City of Laguna Beach
Climate Protection Action Plan

April 2009

Prepared By: Citizens and the Environmental Committee of Laguna Beach
http://www.lagunabeachcity.net/community/environment.htm

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ACKNOWLEDGMENTS

We, the Environmental Committee and the Climate Protection Work Group, wish to acknowledge the support received from the Laguna Beach City Council and the City's staff—particularly Michael Phillips, who served as liaison between staff and the Environmental Committee.

This plan for implementing the U.S. Mayors Climate Protection Agreement in Laguna Beach was written entirely by Laguna citizens, who responded to the call of the City's Environmental Committee for the formation of a Climate Protection Work Group. (Please see Appendix E for the roster of workgroup members.) The group held multiple workshops, researched various topics related to global warming, listened to invited speakers, and collaboratively formulated this document. We hope it will serve as a practical blueprint for reducing our carbon footprint in Laguna Beach.

ACRONYMS

AIA	American Institute of Architects
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
AWT	Advanced Wastewater Treatment
CalTrans	California Department of Transportation
CARB	California Air Resources Board
CFL	Compact Fluorescent Light
CH4	Methane
CO2	Carbon Dioxide
CO2e	Carbon Dioxide Equivalents
CPAP	Climate Protection Action Plan
GHG	Greenhouse Gas
HFC	Hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
kWh	Kilowatt Hour
LB	Laguna Beach
LBCWD	Laguna Beach County Water District
LCA	Life Cycle Assessment
LED	Light Emitting Diode
MG	Million Gallons
MMT	Million Metric Tonnes (~2,200 lbs)
N2O	Nitrous Oxide
NASA	National Aeronautics and Space Administration
OCTD	Orange County Transit District
PCH	Pacific Coast Highway
PFC	Perfluorocarbons
PPM	Parts Per Million
SCE	Southern California Edison
SCWD	South Coast Water District
SDG&E	San Diego Gas & Electric
SF6	Sulfur Hexafluoride
SOCWA	South Orange County Wastewater Authority
SUV	Sport Utility Vehicle
TOW	Top of the World
US EPA	U.S. Environmental Protection Agency
US MCPA	U.S. Mayors Climate Protection Agreement
US Tons	2,000 lbs

EXECUTIVE SUMMARY

The purpose of the Laguna Beach City Climate Protection Action Plan (CPAP) is to provide a blueprint to "implement the key provisions" of the U.S. Mayors' Climate Protection Agreement, which City Council adopted on February 6, 2007. The broad goal is to reduce manmade greenhouse gas (GHG) emissions 7% below 1990 levels no later than 2012, which would mean a reduction in Laguna Beach of 10% from present levels.

The recommendations herein include a broad array of measures that would reduce emissions across the City, but focus on transportation and activities that use electricity, as these comprise nearly 75% of total greenhouse gas emissions. It is worth noting, however, that even seemingly minor sources add-up, and thus every source of emissions is important.

Some recommendations, for example changing transportation modes, require significant actions, while others, such as using energy-efficient lighting, involve minor changes in behavior. Also, reducing electricity-related emissions means taking actions to reduce electricity use or shifting to alternative sources.

The Plan sets clear goals and objectives for climate protection, identifies benchmarks and milestones to measure success, and identifies and recommends specific greenhouse gas reduction measures from various activities. These activities are organized into the following categories:

- Buildings
- Transportation and Land Use
- Government Operations
- Commercial Operations
- Water Management
- Public Outreach

For each category, the Plan sets broad objectives and provides specific recommendations for action. In many cases, recommendations can be implemented by the City, or with the assistance of the City (providing information on conservation, for example). In other instances cooperation and coordination with other agencies will be necessary. Actions undertaken by the City will also occur in the context of broad policy changes coming from Sacramento and Washington, notably requirements for higher vehicle fuel economy and renewable energy targets. Technological innovations from the private sector will also affect the Plan's implementation. Thus, our actions are a complementary and essential part of a broader effort.

We believe that if the majority of recommendations in this Plan are adopted (and some are already in place or are underway), Laguna Beach will meet its 2012 goals cost effectively. We also note, however, that California has issued Executive Order S-3-05, which calls for reducing GHG emissions by 80% below 1990 levels by 2050. This will require us not only to implement this Plan, but to begin looking beyond it to the next level of action.

To begin this effort and implement this plan, it will be necessary to develop a new element (e.g., Energy and Sustainability) to the City of Laguna Beach General Plan. This element will create a framework for meeting our US MCPA and sustainability objectives.

In devising the Plan, consideration has been given to the needs of our citizens, employees, businesses, and visitors. Ultimately, however, our efforts are directed and dedicated to the Lagunans of the future. They will know with certainty whether our thinking was bold enough and our actions timely and courageous enough to meet our obligations, and achieve a better quality of life in our City.

1 INTRODUCTION

1.1 Purpose

The purpose of the Laguna Beach City Climate Protection Action Plan is to carry out the charge from the City Council to the Environmental Committee to "implement the key provisions" of the U.S. Mayors Climate Protection Agreement (US MCPA, see Appendix A), and provide recommendations "for increasing the sustainability aspects of all things in Laguna Beach" by:

- Setting clear goals and objectives for climate protection,
- Identifying benchmarks and milestones to measure our success in achieving those goals and objectives, and
- Communicating to people in LB how they can help achieve those goals, which are aimed at improving the environment and quality of life in our community.

1.1 Background

The *Vision Laguna 2030 Final Report* opens with the intriguing question: "What will Laguna Beach be like a generation from now?" There is no single answer to that question, but the City Council has decided that we can set our City on the path of energy efficiency and overall environmental sustainability.

Our times call for that. In response to the studies of numerous international academies of science, the U.N.'s Intergovernmental Panel on Climate Change (IPCC), the British

Antarctic Survey, and National Aeronautic and Space Administration (NASA) climatologists, governments throughout the world have committed to reducing their carbon footprint in order to minimize the frightful consequences of global warming. Melting polar ice caps and rising sea levels put coastal cities at risk worldwide. Shifting ocean currents and warming saline water temperatures disrupt marine life by damaging reefs and kelp beds, and changing fish and aquatic mammal migratory patterns. Raging Katrina-like hurricanes and record droughts prompt more human migration and war over potable water and tillable soil. These are just a few of the dangers that all levels of government in all nations must quickly address.

Each era in history is faced with its own challenges. Those coming of age in the 1930s confronted a severe economic depression followed by WW II. Their children, the so-called "baby boomers," took on the problems of the Cold War, civil rights, environmental pollution, and gender discrimination. At the dawn of the 21st century, we are faced with myriad challenges, arguably the chief of which is climate change on a scale scarcely imaginable. Renowned NASA climatologist Dr. James Hansen says that humanity has about ten years to turn the corner on global warming if its worst consequences are to be avoided. At stake is everything we hold dear.
Some of the most innovative and robust responses to global climate change in the United States have come from cities. Recognizing this, the Laguna Beach City Council took the historic step on February 6, 2007 of unanimously adopting the US MCPA. The Mayors Agreement, adopted by 786 U.S. cities to date, pledges municipalities to meet or beat the standards set by the Kyoto Protocol. This will require Laguna Beach to reduce greenhouse gas emissions by 10% from current levels by 2012. Such a charge is totally consistent with the *Vision Laguna 2030 Final Report's* aim "to promote the city's sustainable environmental health."

1.3 Process

The Council approved the formation of a Climate Protection Work Group as an arm of the Environmental Committee. The Work Group was tasked with the development of a set of written recommendations. These recommendations are intended both to guide the City in taking specific actions to implement the Agreement and, more broadly, put the City on the path toward overall environmental sustainability. Thirty or so participants drawn from the Environmental Committee and local residents comprised the Work Group. The Work Group broke into teams, each of which focused on one of the categories stated in the Executive Summary:

- Buildings
- Transportation and Land Use
- Government Operations
- Commercial Operations
- Water Management

- Public Outreach

Each group produced a draft report on its topic, and then the entire Work Group critiqued the separate drafts several times before integrating them into a single report.

1.4 Scope of This Report

This Plan focuses primarily on implementing the US MCPA, but it does not address all the aspects of climate change, the range and scale of which are daunting. There are several specific topics that the Environmental Committee intends to address in subsequent reports. The first and the most important of these issues is the role of the oceans in climate change.

The ocean adjacent to Laguna Beach is an irreplaceable asset, arguably the life support system of our City in ways too numerous to mention. There is strong agreement among ocean experts that a healthy ocean is a valuable asset for mediating CO2 levels and climate change. Studies on ocean carbon sequestration are being prepared by the U.S. Department of Energy, Lawrence Livermore Laboratories, Stanford University, and UC Berkeley, among others. The Livermore website states that our oceans "currently take up a third of the carbon emitted by human activity, roughly two billion metric tons each year . . ." Still, the science for measuring and the methodologies for increasing the ocean's ability to sequester carbon are in their infancy. The Committee intends to study this topic more thoroughly and in the very near future to produce for Council's review a set of recommendations for ocean management and sustainability, including measures to address pollution and run-off mitigation, kelp restoration, and marine protection.

1.5 Benefits for Laguna Beach

Implementation of actions proposed in this Plan will benefit the City in myriad ways. One of the most important ways is economic. While an assessment of all costs and benefits of GHG reduction measures recommended here is beyond the scope of the Plan, Table 1.5 below identifies and quantifies some of the action areas in which implementation will result in a financial benefit. That is, the savings outweigh the costs, leading to clear – and in some cases large – net benefits.

A recent comprehensive assessment[1] produced the following estimates of the net costs of reducing a ton of CO2e by various actions. Overall, it finds the "best" options are in the areas of building and appliance efficiency and vehicular efficiency. Because energy prices are typically higher than the national average in California, it is likely that the actual benefits to LB will be higher than these numbers report.

1 *Reducing Greenhouse Gas Emissions: How Much at What Cost?* McKinsey and Company, December 2007. http://www.mckinsey.com/clientservice/ccsi/pdf/US_ghg_final_report.pdf

Table 1.5 Cost Savings thru CO2e Reduction

Measure/Action	$ Saved per Ton of CO2e Reduction
Commercial building lighting CFL[2]	70
Commercial building lighting LED[3]	85
New residential shell improvements	70
Electronics efficiency[4]	93
HVAC new and "tuning"	45
Residential water heating appliances	8-15
Commercial building heat and power[5]	36-50
Residential lighting	90

In devising this Climate Protection Action Plan, consideration has been given to the needs of our citizens, employees, businesses, and visitors. Ultimately, however, our efforts are directed and dedicated to the Lagunans of a generation from now. They will know with certainty in 2030 whether our thinking was bold enough and our actions timely and courageous enough to protect our City, which is, in many ways, unlike any other.

2 If done promptly
3 Assuming 2015
4 Residential and commercial: PCs, TVs, office equipment, audio, etc.
5 Ranging from co-generation (combined production of electricity and heat) to simpler efficiency gains.

2 GOALS

The goals set out below are the basis for the objectives and reduction measures presented in the following sections. Although individual efforts to reduce GHGs may appear to be small, as persons working in concert with each other, we can achieve significant reductions. Furthermore, our community has a distinguished record of active commitment to the environment, and our citizenry will expect to be in the forefront of the effort to combat climate change. We hope our work will provide a positive example to other cities and encourage them to take similar action.

2.1 Greenhouse Gas Reduction

The broad goal of the US MCPA is to reduce manmade greenhouse gas (GHG) emissions 7% below 1990 levels no later than 2012, which would mean a reduction in LB of 10% from present levels. (See Appendix C for details.)

2.2 Financial and Impact Analysis

For capital projects like buildings and roads, additional initial investment can result in significant overall savings over the life of the project. Therefore, in evaluating the cost of proposed projects, we recommend that the City phase out traditional cost/benefit analysis and replace it with Life Cycle Assessment (LCA). Life Cycle Assessments incorporate the long-term, including such things as energy consumption, maintenance, and materials disposal, thus reflecting much more accurately all the energy and environment-related impacts of a project. (For example, the Athena Institute provides a commonly used LCA model.)

2.3 Sustainable Mobility

The City should become less dependent on fossil fuels for transportation. A new balance should be sought among the four modes of transportation: bicycling, walking, public transport, and private vehicles. The City should encourage professional live/work environments, artist live-work studios, electronic mobility, telecommuting, and other innovative ways of reducing the overuse of private vehicles.

2.4 Sustainable Land Use

The City should incorporate into all of its decisions related to land use an analysis of potential effects on greenhouse gas emissions. This may involve, among other things, reducing the amount of paved surface and increasing the amount of planted areas for cooling and CO2 absorption, encouraging production of locally grown foods, reducing the need for short and long distance transport of goods into the City, improving the walking and outdoor experience for residents and visitors, and reducing water use.

