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Attachment Strategic Energy Plan 2009-2012.pdf

Thank you for this opportunity to comment on the proposed Renewable Planning and Permitting Program (RP3) Grants. The County of San Diego encourages the CEC to move forward with the development of the grant program to provide assistance to local jurisdictions in evaluating and expediting renewable energy development projects. During the last couple of years, as part of an overall County strategy to promote renewable energy, the County Department of Planning and Land Use has initiated a number of amendments to our Zoning Ordinance to clarify and simplify existing provisions related to renewable energy systems. Currently the County is in the process of preparing comprehensive amendments to our wind turbine regulations and is also preparing an associated EIR.

During this time the County has and continues to be challenged by the complexities of properly planning for the siting and permitting of renewable energy developments. Furthermore, as economic priorities shift, local funds for the time needed to complete high quality land use plans, policies and ordinance associated with this often times controversial land use are inadequate or minimal at best. To assist the CEC in following through with the development of what is sure to be a beneficial program for local jurisdictions, the County of San Diego provides the following responses to your questions.

What are the key challenges with planning, permitting and environmental issues in your local jurisdiction related to renewable energy development?

The key challenges in San Diego County related to renewable energy development are:

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- Inadequate resources and information regarding existing renewable energy technologies, for example very little information exists on the impacts associated with small wind turbines. This affects our ability to develop adequate County policies and ordinances.
- Lack of federal or state resources, guidance and publications regarding impacts associated with renewable energy development, for example noise impacts associated with commercial wind turbine projects.
- In San Diego County there is high resistance to commercial wind energy projects within San Diego County's backcountry area. These areas have been identified as excellent wind resource areas. Primary issues deal with biological, aesthetic, and noise impacts. Related to these environmental issues, concerns about the health effects of turbines and property values have also come to the forefront.
- CEQA processing related difficulties with creating ordinances for the allowance of by-right or ministerial small-scale wind energy facilities.
- Inadequate or appropriate locations for large scale solar installations. For instance siting these facilities on disturbed lands versus undisturbed lands.
- Inadequate funding and financial resources to move forward with planning efforts for the creation of ordinances or comprehensive master plans for renewable energy development.

What steps, information, tools, resources, etc. are necessary to revise the current land use plans and/or General Plans of your local jurisdiction to expedite the permitting process for renewable energy projects?

The County's General Plan is currently being updated and will contain new and revised goals and policies related to renewable energy development. The availability of resource documents would assist in assuring that land use plans are in line with the appropriate renewable energy information and technologies which would lead to implementing documents which could help to streamline existing processes. State guidelines would also provide "cover" to local jurisdictions when developing findings justifying the establishment of renewable energy regulations.

Does your local jurisdiction currently have best practices in place for permitting renewable energy projects?

The County of San Diego currently has a Green Building Program which provides incentives to home owners and contractors for the permitting of energy efficient measures into construction projects. One of most successful components of the program is exempting homeowners from building permit fees associated with PV solar installations.

The County's Zoning Ordinance was amended in 2010 to allow greater flexibility for the permitting of small wind turbines and small-scale commercial PV solar systems. Although these amendments are a helpful upgrade to our existing ordinance and do make the permitting of these types of facilities less onerous, they still require discretionary actions subject to environmental review.

What additional funds, resources, or tools would be required to develop new plans, policies or ordinances to expedite renewable energy development in your local jurisdiction?

- Because this is an ever-expanding land use and technologies are constantly evolving, high-level resource and guidance documents are essential to local governments to justify their local land use plans, polices and ordinances as well as assuring some state-wide consistency.
- Amendments to CEQA would be helpful to incorporate possible environmental exemptions related to renewable energy developments. This would play a big part in expediting renewable energy development.
- To stay current with renewable energy information, a great deal of staff time and funding is required to formulate adequate local policies and ordinances. Having funding opportunities in the form of grants would be essential to the development of a local renewable energy team to assist in the coordination of staff and resources for the creation of comprehensive renewable energy ordinances.

Will your local jurisdiction be able to contribute match funds for an RP3 grant to develop the needed new plans, policies, or ordinances to expedite renewable energy development? If so, how much?

Given the state of the economy which is requiring local jurisdictions to make difficult

choices as to what to fund, it is unlikely that significant matching funds would be available and we would recommend that any grant program not use matching funds as a part of a ranking system.

Has your local jurisdiction already begun the process to develop such plans, policies, or ordinances?

As mentioned above, as part of comprehensive amendments to the General Plan, the County has included goals and policies related to renewable energy developments to reduce non-renewable resource consumption and GHG and other air pollutant emissions.

Further, staff has completed Zoning Ordinance amendment to existing provisions to assist in the permitting of small scale commercial solar energy facilities and to allow greater flexibility in the permitting of multiple small wind turbine facilities for on-site use.

The County of San Diego is currently in the process of conducting a comprehensive amendment to our Zoning Ordinance related to wind turbines. The amendments propose to include a by-right small wind turbine component for on-site energy consumption as well as amendments to the large-scale wind turbine (off-site consumption) regulations to make these provision more in-line with current facility size, operations and technologies. The County is preparing an EIR for this Zoning Ordinance amendment.

