milestone dates or scopes of action and comparing the progress to that proposed in *ClimateLA*. ELA will review the reports and contact management of the lead department if a significant milestone has been missed or progress is otherwise not made. The goal is to get programs back on track by bringing attention to funding or staffing needs and improving coordination and/or policy direction. Information from the progress reports will also be used to calculate GHG emission reductions from each program, based on progress to date or future projections. Progress on *ClimateLA* will be described in regular reports to the Mayor and City Council, and made available on www.EnvironmentLA.org.

FIGURE 1 TRACKING PROGRESS



Annual GHG Emissions Inventories. ELA will continue to work with City departments to prepare annual inventories of GHG emissions from municipal operations. The City has nearly completed its inventories of CO₂ emissions from calendar years 2004, 2005, 2006, and 2007, and will submit them to the California Climate Action Registry (CCAR) this fall. Once these inventories are verified in a third-party review, they will be posted on the CCAR website and will be available at www.EnvironmentLA.org. The municipal inventories help us track emissions reductions from all City operations, but do not necessarily break out emissions by department or program. The upcoming 2008 inventory—to be prepared in 2009—will include emissions from all six gases tracked by CCAR.

As noted in the Green LA Plan, the City also has prepared a preliminary community GHG emissions inventory, that includes emissions from municipal operations as well as from residents and businesses. We plan to conduct a more comprehensive invento-

ry in the coming year, once a community emissions protocol is complete. The Green LA goal of reducing GHG emissions to 35% below 1990 levels is set at the community level. However, the municipal inventory will be used to track our progress toward this goal until the next community inventory is prepared.

Year One Progress Report

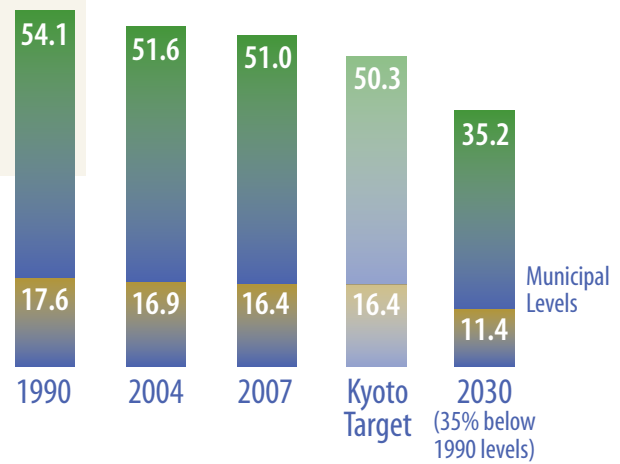
Our preliminary calculations indicate that we will see a 7% or greater reduction in CO₂ emissions in Los Angeles by 2012, possibly as early as 2010. The single biggest factor in meeting this goal is LADWP's move toward renewable sources of electricity. LADWP increased its percentage of renewable power by 3% between 2004 and 2008, reducing CO₂ by an estimated 524,000 metric tons. LADWP also has tangible commitments to four additional renewable energy projects, some of which are expected to be on-line by 2010.

Conversion of 900 traffic signals to energy-efficient LED lights has cut some 6,200 metric tons of CO₂. Installation of ATSAC at 43 intersections has reduced CO₂ emissions from vehicles by an estimated 9,826 metric tons, and the continued conversion of City fleet vehicles to alternative fuels reduced CO₂ emissions by 2,477 metric tons in the last year alone. Upgrades at 18 City buildings have contributed another 60 metric tons of CO₂ reductions. For those measures that are quantifiable, we estimate a 5.7% decrease in community-wide emissions compared to 1990. Figure 2 compares the City's emission levels and goals, while Figure 3 lists many of the actions to be undertaken in the next five years.

Many other measures in *ClimateLA* cannot be quantified at this time, including:

- Climate change education benefits
- City department best energy reduction practices
- Promotion of high-density housing and TOD

FIGURE 2
GHG REDUCTIONS AND GOALS



- Expanded recycling awareness and practices among the public and City staff
- Increases in trees and parkland
- Green product purchases
- Promotion of green businesses

Looking Ahead

Confronting climate change will reorder City priorities for decades to come. It will require a long-term vision and the discipline to make and catalyze public and private investments in renewable energy, infrastructure, and environmental technology. It is changing the way Los Angeles does business.

Through direct municipal action, and through partnerships with the public and private sectors, Los Angeles can and will cut its GHG emissions by the targeted 35%. Reducing the City's carbon footprint will bring multiple environmental benefits, with cleaner air, better public health, and more open space. It will stimulate an important new high-tech sector—the green economy—with opportunities for well-paying jobs for all Angelenos. Mayor Villaraigosa and the City have dared to imagine Los Angeles as the greenest big city in the nation, and are working to achieve this vision by leading the fight against climate change.