2.5 Sustainable Construction

The City should participate in understanding, developing, and implementing state-of-the-art practices for energy efficiency and sustainable building practices. As part of its efforts, the City should incorporate currently available green building practices into its construction codes and approval processes, and the City should consider adopting requirements that go beyond the current Title 24 standard for all new projects. Finally, once the State of California has completed its proposed new Green Building codes, the City should move to adopt them.

2.6 Water Use Efficiency and Sustainable Sourcing

The supply, conveyance, treatment, and distribution of water, and wastewater treatment, use significant amounts of electricity. The City should therefore strongly encourage reduction of water use. This will involve the development of landscape design and maintenance guidelines and the incorporation of water saving measures into green building standards. The City should also strongly encourage the development of less energy-intensive sources such as rainwater catchment and recycling.

2.7 Public Outreach

Ultimately, the City's implementation of the US MCPA will depend largely on the extent to which the citizenry is aware of the problem of global climate change, knows what their government is doing, and actively supports the measures to combat climate change. The City should reach out to:

- *Inform* the community about the health, safety, and economic benefits of reducing carbon and other greenhouse gas emissions; and
- *Involve* the community in a city-wide greenhouse gas emissions reduction campaign.

3 THE BASELINE AND MILESTONES

Combustion of fossil fuels generates the majority of greenhouse gas (GHG) emissions worldwide. Coal, oil, and natural gas contain high levels of carbon, and when processed and burned, release much of that carbon into the environment as carbon dioxide (CO2). In addition to CO2, GHGs such as methane (CH4), nitrous oxide (N2O), and some refrigerants (HFCs and PFCs) enter the atmosphere as a result of human activities. For example, methane from cow manure, landfills, and leaking natural gas pipelines contributes to total GHG emissions. Together, these pollutants contribute to global warming, and are the targets of the Kyoto Protocol and the United Nation's IPCC.

Each LB resident adds approximately 30,500 pounds, on average, of CO2 to the atmosphere *every year*. For a sense of scale, this is the equivalent of the weight of almost four Hummers, or the volume of air in more than ten "typical" houses. Reducing this environmental burden is the core purpose of this Plan.

3.1 The 2012 GHG Emission Reduction Goal

Reducing overall City emissions by 7% below 1990 levels by 2012, as pledged in the Mayor's Agreement, means that current emissions must fall by approximately 10%. To achieve this, as we can see by the estimated emissions shown in Table 3.1 below, we should focus our efforts on reducing our transportation emissions and electricity consumption, which together produce more than 80% of total emissions.

Table 3.1 1990 CO2 Emissions per Capita from Energy Consumption

Energy Consumption, Per Capita:	**CO2 Emissions**	**Units***
Transportation	5.7	Metric Tonnes
Energy Industry (Electricity)	4.9	Metric Tonnes
Residential, Agricultural, Institutional, etc.	1.6	Metric Tonnes
Manufacturing and Construction	0.8	Metric Tonnes
Total Metric Tonnes Per Person	**13.0**	**Metric Tonnes**
Total US Pounds Per Person	**28,600**	**US Pounds**

* 1 Metric Tonne = approx. 2,200 pounds. More detail is provided in Appendix C

California's GHG emissions are estimated to have increased by more than 12% from 1990 to 2004 (the most recent data available), largely as a result of population growth. By comparison, the population of LB has only increased slightly since 1990 (approximately 9%, compared to 19% statewide). Emissions from some sectors have decreased (e.g., emissions from waste, manufacturing, and construction) while emissions from other sectors (e.g., consumer products, agriculture, forestry, and land

use) have increased. Reductions of atmospheric CO2 by sinks and sequestration (e.g., consumption of CO2 by forests and plant growth) have also declined, however.

Considering the increases on a per capita basis, the current GHG emissions from LB are approximately 3% above 1990 levels and thus need to be reduced by 10% to meet the US MCPA goals. (Additional detail is provided in Appendix C.)

3.2 California's Longer-Term Goals

The IPCC reports that to achieve a lower than otherwise expected level of global warming and associated adverse change in climate, GHG emissions must be reduced from 1990 levels by an estimated 80% by 2050. European countries are striving for a 60% to 80% reduction. In 2005, Governor Schwarzenegger issued Executive Order S-3-05 with the objective of reducing California GHG emissions by 80% below 1990 levels by 2050.

Fossil fuel-powered electric generating plants operate economically for 40 years or more, and the useful lifetimes of houses and commercial buildings are around 40 years. Therefore, anything that we build now and in the future will still contribute to GHG emissions in 2050. Starting now, new construction must release only 20% of emissions compared to existing power plants and buildings.

Vehicles generally have considerably shorter lifetimes, but there is still a significant lag in replacing the current fleet with cleaner and more efficient models. Further, older vehicles are often resold in poorer countries as they are replaced here. In order to reduce GHG emissions by 80% over the next 40 years, we must average a reduction of 2% per year, despite population growth.

3.3 Milestones

As shown above, the majority of GHG emissions that can presently be quantified and targeted for reduction by Laguna Beach result from the combustion of fuels, including:

- Gasoline in our cars;
- Diesel in our trucks and buses;
- Natural gas in our homes and businesses; and
- Electricity that we consume directly and for pumping and treating water.

In order to ensure that the City is reducing emissions at the necessary annual rate (on average) it will be necessary to collect Laguna-specific data on the variables listed above. These are proxies for actual emissions, but since the relationship between fossil fuel use, electricity generation, and GHG emissions is well documented, they are useful measures of progress.

To measure our year-over-year progress toward our initial 10% reduction goal and future goals, the city will need to collect the following data:

- For personal, city, and utility gasoline and diesel combustion CO2 emissions, either:
    - Sales of each fuel dispensing station (private, City, and utility owned) in the City, measured in units of fuel sold, or
    - Type of vehicle and annual miles traveled by vehicle type,
- Electricity consumption data for residential, commercial, industrial, and street lighting,
- Natural gas consumption data, and
- Water consumption (e.g., acre feet per year).

These data will provide a good, if incomplete, measure of the reductions directly resulting from actions recommended in this plan.

4 BUILDINGS

4.1 Overview

The construction, operation, and demolition of buildings account for 30% of all U.S. greenhouse gas emissions. More specifically, buildings represent 49% of California's direct natural gas consumption, and 72% of electricity consumption-- the production of which accounts for an additional 50% of natural gas use. (Sources: California Energy Commission; 2005 U.S. DOE Buildings Energy Databook.)

A wide range of energy-conservation measures is available that, taken together, can reduce a household's emissions by up to two-thirds without sacrificing amenities. Creating high performance, energy efficient buildings not only lowers greenhouse gas emissions but also reduces utility bills and increases property values. Thus, energy conservation is always the first course of action.

Second to conservation measures is the installation of solar water heating systems. In California, such systems can reduce fuel usage for water heating by 75 percent or more. Taking full advantage of solar hot water in California would lead to a reduction of 6.8 million metric tons of carbon dioxide-equivalent per year, as much as the annual emissions of over a million cars. (Source: Environment California Research & Policy Center, 2007)

For new construction and major renovations there are many other design measures that will reduce emissions. These include natural daylighting, natural ventilation, passive solar orientation and shading, energy star and other high efficiency appliances, solar electric systems, greywater irrigation systems, rainwater catchment, and environmentally sensitive building materials choices. These are among the components of Green Building Guidelines, which can aid property owners, designers, and builders in making better design decisions and in choosing materials that have less embodied energy-- meaning the energy required for manufacturing, transportation, installation, and eventual disposal.

Professional Architects (AIA) and engineers (ASHRAE) have studied and created Green Building programs that have been adopted by many U.S. cities resulting in significant reductions in energy and resource use, lifetime operating expenses, and greenhouse gas emissions. These programs cover new construction, remodeling, and retrofitting existing buildings.

4.2 Broad Objectives

4.2.1 Adopt codes and establish guidelines that incorporate best current practices in energy conservation and emissions reduction.

4.2.2 Provide to the citizenry information on current best practices in energy-efficient building materials and construction practices and on available rebates for energy-efficient technologies and products.

4.2.3 Set higher energy conservation standards for buildings, such as achieving 20% lower than Title 24,and explore the possibility of joining programs such as the AIA's 2030 Challenge that focus on eventually making buildings carbon neutral.

4.3 Specific Reduction Measures

4.3.1 Central Information Source: Set up a page on the City's web site to provide information to property owners, designers, and builders about all aspects of energy-efficient design and construction, including links to other sites with more detailed information.

4.3.2 Energy Audits: Encourage citizens to conduct energy audits of their properties and provide information on how to do this (currently available free at www.sce.com).

4.3.3 Rebates: Energy rebates are the responsibility of Southern California Edison and San Diego Gas & Electric. The City can provide links to these utility providers from its webpage.

4.3.4 Energy Performance Standards: Investigate adopting revised energy performance standards at earliest possible time.

4.3.5 Insulation: Encourage citizens to up-grade the insulation in existing homes and to go beyond minimum requirements in new projects. Encourage the use of radiant barriers to further reduce cooling requirements.

4.3.6 Daylighting: In the design of buildings, encourage the use of natural daylight instead of artificial light.*

4.3.7 Shading: Encourage the use of shading devices and awnings on east- and west-facing glazed doors and windows to reduce mechanical cooling requirements. *

4.3.8 Natural Ventilation: Encourage the use of operable windows and skylights to reduce mechanical cooling requirements.*

* Included in New Design Review Guidelines

4.3.9 Landscape Design: Encourage the use of appropriate planting to promote both solar access and shading of glazed areas. *

4.3.10 Lighting: Encourage the adoption of energy efficient lighting, such as Compact Fluorescent Lights (CFLs) and Light Emitting Diodes (LEDs), to retrofit existing buildings, and for all new buildings. Encourage the installation of motion detectors on lighting circuits where appropriate.

4.3.11 Light Bulb Recycling: Investigate a program with Waste Management to permit the proper disposal and recycling of fluorescent lights.

4.3.12 Appliances: Encourage the installation of Energy Star rated appliances in all new and substantially renovated buildings.

4.3.13 Air Conditioning: Discourage the use of air conditioning.

4.3.14 Programmable Thermostats: Encourage the installation of programmable thermostats to maximize energy efficiency.

4.3.15 Solar Systems: Expedite the planning review and approval process for the installation of solar electric and solar thermal systems. **

4.3.16 Cool Roofs: Support the adoption of the EPA Cool Roofs program (roofing materials that reflect rather than absorb solar radiation), and amend the Design Review guidelines accordingly.

4.3.17 Dark Sky: Adopt standards for minimizing night lighting glare and incorporate them into the City's Design Review Guidelines and Municipal Code.

4.3.18 Laguna Beach Green Building Program: Develop a Green Building program- - or modify an existing Green Building program, such as "Build it Green" or "Green Globes" –- to respond specifically to the climate, topography, and characteristics of the City.

* Included in New Design Review Guidelines

** Current City Policy/Practice

4.4 Expected Results

4.4.1 The current trend of more energy-intensive construction will be reversed, and the downward trend in energy use will continue because it is embedded in built structures and does not rely on the behavior of individuals.

4.4.2 Through its education efforts, the City will have a citizenry that is far more conversant with and demanding of energy-savings in all aspects of its built environment.

4.4.3 Through its leadership in adopting and promoting measures to prevent climate change, the City will become a model to other cities in this region.

5 TRANSPORTATION AND LAND USE

5.1 Overview

Patterns of land use and methods of transportation are closely interrelated and together they have far-reaching effects on greenhouse gas emissions. A significant portion of the land area of most communities is publicly owned, and most of that land is in rights-of-way for the street system and utilities, forming a fine-grained and pervasive network across the entire city and connecting to virtually every piece of privately owned land. In general, for Laguna Beach the configuration of that network has not changed much in the past 50 years, and it is not likely to change much in the foreseeable future. The use of that network has, however, changed over time, and it is now largely regarded as the domain of the privately owned vehicle, which is the primary form of transportation in this city and which is one of the principle sources of our greenhouse gases. The streets have become more difficult for pedestrians, bicyclists, and operators of alternative vehicles. Safety, however, is not the only reason why we need to be concerned about transportation in the City.

Transportation contributes approximately 40% of total GHG emissions, with per capita emissions of 5.7 metric tonnes annually. Making changes to our transportation system is therefore one of the most promising avenues toward making a real difference in GHG emissions. Most residents seem to agree that our current system of relying almost exclusively on the private car is not working well in terms of parking and circulation. Further facilitation for private vehicles can only aggravate those problems and will do nothing to reduce GHG emissions. To lessen those emissions, we need to reduce our dependence on private vehicles and rethink the transportation system. Land use decisions should always consider energy consumption.

