

A Comprehensive Approach to a Sustainable Future
<<An Energy Efficiency and Conservation Strategy for the City of San Diego>>

Background

The City of San Diego is California's second largest city and is the ninth largest in the nation. Between 1990 and 2004, the City's population increased by 16% to nearly 1.3 million residents. Further, SANDAG projects that by 2020 San Diego's population could increase to over 1.5 million – a 30% increase from the year 2000. San Diego's residents occupy approximately 500K housing units; of which, over 2/3 consist of pre-1978 stock. The average annual consumption per household is over 6100 kWh of electricity and over 65,000 gallons of water. Lastly, over 9% of San Diego's residents are currently unemployed.

Clearly, in review of our current consumption in combination with our predictions for the future; San Diego faces an unsustainable future for its economy, its environment and eventually...its existence.

Our challenge is to develop a strategy that will allow us to strive for a balance between our existence and our surrounding environment while promoting an improved quality of life for all people. To achieve this balance, we must adopt a strategy that will achieve renewal in our environment in combination with true social change of our human behaviors of consumption. To promote a high quality of life, we must continue to improve the areas where we work, live and recreate while expanding access to technological improvements and the benefits of conservation for all persons.

Therefore, we must implement a truly holistic and comprehensive strategy towards a sustainable future that promotes equally the environment, the economy and the individual that results in changes of human behavior that will significantly increase our ability to endure as a society.

Strategic Approach

In order to achieve success in this strategy, we must:

- Capitalize on the synergies of multiple initiatives, concepts and policies that share mutually supporting goals and objectives.
- Develop a pervasive message that penetrates into our communities and homes and resonates with its citizens in a manner that results in social change.
- Promote conservative behaviors that result in a market that encourages demand for goods and services while providing employment to the citizens of San Diego.
- Leverage limited resources in a manner to ensure the extended success of the individual components as well as the strategy as a whole.

Strategic Goals

The City and Citizens of San Diego seeks to reduce the consumption of natural resources and fossil fuels; reduce the emission of greenhouse gases; generate local, long-term career track green jobs related to energy and water sustainability; and create new markets and industries in energy and water efficiency and renewable energy.

Specific Objective Areas

Environmental/Resource related objectives

Increase energy efficiency and conservation – Continue to support programs and policies that cost effectively reduce energy consumption in City operations and in homes and businesses located in the City of San Diego through a combination of increased energy efficiency and overall conservation of natural resources. Focus efforts on reducing energy use in the existing residential and commercial building stock by improving building performance through multiple systems in a “whole building” approach and developing innovative tools to assess opportunities for efficiency and to deliver efficiency programs.

Goal	2015	2020
Reduce Electric Consumption (GWh)	15%	30%
Reduce Per Capita Electric Consumption (kWh/person)	15%	30%
Reduce Annual Peak Demand (MWp)	12%	30%
Reduce Average Annual Electric Demand (MW)*	5%	n/a
Increase residential baseline performance (above Title 24)	15%	30%
Increase commercial baseline performance (above Title 24)	20%	40%
Reduce Natural Gas Consumption (MM therms)	10%	20%
Reduce Per Capita NG Consumption (therms/person)	10%	20%

Increase renewable energy use – Continue to support programs and policies to increase the amount of renewable electricity generated by the City and by facilities located within the City of San Diego. Where possible encourage efficiency upgrades before renewable generation and seek to combine efficiency and renewables in pursuit of net zero energy building use.

Goal	2015	2020
Increase Distributed Photovoltaics (MW)	500	1200
Increase Renewable Energy (MW)*	50	n/a

Water –Reducing water consumption can also reduce energy use. Approximately 50% of the energy associated with water use is related to end-uses, such as irrigation and water heating. Water treatment and pumping constitutes that largest portion of energy use in City of San Diego operations. The City of San Diego should continue to support policies and programs to reduce water use in its own operations and citywide.

Goal	2015	2020
Reduce Water Consumption (MG)	10%	30%
Reduce Per Capita Water Consumption (MG)	10%	30%

Reduce Greenhouse Gas Emissions – By reducing energy use, generating electricity with renewable sources, reducing fossil fuel use, and other methods such as absorption and sequestration, the City of San Diego seeks to reduce overall greenhouse gas emissions. Current City policy is to reduce citywide emissions by 15% by 2010. Additionally, support programs that reduce greenhouse gas emissions through absorption and sequestration.

Goal	2015	2020
Reduce Citywide GHG (MMT CO2E)*	15%	n/a
Reduce GHG in City Operations (MM TCO2E)*	15%	n/a

* Indicates previously adopted City objective

Economic Objectives

Generate local green jobs – A comprehensive effort to improve building efficiency and increase renewable energy opportunities in the City provides an opportunity to create local, sustainable, family-wage jobs that include healthcare and retirement benefits. Such job creation efforts can help provide career pathways for low-income and unemployed citizens through job training and apprenticeship programs.

Goal	2015	2020
Jobs created (per \$92K)	150	300

Stimulate local economy – Programs and policies to encourage efficiency and renewable energy can stimulate significant economic activity that in many cases creates income that remains in the community. Energy retrofits and renewable energy installation are labor-intensive processes that require local contractors and cannot be outsourced. This financial savings realized by the end user as a result of such energy projects will generate financial savings that can be reinvested in the local economy for goods and services.

Goal	2015	2020
End user savings (combined energy/water per year)	12%	30%

Equity and Success Objectives

Promote Equity – Encourage programs and projects that will provide opportunities to as many citizens as possible in the San Diego Community in a “Citywide Campaign”, allowing a broad cross section of neighborhoods and communities to benefit from the many benefits – including value added to homes and also job opportunities – that can be created as a result of efficiency and clean energy programs and policies.

Goal	2015	2020
Community penetration (in households)	15%	50%
Workforce penetration (in households)	25%	50%

Leverage opportunities – Many programs and policies exist to offset the cost of efficiency and renewable energy technology. The City of San Diego should to the extent possible leverage existing programs and funding opportunities to maximize the effect of efficiency and renewable energy projects. For example, water and energy are inextricably linked and measures to reduce water use also have a significant effect on energy. To the extent possible, efforts should integrate energy and water measures.

Measure Success – Promote an array of programs that can be measured and verified in order to best strategize future programs to accomplish long term goals related to energy use, greenhouse gases (GHG), water and local job creation. Provide for update and alignment of long term planning and policy documents that provide support and additional leverage to this strategy.

Prefer Long-Term Solutions – In choosing solutions to improve efficiency and increase renewable energy use, the City should select solutions that have the possibility of being sustained over the mid- to long-term over ones that will have limited, short-term effect.

Emphasize Scalable Solutions – The City should emphasize energy solutions that can be scaled either within its own facilities or in the broad community. The most effective use of public resources is to invest in solutions that are widely applicable to the community.