FIGURE 3 NEAR-TERM ACTIONS

Focus Area	Action No.	Measure	Milestone			
2008	Energy	E3	Reduce the use of coal-fired power plants	Final draft feasibility study on reducing IPP's carbon footprint		
		E4	Increase the efficiency of natural gas-fired power plants	Completion of the SHARE study		
		E5	Increase biogas co-firing of natural gas-fired power plants	Terminal Island Fuel Cell (November - tentative)		
		E6	Present a comprehensive set of green building policies to guide and support private sector development	Process 100 new buildings (December)		
		E7	Reduce energy use by all city departments to the maximum extent feasible	Complete installation of pilot solar lighting (June) Installation of LEDs - expand program (June)		
		E8	Perform energy efficient retrofits on 497 city-owned buildings to continuously reduce energy consumption	Replace a minimum of 10 HVAC rooftop units with SEER rating of 13 or better and/or EER of 11.3 or better (June)		
		E12	Maximize energy efficiency of wastewater treatment equipment	Launch a pilot program to determine the feasibility of processing food waste from Santa Monica and Los Angeles area restaurants (September)		
		E13	Distribute two compact fluorescent light (CFL) bulbs to each of the 1.4 million households in the city	distribute bulbs (June)		
		E14	Increase the level and types of customer rebates for energy efficient appliances, windows, lighting and heating and cooling systems	Implement the thermal energy storage (TES) rebate program (July)		
		E16	Create a fund to acquire energy savings as a resource from LADWP customers	Issue RFP for demand side management (DSM) (July) evaluate RFPs for viability and cost (October) Submit new DSM programs to LADWP Board for approval (December)		
		2009	Land Use	LU1	Promote high-density housing close to major transportation arteries	Update housing element (July) Adopt city-wide density bonus ordinance (December)
				LU2	Promote and implement transit-oriented development (TOD)	conduct public outreach including workshops (September)
				LU3/4/5	Make available underutilized city land for housing and mixed-use development/parks and open space/housing and mixed-use development (within 1500 feet of transit)	Establish city working group to identify and evaluate publicly owned land (June) Prioritize opportunities to transform underutilized land (December)
Waste	WsT1		Reduce or recycle 70% of trash by 2015	Conduct at least 290 business waste assessments (June) Implement recycling for at least 125,000 multi-family households (June) Recruit at least 305 schools to participate in the LAUSD school recycling program (June) Develop a centralized data system to track the recycling activities in the city in order to meet the city's legal requirements (FY07/08)		
Education	Ed1/Ed2/Ed3/Ed4	Citywide Climate Change Education Program	Provide training for staff (September) and implement public participation activities (December)			

FIGURE 3 NEAR-TERM ACTIONS, *continued*

Focus Area		Action No.	Measure	Milestone
2009	Energy	E5	Increase biogas co-firing of natural gas-fired power plants	Landfill gas to energy projects (June)
		E6	Present a comprehensive set of green building policies to guide and support private sector development	Process 300 new buildings (December)
		E7	Reduce energy use by all city departments to the maximum extent feasible	Acquire funding for further installation of solar lighting and LEDs (June)
		E9	Install the equivalent of 50 "cool roofs" on new or remodeled city buildings	Install an additional 16 new cool roofs, retrofit 20 existing roofs as cool roofs and install 1 green roof (June) Green roofs opportunity analysis for Arroyo-Secco Cornfields Specific Plan area private-sector buildings (June)
	Land Use	LU2	Promote and implement transit-oriented development (TOD)	Approve station area plans (March)
		LU5	Clean up brownfields sites for community economic revitalization projects and open space	Remove environmental barriers to development at 25 or more underutilized properties
	Airport	AIR3	Evaluate options to reduce aircraft-related GHG emissions	Complete GHG inventory, determine 1990 baseline and establish 2030 goal (December)
2010	Energy	E1	Meet the goal to increase renewable energy from solar, wind, biomass, and geothermal sources to 20% by 2010.	
		E8	Perform energy efficient retrofits on 497 city-owned buildings to continuously reduce energy consumption	Replace a minimum of 35 HVAC rooftop units with SEER ratings of 16 SEER, 12 EER and .56 kWh/ton or better (December)
		E12	Maximize energy efficiency of wastewater treatment equipment	Improve lighting efficiency: replace Na lights with fluorescent T5 light equipped with motion sensors in the galleries at HTP (December)
	Transportation	T1	Require 85% of the fleet to be powered by alternative fuels	Port of Los Angeles will have 50% alt fuel or hybrid fleet 100% passenger sedans (FY09/10)
		T3	Convert 100% of Metropolitan Transit Authority (MTA) buses to alternative fuel	100% alt fuel MTA buses (FY09/10)
	Land Use	LU3/4/5	Make available underutilized city land for housing and mixed-use development/parks and open space/housing and mixed-use development (within 1500 feet of transit)	Develop one to three city properties (December)
	Waste	Wst1	Reduce or recycle 70% of trash by 2015	Expand multi-family recycling program to 50% of the city's multi-family units Implement alternative technology facility to process post source-separated municipal solid waste for renewable energy generation
	Open Space and Greening	OS/G1 & OS/G6	Create 35 new parks or joint-use sites by 2010	
2011	Energy	E7	Reduce energy use by all city departments to the maximum extent feasible	Conversion of final 902 signaled intersections to incandescent lamps
2012	Energy	E7	Reduce energy use by all city departments to the maximum extent feasible	Installation of new solar lighting equipment (June)
		E8	Perform energy efficient retrofits on 497 city-owned buildings to continuously reduce energy consumption	Design and construct a district cooling plant and distribution system to supply chilled water to downtown Los Angeles buildings for space cooling applications
	Transportation	T1	Require 85% of the fleet to be powered by alternative fuels	85% entire fleet powered by alt fuel (FY11/12)