5.2 Broad Objectives for Land Use

5.2.1 Foster more sustainable development patterns on private property through modifications to the zoning code, zoning maps, development ordinances, and planning and development guidelines.

5.2.2 On land in City ownership take direct action to reduce GHG emissions.

5.3 Specific Reduction Measures for Land Use

5.3.1 Continue to encourage mixed-use and live-work developments within current single-use zones. **

5.3.2 Encourage edible landscaping and community gardens.

5.3.3 Investigate increasing the requirements for total on-site unpaved areas and green plantings.

5.3.4 Encourage the use of drought-tolerant plant materials, and low-water irrigation techniques. ***

5.3.5 Redesigning streets: See 5.5.2

5.3.6 Underutilized Land: Continue to transform vacant lots and unused or under-used areas of public land into pocket parks with benches, bike racks, shade trees, and patios with tables to accommodate pedestrians and bike riders.

5.3.7 Walkways: Create walkways where they do not exist, particularly in arterial and collector streets, and expand sidewalks where they are of inadequate width.

5.3.8 Permeable Paving: Encourage replacing impermeable paving (asphalt, concrete) with permeable paving in parking and low-volume traffic areas. **

5.3.9 Bioswales: Increase reliance on the bio-filtering of storm water through the creation of bioswales and other devices.

5.3.10 Trees: Plant and maintain shade trees within the public right-of-way.**

5.3.11 Walking Promenade: Institute bicycle/pedestrian days (or a "Walking Weekend") by closing downtown streets to private vehicles and encouraging people to use the streets for art displays, performances, and socializing.****

5.3.12 Standards: Evaluate major city projects on the basis of their potential positive or negative effects on GHG emissions.

5.4 Broad Objectives for Transportation

5.4.1 Strengthen the city's effort towards a rebalancing of its transportation system among the four traditional modes of mobility: walking, bicycling, public transport, and

** Current City Policy/Practice
***Included in Land Use & Scenic Highway Resource Element
****Included in Transportation Element

private vehicles. In particular, support alternatives to the private vehicle for access to the downtown, shopping districts, art festivals, and beaches.

5.5 Specific Reduction Measures for Transportation

5.5.1 Remote Parking: Continue to expand remote parking options for commuters to connect easily and rapidly to buses and Share-a-Ride stations.

5.5.2 Traffic Calming: Continue to redesign intersections to increase pedestrian safety and amenity, including the provision of crosswalks, bulb-outs, and pedestrian refuges. Favor traffic-calming devices that make use of increased planted areas, such as residential traffic circles, neck-downs, etc. Incorporate traffic calming techniques (e.g., intersections with bulb-outs to lower traffic speed yet maintain traffic flow throughput) into the community planning stages of municipal projects.

5.5.3 State-Owned Rights-of-Way: Monitor efforts by Caltrans to improve bike safety on Coast Highway and Laguna Canyon Road.

5.5.4 Public Transport – Hours of Service: Extend trolley/bus service from early morning hours to late evening hours, without mid-day breaks, throughout the year (this could be implemented Friday through Sunday in the near term, and throughout the week in the long term), where feasible.

5.5.5 Public Transport – Route Structure: Provide bus or van service with a goal to promote coverage sufficient throughout town.

5.5.6 Public Transport – Coordination of Routes: Connect City bus routes to adjacent routes, and coordinate bus services with OCTD to ensure connections and to receive additional funding from OCTD to improve bus access to visitors and employees, including potential transportation to and from train stations.

5.5.7 Van Services: Consider arrangements with private van fleets or other private services to facilitate transportation to and from train stations if transportation via OCTD is not available or practical.

5.5.8 Car Pooling: Encourage voluntary programs for residents within the City and for workers living outside the City to share rides and reduce the number of vehicle-trips. The City could both advertise the financial and GHG emissions advantages of car-pooling and set up a program to make it easier for potential ride-sharers to find each other.

5.5.9 Parking Space Designation: Consider converting some parking spaces to the exclusive use of electric vehicles and providing electric vehicle charging stations.

5.5.10 Parking Rate Structure: Adopt a variable parking fee structure, charging much more for parking in downtown and "premium" areas and providing low cost parking in perimeter locations. With new technologies, the rate structure could be variable by time of day, day of week, or even by season. **

5.5.11 Information Program: Organize a public campaign to increase resident and visitor awareness of transport alternatives (bicycles, pedestrians, and trolley) and focus the campaign around the idea that Laguna Beach is an eco-friendly destination, where people can leave their vehicles behind and enjoy walking, shopping, dining, and going to the beach. Support this program with more public benches, public restrooms, public art, and public performances.

5.5.12 Funding: Identify financial incentives available to the City from state and federal agencies for promoting transportation alternatives to the automobile.

5.5.13 Bike Racks: Provide bike racks to secure bicycles in the downtown, shopping, and beach areas.

5.5.14 Trips to School: Request that the school district and private schools promote the use of school bus transportation and discourage the use of private vehicles for trips to and from school.

5.5.15 "Top 20": Develop a program and flyer called "Laguna Beach's Top 20 Things You Can Do to Reduce Global Warming," including transportation-related reductions and publicize the program on the City's web site.

5.5.16 Transportation Programs: Consider requiring all local businesses over a certain size to develop alternative transportation plans, including carpooling and public transportation, with a goal of reducing employee auto trips. *****

5.6 Expected Results

5.6.1 In the short run, the residents and visitors will become more aware of the variety of ways in which their land use and transportation decisions contribute to GHG emissions and what they can do about it, both individually and collectively.

5.6.2 In the long run, the City will become safer, quieter, less congested, and more sustainable.

** Current City Policy/Practice

***** Included in Growth Management Element

6 GOVERNMENT OPERATIONS

6.1 Overview

Many day-to-day operations of the City government are candidates for improved energy efficiency and reduction of carbon emissions. Among the operations controlled directly by the City are City buildings, City-purchased vehicles (e.g. fire engines, police cars), public works projects, and the maintenance of all of the property in City ownership, including streets, parks, beaches, and public open space. The City also has influence over other government entities, including the Laguna Beach County Water District and the South Coast Water District.

Many of the reduction measures proposed in this section are similar to those proposed elsewhere in this document. However, the City may find it easier to implement some measures directly in its own operations than to create requirements for everyone in the City. This may also be a good way to test some of the measures and to "lead by example".

6.1 Broad Objectives

6.1.1 Set up practices and procedures that make the City's government a model for residents and local businesses in matters relating to the reduction of greenhouse gas emissions.

6.1.2 Take a pro-active role in educating the public about what the government is doing in this regard and in testing reduction measures before requiring them of everyone.

6.2. Specific Reduction Measures

6.2.1 Where feasible in City buildings, encourage the use of natural ventilation (e.g. opening the windows) to minimize air conditioning.

6.2.2 Consider alterations in City buildings to provide more natural day lighting to minimize using electric lights.

6.2.3 Make fuel efficiency an important criterion in the acquisition of all city vehicles, including fire engines, buses, trucks, etc., and for non-specialty uses consider instituting a policy of purchasing only highly fuel efficient vehicles , like Priuses, Insights or their equivalent. **

** Current City Policy/Practice

6.2.4 Continue to equip all city restrooms in buildings and in parks with low-flow toilets. **

6.2.5 Work with Waste Management, Inc. to assure that the three kinds of waste containers are clearly identified, that the three kinds of waste are more carefully separated, and that all residents and businesses are educated about this. In addition, ask Waste Management to publicize the fact that recycling containers should be put out only when full.

6.2.6 Work with Waste Management to continue to use trucks that are fuel efficient and have very low emissions.

6.2.7 Encourage the adoption of ecological landscaping and gardening practices in all City-owned properties (e.g. stop raking up all the leaves as they make good mulch.) Use drought resistant plants and water-conserving irrigation systems at all city properties and parks.

6.2.8 Encourage the Laguna Beach County Water District and the South Coast Water District to develop a program for the reclamation and recycling of water.

6.2.9 Encourage the Laguna Beach County Water District and the South Coast Water District to reduce their energy consumption.

6.2.10 Request CalTrans reanalyze traffic patterns and consider the use of synchronized signals and "all way pedestrian" crossings.

6.2.11 Consider reducing street lighting in residential areas.

6.2.12 Develop a program for the replacement of incandescent lights in city buildings with CFLs or LEDs.

6.2.13 Evaluate the feasibility of installing photovoltaic panels on city buildings.

6.2.14 Evaluate the feasibility of replacing gas-fired water heaters with solar thermal panels in all City buildings.

6.2.15 Incorporate into the planning process for public works projects a requirement to incorporate measures to minimize green house gas emissions.

6.2.16 Strive to increase the number of trees on public properties.

** Current city Policy/Practice

6.3 Expected Results

6.3.1 The City will become a leader in the movement to combat climate change and will be a central source of ideas and information for its citizens and for other jurisdictions.

7 COMMERCIAL OPERATIONS [6]

7.1 Overview

The following objectives and recommended measures were developed with the participation of a Chamber of Commerce representative in the City's Climate Protection Workgroup subcommittee. This section provides voluntary actions that local business operators can take to assist in reducing green house gas emissions in Laguna Beach. Commercial operations are integral to Laguna Beach. They contribute to the economy by serving both residents and visitors, and they can play a significant role in reducing energy consumption and greenhouse gas emissions in the City. Because Laguna Beach receives many visitors, the actions taken by local businesses will tend to have effects beyond the boundaries of the City. Many actions to reduce energy consumption also tend to reduce operational costs, thus making for a healthier economic environment. The following are suggestions for local businesses interested in reducing commercial energy consumption.

7.2 Broad Objectives

7.2.1 Disseminate information to local businesses about the many ways in which they can help to achieve reductions in greenhouse gas emissions.

7.2.2 Enlist the participation of the Laguna Beach business community in developing or participating in programs for energy conservation.

7.2.3 Recognize and publicize the accomplishment of local businesses in the reduction of greenhouse gas emissions.

7.3 Specific Reduction Measures

7.3.1 Green Awards: Set up a program that provides recognition and publicity to local businesses and organizations for their outstanding environmental efforts.

7.3.2 Employee Awareness: Increase employee awareness of the importance of energy conservation by providing training opportunities on interim and permanent smart energy practices. Send periodic e-mail messages about turning off lights and computers and implementing other efficiency practices, and post signs or billboards near light switches or communal printers; consider holding annual energy fairs prior

6 Commercial operations as a category encompass non-profits such as churches, other charities, and service organizations.

to seasonal emergency periods to provide additional information for employees about how to manage energy use in the workplace and in their homes.

7.3.3 Artificial Lighting: Reduce the unnecessary use of general artificial lighting, and convert to task lighting, which is more efficient than general lighting, where it is feasible for task lighting to maintain sufficient lighting levels for safety and productivity. Install motion sensors and separate lighting circuits, where feasible, to turn off unneeded lights.

7.3.4 Standby Power Use: Ensure that computer, monitor, and printer "low power stand-by" mode features are set and activated. If equipment does not have Energy Star features, turn it off when it will be idle for more than an hour. Install smart meters to check energy use online.

7.3.5 Appliances: Turn off personal appliances, such as coffee pots and radios when not in use.

7.3.6 Off-Peak Use: Where feasible, schedule high electrical energy-use processes during off-peak periods. (Peak periods are 5 PM to 7 PM in winter, 2 PM to 6 PM in summer.)

7.3.7 Consider long-term energy efficiency and conservation improvements for both cold- and hot-weather conditions. This can reduce both long and short term costs, especially in a period of rising energy prices.

7.3.8 "Point-of-Use" Water Heaters: Encourage the installation of "point-of-use" (or "on-demand") hot water systems, where feasible, including in each room of lodging establishments.

7.3.9 Paper Use: Reduce the amount of paper used to conduct business by doing double-sided copying, consolidating files, and circulating documents via email and posting them on websites. Collect and recycle paper when possible. Ultimately businesses should adopt the paperless office.

7.3.10 Employee Transportation: Encourage employees to take the bus, bike, carpool (or vanpool) to work. Facilitate telecommuting and/or permit employees to work extended hours during fewer days in the week.

7.3.11 Company Vehicles: Maintain vehicles properly to improve their fuel efficiency, and consider alternate-fuel vehicles for some or all new vehicle purchases.

7.3.12 Green Building: When doing tenant improvements or new construction, work with owners, architects, designers, and contractors to ensure energy-efficient design and

use of resources, maximum recycling of construction waste, and materials selection for healthy interior air quality.

7.3.13 Waste Audits: Conduct an audit of the business total waste stream broken down by type and volume of material.

7.3.14 Trash Reduction: Implement trash reduction measures such as the following.

- Keep mailing lists current.
- Reduce junk mail by sending a postcard to Mail Preference Service: P.O. Box 9008, Farmingdale, NY, 11735 requesting that your company's name be taken off all mailing lists.
- Buy in bulk and choose products that use less packaging. Work with companies that do the same. Minimize the packaging of any product your company produces.
- Use reusable and/or recyclable containers for shipping your products.
- Rent equipment that is used only occasionally, and buy equipment that is built to last. Establish a regular maintenance routine to prolong the life of copiers, computers and other equipment.
- Re-use file folders, cardboard boxes, envelopes, paper clips, rubber bands, packing peanuts, etc.
- Give leftover Styrofoam peanuts and bubble-wrap to Mail Boxes, Etc. Reuse newspaper and shredded paper for packing.
- Refill and reuse fax, printer, and copier cartridges.
- Donate unused materials to Art From Scrap, and old desks, office equipment, carpeting, telephones, and other items to Goodwill or the Salvation Army. Give old computers to an educational program.
- Recycle office paper and old telephone books.
- Recycle aluminum, glass, hard plastics #1-7, newspaper, cardboard, and magazines in your break area.
- Arrange a green waste dumpster for major trimming, pruning or mowing projects. Green Website: Create a web site that highlights the businesses and activities that have reduced their greenhouse gas emissions or that follow green practices.

7.3.15 Landscape Maintenance: Develop guidelines so that commercially used motorized landscaping equipment (e.g. chainsaws, hedge pruners, mowers) is the least polluting available. The City ordinance prohibiting the use of leaf-blowers should be rigorously enforced.

7.3.16 Landscape Maintenance: Develop guidelines so that commercially used motorized landscaping equipment (e.g. chainsaws, hedge pruners, mowers) is the least

polluting available. The City ordinance prohibiting the use of leaf-blowers should be rigorously enforced.

7.3.17 Laundry: Encourage hotels to offer provisions for optional laundering of towels and bed linens.

7.3.18 Swimming Pools: Encourage solar thermal heating for swimming pools at hotels and resorts.

7.3.19 Transportation: Encourage businesses to provide incentives such as free or discounted transit passes, commuter or vanpool fares, and prizes or special recognition for reducing single-passenger vehicle use. Promote and encourage the use of City-provided transportation for employees and customers, particularly during peak season.

7.4 Expected Results

7.4.1 The Laguna Beach business community will take a leadership role in helping the City achieve its goals for greenhouse gas reduction.

7.4.2 The business community will play a central role in educating their customers, and especially the visitors to the City, about climate protection generally and about the City's efforts to reduce greenhouse gas emissions.

8 WATER MANAGEMENT

8.1 Overview

The supply, conveyance, treatment, and distribution of water, and wastewater treatment, use significant amounts of electricity. Southern California, on average, imports about 50% of its water from long distances via the State Water Project and the Colorado River Water Project. In Laguna Beach, water-related electricity use is even higher, since 100% of our water comes from these two water projects. Water-related electricity use effectively adds 39% - 55% to household energy use. This does not include in-home water-related energy costs such as water heating or pumping. Laguna Beach citizens can make a significant reduction in greenhouse gas emissions by reducing their use of water.

In addition to conserving water from existing sources, Laguna has additional significant and under-utilized sources of water—rainwater and wastewater. Rainwater is a vital resource and can be captured for use, yet is mostly allowed to become runoff. Wastewater--from waste treatment facilities and from urban runoff-- is also an underused source of water amounting to millions of gallons daily. Laguna's treated wastewater is currently released into the ocean, though a small part of it is improved to landscape irrigation levels by the Advanced Wastewater Treatment (AWT) facility. Recycled wastewater uses less energy than importing water. The energy cost to bring treated wastewater to landscape irrigation levels is 10,974 kWh/MG and to potable levels is 11,895 kWh/MG, less than the 14,100 kWh/MG required to supply, convey, and treat imported water.

Finally, desalination is also an alternative. It has the advantage of being a potentially reliable local source of water. From a climate protection standpoint, energy intensive desalination systems (up to 20,000 kWh/MG) are less desirable than solar-thermal desalination systems. However, conservation practices and the utilization of rainwater and recycled water may diminish or eliminate the need for desalination.

8.2 Broad Objectives

8.2.1 Reduce water use in the City in order to reduce energy use.

8.2.2 Develop alternative sources of water that are less energy-intensive than importation. Include energy and environmental impacts as criteria for decisions regarding the development of alternatives.

8.3 Specific Reduction Measures

8.3.1 Education: Educate the public about the impact of water use on climate change and about measures that citizens can take to reduce their water consumption.

8.3.2 Landscape Guidelines: Develop landscape design and maintenance guidelines regarding the use of water-conserving plants and irrigation techniques, including criteria for lawns and water use. Guidelines could be mandatory for new construction and for remodeling involving landscaping. Develop incentives to encourage the alteration of existing high water use landscapes.

8.3.3 Water Use in a Green Building program: Incorporate water saving measures into a Green Building program: such as dual flush toilets, low flow shower heads, and Energy Star washing machines and dishwashers into building standards.

8.3.4 Greywater Standards: Consider adopting the State greywater building codes (Title 24, Part 5), including whatever adaptations are necessary in response to local soils and topography. After a three year period, evaluate the local experience of greywater systems and amend the code as necessary. **

8.3.5 Swimming Pools: Encourage pool owners to use covers and solar hot water heating.

8.3.6 Recycled Water: Request that LBCWD, SCWD, and SOCWA investigate and report on the potential to increase the City's reclaimed water supply and usage. For example, investigate the potential to develop reclaimed water pipelines for landscape irrigation throughout the City.

8.3.7 Rain Water Catchment: Investigate the potential for roof rainwater catchment and storage throughout the City. Consider allowing for rainwater catchment and storage in all new building designs for landscape or domestic use.

8.4 Expected Results

8.4.1 Greater awareness of the energy impacts of water use and of the benefits of conservation, collection, and reuse will cause average water use and associated energy costs and climate impacts to diminish.

8.4.2 Less wastewater and urban runoff would reach the ocean, protecting the marine environment to the benefit of Laguna residents, visitors, and tourist-based businesses.

** Current City Policy/Practice

9 PUBLIC OUTREACH

9.1 Overview

Ultimately, the City's implementation of the CPAP will depend largely on the extent to which the citizenry is aware of the problem of global climate change, knows what local government is doing to address the challenge, and is willing to support the actions proposed by that government. Consequently, the City must engage in a robust public outreach effort.

9.2 Broad Objectives

9.2.1 Work with the citizens of Laguna Beach to create an informed electorate on all matters related to climate protection.

9.2.2 Involve as many citizens and organizations as possible in implementing the CPAP, including student groups, professional societies, medical institutions, civic organizations, neighborhood associations, places of worship, businesses, and operators of sports venues.

9.3 Specific Reduction Measures

9.3.1 Establish a Climate Protection page on the City's website. The page would include links to the US Mayors Climate Protection Agreement and to the implementation plan (CPAP) prepared by the Climate Protection Work Group. It would also include information on ways to reduce greenhouse gas emissions in the home, encourage use of public transit and car pooling, as well as recommend reusable shopping bags and the purchase of CFLs and Energy Star (or comparable) appliances. It would inform the community of energy-related ordinances such as the one limiting the use of leaf blowers and other gas-powered equipment. Additionally, the web page could encourage the effective insulation of buildings and the installation of solar water heaters and roof panels in homes, offices, and buildings. Information regarding rebates for such installations would be provided.

9.3.2 Encourage the Laguna Beach High School to institute an environmental club with an appropriate faculty adviser.

9.3.3 Issue periodic updates to the local newspapers on the status of implementing the CPAP.

9.3.4 Incorporate into the City Manager's annual report information on climate protection matters and milestones.

9.3.5 Ask the Environmental Committee to encourage local civic organizations to sponsor forums on topics related to climate protection.

9.3.6 Use the Environmental Awards program to single out those individuals or groups that have demonstrated significant reductions in CO2 emissions

9.4 Expected Results

9.4.1 By the end of 2008 the Climate Protection page of the City's web site will have become an important means of communicating to the citizens about progress on the implementation of the CPAP.

9.4.2 By the end of 2008 all of the outreach sectors of Laguna Beach will know that the City has adopted the CPAP, will know the terms of that Plan, and will be involved in implementing it.

10 IMPLEMENTATION RECOMMENDATION

The Environmental Committee recommends that implementation of the US Mayors Climate Protection Agreement be seen as an on-going process to include periodic updates of plan implementation to the EC along with an annual assessment to the City Council. To begin implementing this plan, it will be necessary to develop a new element (e.g., Energy and Sustainability) to the City of Laguna Beach General Plan. This element will create a framework for meeting our US MCPA and sustainability objectives. The process of implementation will need to be developed by City staff as implementation will require communication and action on the part of city council, committees, and staff.

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APPENDIX A – US MCPA

ENDORSING THE US MAYORS CLIMATE PROTECTION AGREEMENT

(Endorsed Language)

ENDORSING THE U.S. MAYORS CLIMATE PROTECTION AGREEMENT

WHEREAS, the U.S. Conference of Mayors has previously adopted strong policy resolutions calling for cities, communities and the federal government to take actions to reduce global warming pollution; and

WHEREAS, the Inter-Governmental Panel on Climate Change (IPCC), the international community's most respected assemblage of scientists, has found that climate disruption is a reality and that human activities are largely responsible for increasing concentrations of global warming pollution; and

WHEREAS, recent, well-documented impacts of climate disruption include average global sea level increases of four to eight inches during the 20th century; a 40 percent decline in Arctic sea-ice thickness; and nine of the ten hottest years on record occurring in the past decade; and

WHEREAS, climate disruption of the magnitude now predicted by the scientific community will cause extremely costly disruption of human and natural systems throughout the world including: increased risk of floods or droughts; sea-level rises that interact with coastal storms to erode beaches, inundate land, and damage structures; more frequent and extreme heat waves; more frequent and greater concentrations of smog; and

WHEREAS, on February 16, 2005, the Kyoto Protocol, an international agreement to address climate disruption, went into effect in the 141 countries that have ratified it to date; 38 of those countries are now legally required to reduce greenhouse gas emissions on average 5.2 percent below 1990 levels by 2012; and

WHEREAS, the United States of America, with less than five percent of the world's population, is responsible for producing approximately 25 percent of the world's global warming pollutants; and

WHEREAS, the Kyoto Protocol emissions reduction target for the U.S. would have been 7 percent below 1990 levels by 2012; and

WHEREAS, many leading US companies that have adopted greenhouse gas reduction programs to demonstrate corporate social responsibility have also publicly expressed preference for the US to adopt precise and mandatory emissions targets and timetables as a means by which to remain competitive in the international marketplace, to mitigate financial risk and to promote sound investment decisions; and

WHEREAS, state and local governments throughout the United States are adopting emission reduction targets and programs and that this leadership is bipartisan, coming from Republican and Democratic governors and mayors alike; and

WHEREAS, many cities throughout the nation, both large and small, are reducing global warming pollutants through programs that provide economic and quality of life benefits such as reduced energy bills, green space preservation, air quality improvements, reduced traffic congestion, improved transportation choices, and economic development and job creation through energy conservation and new energy technologies; and

WHEREAS, mayors from around the nation have signed the U.S. Mayors Climate Protection Agreement which, as amended at the 73rd Annual U.S. Conference of Mayors meeting, reads:

The U.S. Mayors Climate Protection Agreement

a. We urge the federal government and state governments to enact policies and programs to meet or beat the target of reducing global warming pollution levels to 7 percent below 1990 levels by 2012, including efforts to: reduce the United States' dependence on fossil fuels and accelerate the development of clean, economical energy resources and fuel-efficient technologies such as conservation, methane recovery for energy generation, waste to energy, wind and solar energy, fuel cells, efficient motor vehicles, and biofuels;
b. We urge the U.S. Congress to pass bipartisan greenhouse gas reduction legislation that includes 1) clear timetables and emissions limits and 2) a flexible, market-based system of tradable allowances among emitting industries; and
c. We will strive to meet or exceed Kyoto Protocol targets for reducing global warming pollution by taking actions in our own operations and communities such as:
    1. Inventory global warming emissions in City operations and in the community, set reduction targets and create an action plan.
    2. Adopt and enforce land-use policies that reduce sprawl, preserve open space, and create compact, walkable urban communities;
    3. Promote transportation options such as bicycle trails, commute trip reduction programs, incentives for car pooling and public transit;
    4. Increase the use of clean, alternative energy by, for example, investing in "green tags", advocating for the development of renewable energy resources, recovering landfill methane for energy production, and supporting the use of waste to energy technology;
    5. Make energy efficiency a priority through building code improvements, retrofitting city facilities with energy efficient lighting and urging employees to conserve energy and save money;
    6. Purchase only Energy Star equipment and appliances for City use;
    7. Practice and promote sustainable building practices using the U.S. Green Building Council's LEED program or a similar system;
    8. Increase the average fuel efficiency of municipal fleet vehicles; reduce the number of vehicles; launch an employee education program including anti-idling messages; convert diesel vehicles to bio-diesel;
    9. Evaluate opportunities to increase pump efficiency in water and wastewater systems; recover wastewater treatment methane for energy production;
    10. Increase recycling rates in City operations and in the community;
    11. Maintain healthy urban forests; promote tree planting to increase shading and to absorb CO2; and
    12. Help educate the public, schools, other jurisdictions, professional associations, business and industry about reducing global warming pollution.

NOW, THEREFORE, BE IT RESOLVED that The U.S. Conference of Mayors endorses the U.S. Mayors Climate Protection Agreement as amended by the 73rd annual U.S. Conference of Mayors meeting and urges mayors from around the nation to join this effort.

BE IT FURTHER RESOLVED, The U.S. Conference of Mayors will work in conjunction with ICLEI Local Governments for Sustainability and other appropriate organizations to track progress and implementation of the U.S. Mayors Climate Protection Agreement as amended by the 73rd annual U.S. Conference of Mayors meeting.

APPENDIX B - MAPS

Vicinity Map

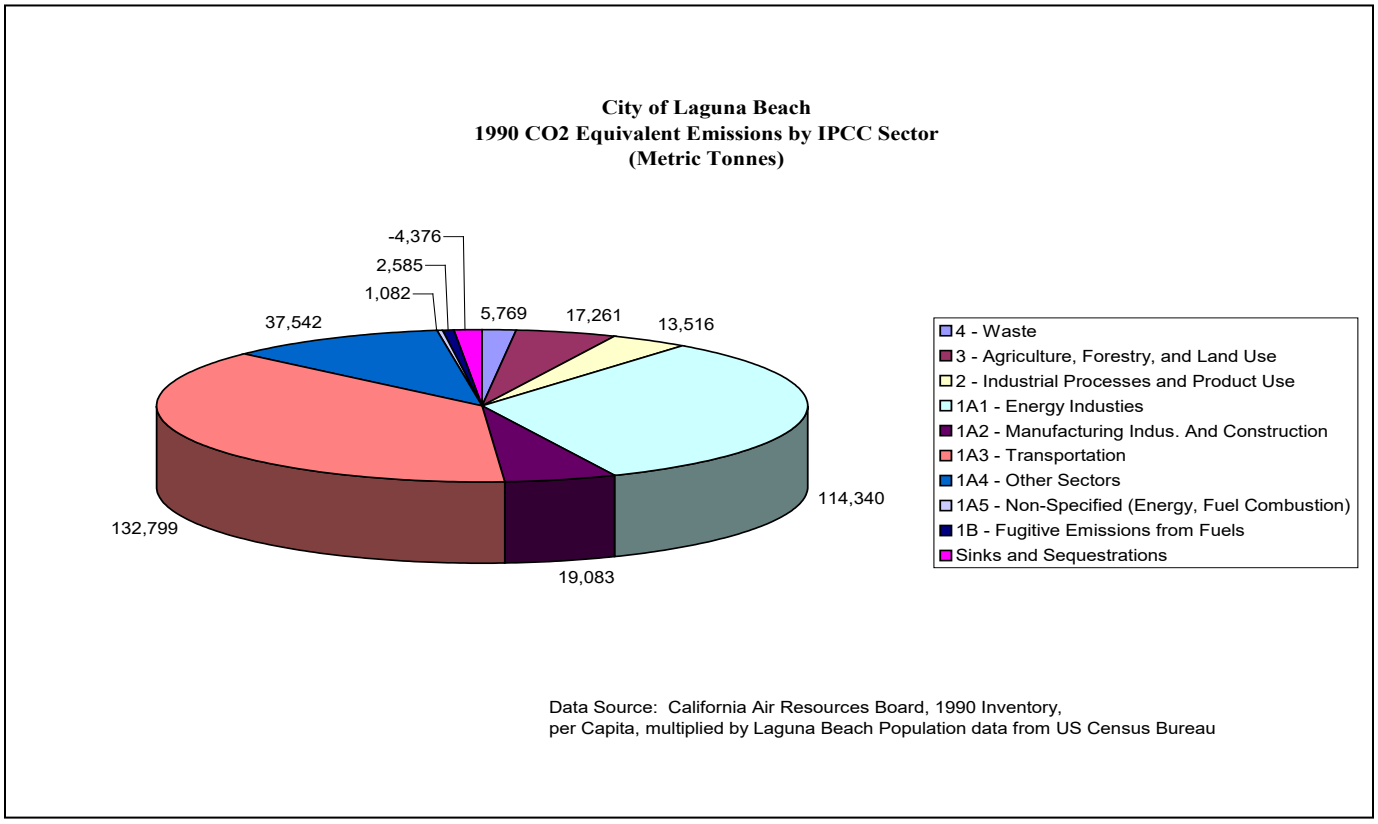
APPENDIX C – EMISSIONS INVENTORY

The 1990 Greenhouse Gas Inventory

The California Air Resources Board, under the mandate of AB 32 (California's Global Warming Solutions Act of 2006), has developed a very detailed inventory of California's 1990 GHG emissions. This is an estimate of emissions, by IPCC category, expressed in metric tonnes of CO2-Equivalents (CO2e). (CO2-Equivalents account for the GHG affect associated with the individual pollutants--for example, methane is equivalent to 22 times 1 CO2.)

Assuming that citizens of Laguna Beach contribute to GHG emissions at the statewide average rate, the City's 1990 GHG emissions are shown below (Table 1 contains the numeric detail).

Figure 1 1990 Greenhouse Gas Inventory by IPCC Sector



Transportation emissions are nearly 40% of all of GHG emissions, and the majority of these (57%) are from road transportation. (Other categories include aviation, navigation, etc.) The second largest category of emissions is from electricity generation (33%). The aggregate inventory of GHG emissions estimated for Laguna Beach is provided in Table 1 below.

Table 1 Estimate of 1990 Laguna Beach CO2 Emissions*

Emission Units	**Total CO2 Emissions for All IPCC Sectors**
Metric Tonnes (1,000 Kilograms)	343,976
US Tons (2,000 pounds)	378,374
US Pounds (lbs)	**756,747,549**

* Data Source: California Air Resources Board, 1990 Inventory, per capita, adjusted by Laguna Beach population data from US Census Bureau

Consumption of energy, specifically for electricity generation and transportation, constitutes the majority of City GHG emissions. For these sectors, each Californian contributed approximately 13 metric tonnes, or nearly 29,000 pounds of CO2, in 1990, as shown in Table 2.

Table 2 1990 CO_2 Emissions per Capita from Energy Consumption

Energy Consumption, Per Capita:	**CO2 Emissions**	**Units***
Energy Industry (Electricity)	4.9	Metric Tonnes
Manufacturing and Construction	0.8	Metric Tonnes
Transportation	5.7	Metric Tonnes
Residential, Agricultural, Institutional, etc.	1.6	Metric Tonnes
Total (Metric Tonnes)/person	13.1	Metric Tonnes
Total Per Person	**28,600**	**US Pounds**

1 Metric Tonne = approx. 2,200 pounds

These emissions, as significant as they are, do not include the energy and transportation-related emissions (or "CO2 footprint") that results from the consumption of goods imported from outside of California. For example, bottling and shipping water from Pacific islands or Europe, consumes energy. Resulting CO2 emissions, along with emissions associated with the manufacturing and transport of toys, cars, foods, and all types of consumer goods imported into California, are not included in the emissions or CO2 "foot print" shown in Tables 1 or 2 above. Therefore, reducing consumption lowers our carbon footprint beyond the measures addressed in this plan.

Calculating the Reduction Needed for the Mayor's Climate Action Agreement

Table 3 below shows the calculation of the percentage reduction needed by LB to meet the 7% reduction below the 1990 level required by the US MCAA from current levels.

Table 3 Calculation of Reduction Needed by LB for Mayor's CAA

CA Statewide 1990 Level*	436	MMTCO2e
1990 Emiss. Per Capita	14.65	Metric Tonnes CO2e
1990 Emiss. Per Capita	32,231.16	lbs CO2e
CA Statewide 2004 Level*	497	MMTCO2e
2004 Emiss. Per Capita	13.98	Metric Tonnes CO2e
2004 Emiss. Per Capita	30,756.82	lbs CO2e
% Decrease 1990-2004	4.57%	(Per Capita)
Est. LB 1990 Emissions	340,918	MMTCO2e (Pop. = 23,170)
Est. LB 2004 Emissions	353,312	MMTCO2e (Pop. = 25,272)
% Increase 1990-2004	3.64%	Total for LB
Add'l Mayor's Agreement	7%	Reduction from 1990 Level
Total Reduction - LB	10.6%	% Reduction from 2004 = % Increase + Mayor's CAA

*Based upon CARB 8/07 Inventory & US Census Bureau data

Measuring Reductions in the Future

To further quantify current emissions, and to measure future emissions and reductions made, Laguna-specific data can be collected and emissions calculated. For example, data on electricity consumption in South Laguna was graciously provided by San Diego Gas & Electric (a Sempra Utility Company). From this data we can quantify the CO2 emissions from electricity consumption in South Laguna (using an emission factor of 661.38 lbs CO2/MWHr) as shown in Table 4.

Table 4 Estimate of 2006 CO2 Emissions from Electricity Consumption in South Laguna

San Diego Gas & Electric - Electricity Supplied to South Laguna	**Residential**	**Commercial**	**Industrial**	**Streetlight**	**Total**
SDG&E/ South Laguna - 2006 - KwH	12,956,089	5,869,950	5,285,828	42,168	24,154,035
Emissions of CO2 (lbs)	8,568,898.1	3,882,267.5	3,495,940.9	27,889.1	15,974,995
Emissions of CO2 (Metric Tonnes)	3,895.0	1,764.7	1,589.1	12.7	7,261

Similarly, the Southern California Gas Co. (a Sempra Utility Company) also provided the natural gas consumption for all of Laguna Beach (i.e., zip code 92651). From this data, we can estimate emissions (using an emission factor of 53.05 kg CO2/MMBtu) from city-wide natural gas combustion as shown in Table 5.

Table 5 Estimate of 2006 CO2 Emissions from Natural Gas Consumption in Laguna

	Residential	Commercial	Industrial	Total
2006 Natural Gas (MMBtus)	542,634.3	261,235.6	4,758.4	808,628
CO2 Emissions (Metric Tonnes)	28,786.7	13,858.5	252.4	42,897
CO2 Emissions (lbs)	63,330,849.2	30,488,806.9	555,352.9	94,375,009
CO2 Emissions (US Tons)	31,665.4	15,244.4	277.7	47,188

In a like manner, gasoline and other fuel consumption data (e.g., gallons dispensed) can be collected from the fuel stations in LB and the CO2 emissions quantified from this data. Thus, as more fuel efficient uses and lower fuel consumption is realized, these reductions can be measured.

By collecting and adding all of these fuel and resulting CO2 emissions data each year in an "emission inventory", we can measure our progress toward achieving the US MCAA.

APPENDIX D WATER MANAGEMENT CALCULATIONS

Water-Related Energy Use (in kilowatt hours per million gallons)

	Imported[7]	Reclaimed Potable[8]	Reclaimed Landscape[9]
Supply and Conveyance	**14,000**	**11,895**	**10,974**
Water Treatment	**100**		
Water Distribution	**1,200**	**1,200**	**1,200**
Wastewater Treatment	**2,500**	**2,500**	**2,500**
Total	**17,800**	**15,595**	**14,674**

Reclaimed Water Energy Use

Average AWT production over the last four years is 919 AF/yr or 300 MG/yr.[10]
Average AWT energy cost is approximately 3,200,000 kWh/yr.[11]
Energy cost of producing AWT water is 10,667 kWh/MG.
Energy cost to treat AWT or urban runoff water to potable standards is 1,228 kWh/MG.[12]
Energy cost to treat AWT or urban runoff water to landscape irrigation standards is 307 kWh/MG.[13]

Therefore, the total energy cost to bring treated wastewater to potable levels is 11,895 kWh/MG and to landscape irrigation levels is 10,974 kWh/MG.

Average Local Household Water Demand

185,580 gallons/yr in S.C.W.D.[14]
130,422 gallons/yr in L.B.C.W.D.[15]

Energy Use for Local Households

The average household in SDG&E's service area purchases 6,031 kWh/yr.
(7072 GWh/ 1,172,597 meters = 6,031kWh.)[16]

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7 The California Energy Commission's "California's Water-Energy Relationship," Final Staff Report, November 2005, pp.9-11. http://www.energy.ca.gov/2005publications/CEC-700-2005-011/CEC-700-2005-011-SF.PDF.
8 See Reclaimed Water Energy Use this appendix.
9 Ibid.
10 Personal communication with Mike Wilson, S.O.C.W.A. Director of Operations.
11 Personal communication with Mike Dunbar, S.C.W.D. Manager.
12 Personal communication with Joe Gannon, Clearcreek Systems (Filtration specialists).
13 Ibid.
14 Personal communication with Mike Dunbar, S.C.W.D. Manager.
15 Personal communication with Bob Westphal, L.B.C.W.D. Manager of Finance.
16 San Diego Gas and Electric http://www.energy.ca.gov/greenbuilding/documents/2005-04-07_workshop/presentations/DeLaura_Lance_Sempra.PDF p.1

Water-related electricity use of an average local household (for supply, conveyance, treatment, distribution, and wastewater treatment):

.185580 MG/yr X 17,800 kWh/MG = 3,303 kWh/yr. 3,303/6,031 = 55%. (S.C.W.D.)
.133600 MG/yr X 17,800 KWh/MG = 2,378 kWh/yr. 2,378/6031 = 39%. (L.B.C.W.D.)

Desalination Energy Costs

Desalination energy costs vary depending on the method, usually reverse osmosis or distillation. Good references on this subject include www.coastal.ca.gov/desalrpt/dchap1.html, Chapter on Energy; and "Energy Down the Drain," pp. 9,14.
http://www.nrdc.org/water/conservation/edrain/contents.asp.

APPENDIX E BIOGRAPHICAL INFORMATION ON CONTRIBUTORS

Michael Beanan: B.S. Biology/Psychology, UC Irvine; graduate work, Social Ecology; Assistant Dean, UC Irvine (retired); Board of Directors South Laguna Civic Association, former Chair, Laguna Beach Ocean Water Quality Committee; year-round ocean swimmer.

Yasser Eddebbar: has achieved a 4.0 GPA while working toward a B.S. in Environmental Science and Policy (expected May 2008); received the CSULB Provost's Undergraduate Summer Stipend Award for Research, Scholarly and Creative Activity for his work with the Laguna Beach Climate Protection Workgroup.

Jane Hall: M.S. Agricultural and Resource Economics, Ph.D. Energy and Resources U.C. Berkeley; Professor and Co-director Institute for Economic and Environmental Studies, Cal State Fullerton; more than 50 publications; service on nearly 20 federal, state and regional advisory committees relating to air pollution, ecology and health; member of the Laguna Beach Environmental Committee.

Rose Hancock: Executive Director, Laguna Beach Chamber of Commerce; Laguna Beach Chamber of Commerce Environmental Committee, and member of Climate Protection Work Group.

Michael Hoag: Founder and president of Village At, a nonprofit organization promoting sustainable cities.

Max Isles: B.Sc. Environmental Science and Economics, Stirling University, Scotland; yoga therapist; scuba diving instructor; involved in voluntary environmental work from establishing marine reserves in the Philippines to helping local schools reduce their environmental impact; member of the Laguna Beach Environmental Committee.

Sieglinde Johnson: M.S., UCLA, Public Administration-Personnel Work; former high school teacher; 50- year foot soldier in the League of Women Voters.

Joie Jones: Ph.D., Brown, Physics; Professor of Radiological Sciences at UCI; author of over 300 scientific publications as well as 3 books and some 20 patents; appointed by President Carter to the Presidential Science and Technology Advisory Committee; recently selected by the UN Secretary-General to serve on a 20 person UN Special Committee on the Environment.

Lisa Marks: B.S. in Biology; U.C.Irvine, and M.A., Mathematics, U.C.Berkeley; teacher, real estate developer; Board of Directors South Laguna Civic Association; environmental advocate, outdoorsman; member of the Laguna Beach Environmental Committee.

Les Miklosy: M.S., Virginia Tech, Engineering Mechanics; LBHS graduate; engineering entrepreneur in automotive, medical and aerospace technologies, in particular orbital telecommunication satellites; system developer for electro-mechanical controls, we write the software that make modern conveniences perform their magic, www.softwaretospec.com .

Greg O'Loughlin: B.F.A., Art Center College of Design; commercial photographer; V.P. South Laguna Civic Association; waterman, outdoorsman, and craftsman; chair Laguna Beach Environmental Committee

Tom Osborne: Ph.D., Claremont, History; Professor and Chair of History Department, Santa Ana College; author of two scholarly books and numerous articles; chair of Laguna Beach Climate Protection Work Group; Board of Directors South Laguna Civic Association ; member of the Laguna Beach Environmental Committee.

Chris Prelitz: LEED a.p., Sustainability Consultant; Locally, Chris built the first permitted solar powered home in Orange County in 1993, and the first approved solar electric system in Laguna Woods Village. Past projects range from off-grid solar ranches to the first solar LEED certified auto dealership in the U.S. for Mercedes Benz in Phoenix, Az. www.Prelitz.com

Bill Rihn: B.S./Engineering, Caltech; a founder of Kinemetrics, the world leader in earthquake measuring instruments; chief engineer for the seismic experiment placed on the moon by the Apollo astronauts; President of Board of Directors, South Laguna Civic Association since 2003.

William Roley, Jr.: Ph.D., UC Irvine, Social Sciences, permaculture; designer and environmental-restoration ecologist and educator; core faculty at John Lyle Center for Regenerative Studies, California Polytechnic University, Pomona; composting consultant, educator and edible landscape designer.

Scott Sebastian: B. Arch. Cornell University, M.L.A. Harvard University; Sebastian & Associates, Landscape Architects; Fulbright Fellow; professional experience in land use planning, transportation planning, and environmental policy analysis.

Dennis Silverman: Ph. D., Stanford, Theoretical Physics; Professor Emeritus in Physics and Astronomy at U. C. Irvine; studies, lectures, and writes about the energy problem;

works with the Osher Lifelong Learning Institute at UC Irvine; an avid snorkeler at coral reefs.

Gene Sottosanto: Local landscaper, beekeeper, writer, caretaker, consultant, guest speaker; taught "The Art and Joy of Gardening."

Jinger Wallace: M.A., History; educator, textbook reviewer; former member of Laguna Beach Open Space Committee; Board member and former president of Village Laguna; South Laguna Civic Association Task Force on urban runoff in Aliso Creek; scuba diver, sailor, world traveler.

Judy Yorke: B.S. Mechanical Engineering; P.E.; SCAQMD Certified Permitting Professional; President of Yorke Engineering, LLC, (an air quality and environmental engineering consulting firm), 15 year instructor of the Air Quality Permitting and Compliance course at UCI Extension; instructor of the AB 32 Global Warming Solutions course at UCI Extension; member of the Laguna Beach Environmental Committee.

APPENDIX F COMMENTS FROM OTHER CITY ENTITIES

This appendix contains all of the responses received by the Environmental Committee to its Draft Climate Protection Action Plan (DCPAP).

Upon receiving the Plan on 1 July, 2008, the City Council directed that it be sent to the City's Boards, Committees, and Commissions (for simplicity, hereinafter referred to as "committees") for their review and comment. In the absence of a specific directive from the Council about the format for their responses the committees responded in various ways. Some submitted written responses in the form of minutes; others directed their staff to prepare a summary response; still others simply discussed the document, with individual members expressing their opinions but without creating a single statement from the whole. In some cases the EC received both a written response and additional individual responses.

When the DCPAP was on the agenda of a meeting of any of these groups, the Environmental Committee sent representatives to the meeting to answer questions and to take notes. In those cases where a written response was received, the text is reprinted here *in italics* and in its entirety. In those cases where there was discussion of the document but no formal written response, the EC members in attendance have attempted to represent fairly the general opinions expressed and to note specific concerns or suggestions, without attribution. In some cases we have both a written response and supplemental notes from an EC member.

In general, the Environmental Committee appreciated the interest expressed and the comments received from other committees. Most of the comments were positive, some of them extremely so. From some committees, however, there were comments about or objections to specific recommendations, usually when those recommendations were perceived to be in potential conflict with the remit of the committee. The Environmental Committee resolved to incorporate the responses into this document as an appendix so that they can be considered as implementation programs are developed. The responses follow in alphabetical order by committee name.

Arts Commission
Design Review Board
Heritage Committee
Housing and Human Services Committee
Laguna Beach County Water District
Parking Traffic and Circulation Committee
Planning Commission
Recreation Committee
South Coast Water District

Arts Commission

From: *Mary Ferguson [mailto:Mary@Fergi.com]* ***Sent:*** *Thursday, August 21, 2008 7:19 AM* ***To:*** *'Poeschl, Sian CA'; 'Joan Corman, Laguna Art Studio'* ***Cc:*** *'Mary Ferguson'* ***Subject:*** *Climate Protection Action Plan*

On July 1, 2008, the City Council reviewed the recommendations of the Environmental Committee to establish a Climate Protection Action Plan. The plan was then sent to the City's various committees including the Arts
and Planning Commissions for review and comments. On July 28 the Arts Commission met and established a subcommittee for further review. The members are Mary Ferguson, Joan Corman and Sian Poeschl (City Staff). Last week this group met with Greg O'Loughlin (Chair of LB Environmental Committee), Tom Osborne (Chair of the Action Plan), and Mike Phillips (City Staff) to discuss the draft Climate Protection Plan. The changes we discussed include:

1. *Need / benefits of lighting public artwork at night.*
2. *Support for Civic Arts Districts as a way to encourage people to park their car and walk.*
3. *Discourage the use of fountains in public art competitions going forward.*
4. *Recognition of the Art Festivals, Public Art Tour Day, and First Thursdays Art Walk for hiring buses / trolleys and encouraging people to park and ride.*

Overall we had a very good meeting and our comments were received positively.

Other comments from Commission members (as noted by Greg O'Loughlin)

- We could have an art show at city hall that highlights the MCPAP or some of its aspects.
- The Arts Commission would like to see more use of Trolley for First Thursdays and other art events. Additional trolleys for First Thursdays would cost $15,000.
- Bus benches could be more visible, encouraging that part of the arts program.

Design Review Board

From: Schuller, Liane CD
Sent: Tuesday, September 09, 2008 2:39 PM
To: Phillips, Mike WQ
Subject: Draft Climate Protection Action Plan

The Design Review Board has reviewed and is supportive of the draft report. The Board agreed that the following measures should be considered during the design review process::

Discourage air conditioning units
Consider the negative effects of approving skylights
Encourage alternative methods of transportation by requiring sidewalks and bikeways
Encourage gray water systems
Establish and enforce permeability requirements for individual building sites
Encourage edible landscapes by adding these plants to the approved City plant lists

Liane Schuller
Zoning Administrator

Heritage Committee

MINUTES
HERITAGE COMMITTEE
MEETING OF AUGUST 18, 2008

The Committee was supportive of the report but felt that exceptions needed to be made in the interest of preserving the older buildings. It was noted that historic structures should not be subject to some of the City's requirements that would alter the exterior appearance of the buildings. It was also noted that the preservation of existing buildings was in itself an energy conservation measure that should be encouraged. The Committee generally discourages the use of modern devices like solar panels that detract from the authenticity of the historic structures.

Housing and Human Services Committee

MINUTES
HOUSING AND HUMAN SERVICES COMMITTEE
MEETING OF AUGUST 6, 2008

Environmental Committee Member, Tom Osborne, presented the Draft Climate Protection Action Plan prepared by the Environmental Committee. Committee Members complimented the work of the Environmental Committee in preparing the document and noted that their main concern is that the higher cost to develop green housing might discourage housing development, and affordable housing development in particular. Several Committee Members noted that some type of cost analysis should be prepared to better understand the potential impacts and various methods to offset the costs, such as fee waivers or other incentives. Michael Gosselin requested all Committee Members to bring written comments on the Draft Climate Protection Plan to the September meeting for the preparation of a memo to the City Council.

Supplemental comments (as noted by Tom Osborne)

- The DCPAP was commended for the high quality work that the document represented.
- One member of that committee expressed concern over how developers could meet the high "green" construction costs entailed in the Plan. While acknowledgeding that the ultimate owners of low cost housing in LB would certainly benefit from low utility bills, more specific information is needed on how the EC planned to address the cost issue.
- A more general concern was whether such an ambitious undertaking as the DCPAP could be accomplished in Laguna Beach

DRAFT MINUTES
HOUSING AND HUMAN SERVICES COMMITTEE
MEETING OF OCTOBER 1, 2008

The meeting was called to order at 4:00 p.m. Committee Members Don Black, Faye Chapman, Larry Esten, Oakley Frost, Michael Gosselin, Judy Randall, Sally Rapuano and staff liaison, Carolyn Martin, were present.

The Committee discussed the Draft Climate Protection Action Plan prepared by the Environmental Committee. The primary concern is that the additional cost for implementing the plan may negatively impact the development and purchase of housing; affordable housing in particular. To that end, the Committee recommended that a cost/benefit analysis be prepared for the plan recommendations that will require the implementation of sustainable construction methods and techniques into new housing and major remodels.

Laguna Beach County Water District

10.1 MINUTES

10.2 LAGUNA BEACH COUNTY WATER DISTRICT

MEETING OF AUGUST 26, 2008

The manager of Administration reported that the enclosed Draft Climate Protection Action Plan was developed over the past 12 months by the City of Laguna Beach's Environmental Committee and a volunteer workgroup composed of Laguna Beach citizens. He said that the purpose of the plan is to implement the US Mayors' Climate Protection Agreement, which the City Council adopted on Feb. 6th, 2007. He added that the goal is to reduce manmade greenhouse gas emissions in Laguna Beach by 10%.

The manager of Administration explained that the plan contains over 100 recommendations for achieving the goal, and includes recommended changes in local business design and maintenance, land uses, transportation improvement strategies, governmental operations, water management, and commercial operations to achieve energy reductions. He noted that listed on the enclosed agenda memo are the plan's recommendations and goals specifically related to water use, adding that many of the recommendations and goals are already being met by the city, including changing out fixtures in city facilities, and ensuring irrigation systems in city parks are being run at maximum efficiency.

Mr. O'Loughlin, the City's Environmental Committee Chairman, commented that he is present for support of the Action Plan, noting that the water management segment is important and it is good to hear all of the city facilities that are on board with the program recommendations. He offered his help with any questions or support.

Mr. Beanan, who worked specifically on the ocean and water section of the Action Plan, commented that the Integrated Regional Watershed Management Plan for all of South County indicates each city's current and projected recycle program. He pointed out that recycled water is really central to energy efficiency, and the amount of energy that can be saved by using recycled water is enormous. He is strongly in favor of getting recycled water into certain areas of Laguna Beach to help in a fire event to pre-saturate the area and quadruple the amount of water available.

Mr. O'Loughlin added that if there is anything in the plan that the District does not agree with or if there is anything critical to have added to the report to please notify him.

The General Manager summarized that should the Commissioners have any disagreement with the plan or if anything should be added to the report, the District would respond as such. The manager of Administration commented that, on behalf of Commissioner Neev, she would be in favor of addressing restaurants in the plan for conservation measures. He added that staff would

draft a letter of what the District is doing and make recommendations. The General Manager pointed out that although the District has reached all the restaurants, we have not had much cooperation with them.

Commissioner Lewis commented regarding desalination, recycling, and reclamation projects being good in principle, but there is a cost factor involved. He said that there has to be a balance struck between goals and how you actually finance those goals, because they are very large and capital intensive in some aspects. Mr. Beanan commented that public-private partnerships may be something to consider.

Parking, Traffic, and Circulation Committee

(No written comments received)

Summary of the discussion at the meeting of 23 October, 2008 (as noted by Greg O'Loughlin)

- In order to increase the number and availability of taxis locally, the City needs a place for them to park while awaiting calls. Currently there is no such place available in town, which contributes to longer waiting times when residents call for a pick-up, and taxis sometimes have to come from somewhere else in the County.
- The PTC supports bicycling, and has installed some racks, most of which are little used. The city has about $5,000 in this years budget for more bike racks.
- One member felt that the term "further beautification" on page 14 was too broad.
- on reduction measure 5.3.7 about expanding the network of sidewalks, one member felt that more sidewalks are not financially feasible and that instead we need to prioritize the use of the existing walks and paths.
- on reduction measure 5.5.1 about remote parking, one member suggested considering "pocket parking", e.g. the provision of very small lots with just a few spaces, wherever they can be squeezed into existing conditions as an off site parking option.
- on reduction measure 5.5.2 about traffic calming, we should be careful not to do things that reduce the capacity of streets.

- on reduction measure 5.5.5 about the waiting times for public transport, several members felt strongly the reducing waiting times at bus stops was extremely important for increasing the use of public transportation.
- on reduction measure 5.5.9 on the use of downtown parking spaces, one member did not agree about the advisability of reducing the time limits but did agree that providing charging stations for electric vehicles was a good idea.
- on reduction measure 5.5.12 about restriping pavement to the benefit of pedestrians and bicyclists, one member commented that this would not likely be possible on Glenneyre Street, where it has often been proposed, because of likely objections from the California Department of Transportation.
- on reduction measure 5.5.18 on having businesses participate in reducing the parking demand from their employees, one member agreed and wished that the idea had been more forcefully stated.
- One member suggested that the City should permit dogs to ride the local busses with their owners, as it would promote more usage of public transit.
- One member wanted to see support for pedestrian tunnels and overpasses.

Planning Commission

Comments from Norm Grossman, Planning Commissioner

Reduction Measure	***Comment***
4.3.1	*Requires action by City Clerk*
4.3.2	*Requires city mailing*
4.3.3	*Requires action by City Clerk*
4.3.4	*Partially in new Housing Element, should be in Design Review Guidelines document*
4.3.5	*Requires city mailing*
4.3.6	*Should be in Design Review Guidelines document*
4.3.7	*Should be in Design Review Guidelines document*
4.3.8	*Should be in Design Review Guidelines document*
4.3.9	*Should be in Design Review Guidelines document and in an updated Landscape Resource (or General Plan) Element*
4.3.10	*Requires city mailing*
4.3.11	*Requires City Council action*
4.3.12	*Requires city mailing*
4.3.13	*Requires City Council action*
4.3.14	*Requires city mailing*
4.3.15	*See Section 8*
4.3.16	*Requires City Council action*
4.3.17	*Should be in Design Review Guidelines document*
4.3.18	*Needs Planning Commission investigation*
4.3.19	*Requires City Council action*
4.3.20	*Requires City Council action*
5.3.1	*In new and old Land Use Elements*
5.3.2	*Should be in an updated Landscape Resource Element*
5.3.3	*Requires change in ordinances*
5.3.4	*Should be in Design Review Guidelines document and in an updated Landscape Resource (or General Plan) Element*
5.3.5	*Needs further discussion and study. Not sure this is feasible.*

5.3.6	*Continuation of current city policy*
5.3.7	*In new Land Use Element*
5.3.8	*In new Land Use Element and should be in Design Review Guidelines document*
5.3.9	*Needs further discussion and study. This is a highly technical area.*
5.3.10	*Should be in an updated Landscape Resource Element*
5.3.11	*Requires City Council action*
5.3.12	*Needs further discussion and study. Concern about the use of the word "all". GHG discussion already required in all EIRs.*
5.5.1	*Consider adding to new Land Use Element*
5.5.2	*Current city policy reinforced in new Land Use Element*
5.5.3	*Needs further discussion and study. CalTrans has always wanted to add, not reduce, traffic lanes.*
5.5.4	*In new Land Use Element*
5.5.5	*In new Land Use Element*
5.5.6	*In new Land Use Element*
5.5.7	*Requires City Council action*
5.5.8	*Current in Growth Management Element*
5.5.9	*In new Land Use Element*
5.5.10	*In new Land Use Element*
5.5.11	*Probably a project for Chamber of Commerce/Visitors Bureau*
5.5.12	*In new Land Use Element*
5.5.13	*In new Land Use Element*
5.5.14	*Needs study by City staff*
5.5.15	*Needs to be added to Transportation Element*
5.5.16	*In new Land Use Element*
5.5.17	*Needs to be developed – suggest the Environment Committee*
5.5.18	*Currently in Growth Management Element*
5.5.19	*Same comment as for 5.3.12*
6.2.1	*Should be in Design Review Guidelines document*

6.2.2	*Should be in Design Review Guidelines document*
6.2.3	*Requires City Council action*
6.2.4	*Existing policy*
6.2.5	*Requires City Council direction*
6.2.6	*Requires City Council direction*
6.2.7	*Should be in an updated Landscape Resource Element*
6.2.8	*Requires City Council direction*
6.2.9	*Requires City Council direction*
6.2.10	*Needs to be evaluated by Parking, Transportation and Circulation Committee; if feasible placed in updated Traffic and Circulation Element*
6.2.11	*Requires working with Edison*
6.2.12	*Requires City Council direction*
6.2.13	*Requires City Council direction*
6.2.14	*Requires City Council direction*
6.2.15	*Requires City Council direction*
6.2.16	*Requires City Council direction*
6.2.17	*Requires City Council direction*
7.3.1	*Probably a project for Chamber of Commerce*
7.3.2	*Probably a project for Chamber of Commerce*
7.3.3	*Probably a project for Chamber of Commerce*
7.3.4	*Probably a project for Chamber of Commerce*
7.3.5	*Requires City mailing, perhaps with Edison*
7.3.6	*Requires City mailing, perhaps with Edison*
7.3.7	*Requires City mailing, perhaps with Edison*
7.3.8	*Requires City mailing, perhaps with Edison*
7.3.9	*Probably a project for Chamber of Commerce*
7.3.10	*Current policy in Growth Management Element*
7.3.11	*Probably a project for Chamber of Commerce*
7.3.12	*Probably a project for Chamber of Commerce*
7.3.13	*Probably a project for Chamber of Commerce*

7.3.14	*Probably a project for Chamber of Commerce*
7.3.15	*Work with Waste Management*
7.3.16	*Current policy with ordinance in place*
7.3.17	*Probably a project for Chamber of Commerce*
7.3.18	*Probably a project for Chamber of Commerce*
7.3.19	*Probably a project for Chamber of Commerce and may require some revision of the Growth Management Element*
8.3.1	*Requires mailing from Water District*
8.3.2	*Requires updated Landscape Resource Element*
8.3.3	*See 4.3.20*
8.3.4	*Needs study by Planning Commission*
8.3.5	*Requires City mailing*
8.3.6	*Requires coordination with Water District*
8.3.7	*Consider adding to Design Review Guidelines document*
8.3.8	*Requires coordination with Water District*
9.3.1	*Requires action by the City Clerk*
9.3.2	*Requires City Council action and coordination with Chamber of Commerce*
9.3.3	*Continuation of existing program*
9.3.4	*Requires action by City staff*
9.3.5	*Requires action by City Manager*
9.3.6	*Requires request from City Council*
9.3.7	*Need further discussion and analysis. Would need to be part of a coordinate public relations effort that would need City Council approval.*
9.3.8	*Requires City Council action.*

Comments from Anne Johnson, Planning Commissioner

From: *Aneejay@aol.com [mailto:Aneejay@aol.com]* ***Sent:*** *Monday, November 17, 2008 12:57 PM* ***To:*** *Larson, Ann CD* ***Subject:*** *re Environmental report*

This is a well-written, impressive document. Other than land use, PC is presently addressing, I believe major changes need to be made in our building codes and water use policies. I think--and this is why I wanted it to come before the PC as an agenda item, but the Chair did not agree with--a joint meeting or a workshop with Environmental Committee, building staff, architects, PC and DR and planning staff--might be the way to address citywide improvements and updates. I realize this is a global comment, but I don't know about specific building codes. That seems to be the issue we must address. Hope this comment helps. Anne Johnson

Comments from Linda Dietrich, City Staff working with Planning Commission

From: *Linda Dietrich [mailto:laguna452@cox.net]* ***Sent:*** *Monday, November 17, 2008 9:53 AM* ***To:*** *Larson, Ann CD* ***Subject:*** *Re: Comments on Climate Protection Action Plan*

What could possibly be added to Norm's list? I would just request that the env. com. look at the lue and list additions , corrections etc.-
Linda

Recreation Committee

11 Minutes

RECREATION COMMITTEE MEETING
MEETING OF AUGUST 4, 2008

Members Present:	*Jim Howard, Lynda Fountain, Stan Leemon, Mallory McCamant, Tim Zevnik, Thasa Zuziak*
Members Absent:	*Rebecca Meekma*
Staff Present:	*Susan Cannan*
City Council:	*Cheryl Kinsman, Council Liaison to the Recreation Committee*

A. *Climate Protection Action Plan*
Tom Osborne, a member of the Environmental Committee, presented the Plan and asked the Recreation Committee for input. The Committee selected Tim Zevnik and Mallory McCamant as a subcommittee. The goal is to have comments by the October 6 Recreation Committee meeting.

Additional comments from the Recreation Committee submitted to the EC by Susan Cannan of City staff.

A. Buildings

1. *Where the City is the builder or applicant:*
   a. *Sustainable design features should be used*
   b. *Products should be used that come from manufacturers with green initiatives*
      i. *Playground equipment and park fixtures, such as benches, from green manufacturers*
2. *For private property owners, the City codes and ordinances should be aligned with green principles. Right now, they are at cross-purposes.*
   a. *"Cool roofs" are not allowed because of the white color.*
   b. *There is no code allowing a homeowner to reclaim water. "Gray water" systems are not allowed.*

B. Transportation & Land Use

1. *Restriping also for public transportation.*
2. *Better bus service to local parks.*
3. *More parks within a 5-minute walk for residents.*
   a. *Small play areas within neighborhoods so parents don't have to generate a local car trip to go to a playground.*

C. Government Operations

1. *Recreation facilities and buildings*
   a. *Lighting for tennis courts, fields, etc. should be high efficiency*
      i. *Consideration of use fees for tennis court lighting. Currently, it is free and the courts are lit whether or not they are being used. Fees would limit lighting to when it is needed and raise consciousness among the users.*
      ii. *Lighting should meet "Dark Sky" requirements*
   b. *Low-flow plumbing and auto lighting*
      i. *Restrooms at Treasure Island do not have auto shut-off faucets or auto shut-off lighting*
2. *Water use in parks (also applies to Water Management)*
   a. *Use reclaimed water for irrigation in all parks*
      i. *Only South Laguna using reclaimed water currently*
   b. *Improve maintenance programs to reduce waste*
   c. *Install smart irrigation controls in all parks to reduce over-watering*
3. *Establish website and/or telephone "hotline" where citizens can report incidents causing waste of energy and water (also applies to Public Outreach)*
   a. *Such as broken sprinkler heads or malfunctioning lights.*
4. *Consider photovoltaics to heat the LBUSD/ Community pool and/or provide power.*
   a. *High school facilities may have roof space for adequate panels*
   b. *Canopies on pool decks may be option for panels*
5. *Consider photovoltaics on other City buildings and properties*
   a. *Corporation Yard, Lang Park*
6. *Maintenance vehicles*
   a. *Implement program to phase in low emission, alt-fuel vehicles*
7. *Procurement procedures*
   a. *Align the city's procurement criteria and procedures with green principles.*

South Coast Water District

(No written comments received)

Summary of the discussion at the meeting the Board of Directors on 25 November, 2008 (as noted by Scott Sebastian)

The staff had prepared a report to the Board on the water-related recommendations of the DCPAP. The staff commended the City of Laguna Beach for taking the lead in matters of water conservation and noted that there were several areas in which the Water District might collaborate with the City on implementing actions. All of the directors voiced support for the Plan. Among the specific comments from were:

- the Board needs to actively involve itself in these matters because there is a danger that, as the SCWD service area lies in five different political jurisdictions, the District could end up trying to implement five different plans.
- The District has been a leader in advocating water conservation, and we need to work with other jurisdictions to make it happen.
- the Board should work with the City and the Laguna Beach County Water District specifically to increase the use of recycled/reclaimed water. We shall have the potential to deliver it, and we need to define which uses are appropriate for it and put pressure on those who regulate water use to accept it.
- The Board needs to be respectful of jurisdictional issues. As most of the City of Laguna Beach is not within the SCWD service area, we can offer support and cooperation, but we are not in a position to take the lead.

The District endorsed the DCPAP, encouraged the City to follow up with implementing actions related particularly to reclaimed water, and pledged its cooperation. It further suggested that the City bring at least one program to the District on which the two entities could cooperate.

ADDENDUM- TABLE OF MODIFICATIONS TO INITIAL PROPOSED CLIMATE PROTECTION ACTION PLAN

The below table conveys initial recommended measures and final, modified measures.

Section #	Measures	Modified Measures
4.3.3	Rebates: Gather and periodically up-date information about rebates for energy-efficient building materials and appliances and make the information easily available on the City's website.	Rebates: Rebates are the responsibility of Edison and San Diego Gas & Electric. The City can provide links to these utility providers from its webpage.
4.3.4	Energy Performance Standards: Implement a standard that all new and substantially renovated buildings not just meet but exceed the minimum requirements of California's Title 24 energy code by some specific percentage (e.g., 10% initially).	Energy Performance Standards: Investigate adopting revised energy performance standards at earliest possible time.
4.3.11	Light Bulb Recycling: Institute a program to permit the proper disposal and recycling of fluorescent lights.	Light Bulb Recycling: Investigate a program with Waste Management to permit the proper disposal and recycling of fluorescent lights.
4.3.13	Air Conditioning: Discourage the use of air conditioning and investigate a "carbon offset" fee for all new permits that include air conditioning compressors.	Air Conditioning: Discourage the use of air conditioning
4.3.15	Water Conservation: (See Section 8, Water Management, for measures related to energy reductions in water use.)	Deleted- Duplicative of Section 8 Water Management
4.3.18	Dark Sky: Adopt the International Dark Sky Association's lighting guidelines and incorporate them into the City's Design Review Guidelines and Municipal Code.	Dark Sky: Adopt standards for minimizing night lighting glare and incorporate them into the City's Design Review Guidelines and Municipal Code
4.3.19	Green Building Recognition:	Removed- not feasible at this

	Institute a point-based certification program under which buildings that exceed certain energy-savings criteria would receive benefits such as reduced fees, fast-track approval, or a Green Building Plaque for display.	time.
5.3.3	Increase the requirements for total on-site unpaved areas and green plantings.	Investigate increasing the requirements for total on-site unpaved areas and green plantings.
5.3.5	Redesign streets to reduce the area of pavement and to increase the amount of planted area within the right-of-way where feasible.	Redesigning streets: See 5.5.2 Traffic Calming: Continue to redesign intersections to increase pedestrian safety and amenity, including the provision of crosswalks, bulb-outs, and pedestrian refuges. Favor traffic-calming devices that make use of increased planted areas, such as residential traffic circles, neck-downs, etc. Incorporate traffic calming techniques (e.g., intersections with bulb-outs to lower traffic speed yet maintain traffic flow throughput) into the community planning stages of municipal projects.
5.3.12	Standards: Evaluate all proposed Council or administrative actions on the basis of their potential positive or negative effects on GHG emissions.	Standards: Evaluate major city projects on the basis of their potential positive or negative effects on GHG emissions.

5.5.3	State-Owned Rights-of-Way: Create a task force to work with CalTrans to reduce the amount of pavement assigned to vehicles and to increase the amount of pavement assigned to bicycles and pedestrians on State-controlled arterials within the City.	State-Owned Rights-of-Way: Monitor efforts by Caltrans to improve bike safety on Coast Highway and Laguna Canyon Road
5.5.4	Public Transport – Hours of Service: Extend trolley/bus service from early morning hours to late evening hours, without mid-day breaks, throughout the year (this could be implemented Friday through Sunday in the near term, and throughout the week in the long term).	Public Transport – Hours of Service: Extend trolley/bus service from early morning hours to late evening hours, without mid-day breaks, throughout the year (this could be implemented Friday through Sunday in the near term, and throughout the week in the long term), where feasible.
5.5.5	Public Transport – Route Structure: Provide bus or van service that is available throughout town with coverage sufficient to allow transportation to take no more than 50% more time (from arrival at a bus stop to a destination) than travel by private car.	Public Transport-Route Structure: Provide bus or van service with a goal to promote coverage sufficient throughout town.
5.5.6	Public Transport – Coordination of Routes: Connect City bus routes to the proposed Dana Point and San Clemente routes, and coordinate bus services with OCTD to ensure connections and to receive additional funding from OCTD to improve bus access to visitors and employees, including potential transportation to and from train stations.	Public Transport – Coordination of Routes: Connect city adjacent routes, and coordinate bus services with OCTD to ensure connections and to receive additional funding from OCTD to improve bus access to visitors and employees, including potential transportation to and from train stations.
5.5.9	Parking Space Designation: Reduce time allowed to park in the downtown and in "premium" parking areas to encourage the use of public transportation. Consider converting some parking spaces to the exclusive use of electric vehicles and providing electric vehicle charging stations.	Parking Space Designation: Consider converting some parking spaces to the exclusive use of electric vehicles and providing electric vehicle charging stations.
5.5.12	Re-striping: Redesign and re-stripe	Deleted for reasons of liability

	streets to reallocate pavement from vehicular to pedestrian and bicycle use, including a system of marked bicycle lanes and bicycle parking areas.	exposure
5.5.13	Bike Routes: Establish a taskforce to plan and implement a continuous network of bike routes extending throughout the City and connecting the street system with off-street bike trails. Modify the design of arterial and collector streets to incorporate safe bike lanes. Work with CalTrans to improve bike safety on PCH and Laguna Canyon Road. Provide signs to remind drivers of the cycling presence. (See the bike route map in Appendix B.)	Deleted for reasons of liability exposure
5.5.19	Standards: Evaluate all proposed Council or administrative actions on the basis of their potential positive or negative effects on GHG.	Deleted- Duplicative of 5.3.12
6.2.1	In all City buildings, encourage the use of natural ventilation (e.g. opening the windows) to minimize air conditioning.	Where feasible in city buildings, encourage the use of natural ventilation (e.g. opening the windows) to minimize air conditioning.
6.2.5	Work with Waste Management, Inc. to assure that the three kinds of waste containers are clearly identified, that the three kinds of waste are more carefully separated, and that all residents and businesses are educated about this. In addition, ask Waste Management to publicize the fact that trash containers should be put out only when full.	Work with Waste Management, Inc. to assure that the three kinds of waste containers are clearly identified, that the three kinds of waste are more carefully separated, and that all residents and businesses are educated about this. In addition, ask Waste Management to publicize the fact that recycling containers should be put out only when full.
6.2.10	Reanalyze traffic patterns and consider the use of synchronized signals and "all way pedestrian" crossings.	Request Caltrans reanalyze and consider the use of synchronized signals and "all way pedestrian" crossings.
6.2.11	Develop a program for the conversion of all streetlights to low energy-consumption types.	Consider reducing street lighting in residential areas

6.2.12	Develop a program for the replacement of all incandescent lights in buildings with CFLs or LEDs.	Develop a program for the replacement of incandescent lights in city buildings with CFLs or LEDs.
6.2.11	Develop a program for the conversion of all streetlights to low energy-consumption types.	Consider reducing street lighting in residential areas
6.2.12	Develop a program for the replacement of all incandescent lights in buildings with CFLs or LEDs.	Develop a program for the replacement of incandescent lights in city buildings with CFLs or LEDs.
6.2.15	Investigate the feasibility of using solar thermal panels to heat the swimming pool at Laguna Beach High School.	Deleted as infeasible at this time.
7.1	Commercial operations are integral to Laguna Beach. They contribute to the economy by serving both residents and visitors, and they can play a significant role in reducing energy consumption and greenhouse gas emissions in the City. Because LB receives many visitors, the actions taken by local businesses will tend to have effects beyond the boundaries of the City. Many actions to reduce energy consumption also tend to reduce operational costs, thus making for a healthier economic environment. Efforts to reduce greenhouse gas emissions should be carried out in cooperation with the Chamber of Commerce and related organizations.	The following objective and recommended measures were developed with the participation of a Chamber of Commerce representative in the City's Climate Protection Workgroup subcommittee. This section provides voluntary actions that local business operators can take to assist in reducing green house gas emiossions in Laguna Beach. Commercial operations are integral to Laguna Beach. They contribute to the economy by serving both residents and visitors, and they can play a significant role in reducing energy consumption and greenhouse gas emissions in the City. Because Laguna Beach receives many visitors, the actions taken by local businesses will tend to have effects beyond the boundaries of the City. Many actions to reduce energy consumption also tend to reduce operational costs, thus making for a healthier economic environment. The following are suggestions for local businesses interested in reducing commercial energy consumption.
8.3.8	Storm Water Catchment: Investigate the potential to add storm water collecting cisterns to a reclaimed water program.	Deleted as infeasible at this time.
9.3.2	Introduce a sticker/logo program	Deleted as infeasible at this time.

	that connects climate protection to patriotism. The City could arrange for the design of a "green eagle" or "green flag" sticker that merchants, businesses, and residents could display when they pledge in writing to do their utmost to carry out the implementation plan contained in this document. Signing the pledge would require that parties to this agreement consent to providing their e-mail address so that a "green mail" contact roster can be compiled that will facilitate the distribution of pertinent updates on climate protection matters.	
9.3.4	Issue quarterly updates to the local newspapers, beginning in spring 2008, on the status of implementing the CPAP	Issue periodic updates on the status of implementing the CPAP
9.3.7	Interview or sample the citizenry at intervals to determine the level of awareness of and compliance with the CPAP	Deleted as infeasible at this time.