Does your current local jurisdiction's renewable energy development plan integrate with regional or statewide energy plans such as; Desert Renewable Energy Conservation Plan, Renewable Energy Transmission Initiative, a Natural Community Conservation Plan, or a Habitat Conservation Plan?

No

How will your local jurisdiction's planning effort help it reach state renewable

energy procurement goals (Renewables Portfolio Standard – 33 percent by 2020), and reduce greenhouse gas emissions (AB 32)?

The goals and policies of the General Plan will promote and encourage the use of renewable energy projects. Recent proposed amendments to the County Zoning Ordinance should help in expediting the permit process for solar and wind energy developments and in some cases propose to allow small wind facilities by-right.

Furthermore, the County of San Diego has a Strategic Energy Plan (attached to email) which includes a County Community Energy Strategy that contains a number of goals and strategies to help in the expediting and streamlining of the County's codes and ordinances for the benefit of renewable energy technology. Developing implementation measures to address these strategies will go a long way in addressing the Renewables Portfolio Standard and GHG emissions.

Please do not hesitate to contact me should you have any follow-up questions.

Sincerely,

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County of San Diego
Strategic Energy Plan 2009-2012

Prepared by the

Energy Stimulus Team

September 22, 2009

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1. Purpose

The purpose of the Strategic Energy Plan is to provide a comprehensive plan to achieve the County's goals by setting specific objectives and identifying specific execution strategies and in the areas of energy conservation, energy efficiency, renewable energy, sustainability programs, water conservation and reduced emissions. The Strategy requires updating at least every three years to address regulatory, technical, economic and societal developments.

2. Background

The San Diego County region has one of the largest population centers in the United States with over 3 million people covering 4,200 square miles. Energy use is responsible for more than 90 percent of greenhouse gas emissions in the San Diego Region. The largest contributors are on-road transportation (46 percent), electricity use (25 percent) and natural gas-fired equipment (9 percent). Adopting energy efficiency measures for buildings, accelerating the deployment of alternative fuel vehicles, and considering the energy impacts of land use and transportation planning decisions, all contribute to meeting the state law to reduce greenhouse gas emissions economy-wide to 1990 levels by 2020 and the long-term goal of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050.

Because of our increasing population and, strict environmental regulations, the County of San Diego (County) is increasing its efforts in the areas of energy conservation and efficiency, renewable energy, reduced emissions, water conservation and sustainability programs. The County has developed, and is working with other regional organizations (San Diego Association of Governments, San Diego County Water Authority) and government entities (City of San Diego, Port of San Diego), in a comprehensive approach to aggressively pursue these objectives and strategies and to achieve positive environmental impacts for county facilities, unincorporated land and the private sector.

3. Energy Strategy Planning

The Department of General Services, for County-owned facilities, and the Department of Planning and Land Use, for unincorporated areas of the county, have been actively developing strategic energy plans. In response to The American Recovery and Reinvestment Act of 2009 (Public Law 111-5) (ARRA), several County departments (e.g., Planning and Land Use, Public Works, Parks and Recreation, General Services, Air Pollution Control District, Auditor and Controller) collaborated to create a County of San Diego Energy Team. The charter of this team is to utilize the knowledge, skills and expertise across departments to develop and implement a comprehensive energy plan.

The County of San Diego will use its existing partnerships with federal, State and local governments, utilities, utility regulators, private and public sector organizations, as well as develop new partnerships to leverage funding opportunities and expertise. The County is currently participating in the development of the updated Regional Energy Strategy for the San Diego Association of Governments (SANDAG). These partnerships will allow the County to do more and provide greater benefits to the community and its residents, businesses and organizations.

The County's Strategic Energy Plan is consistent with the County's Five-Year Strategic Plan Initiative Objectives -- Kids, the Environment, and Safe and Livable Communities. The Strategic Energy Plan promotes sustainability of our region, accommodating today's energy needs while positioning County government and the region to minimize impacts on our children and future generations. The Strategic Energy Plan also aligns with keeping our children healthy, by promoting walkable communities and a region free from air pollution. The environment is inextricably tied to energy use, which accounts for the bulk of greenhouse gas emissions from the San Diego county region. The Strategic Energy Plan strategies will reduce regional emissions, provide leadership in addressing global climate change, contribute to reducing United States' reliance on foreign oil, and increase regional energy self-sufficiency.

In addition, the Energy Team will interface with other local governments, the California Energy Commission (CEC), and the California Public Utilities Commission (CPUC). We will attend CEC and CPUC events, workshop, and meetings, as needed.

The Energy Strategy is the basis for an Action Plan. The Action Plan prioritizes the identified programs, projects and initiatives. Our projects include measurement and verification requirements to ensure that the energy savings and other metrics are quantified and reported.

The County of San Diego operates under a sound business model (the General Management System) and is recognized as one of the best run counties in the nation. The County's Required Disciplines of fiscal responsibility, and accountability and transparency will insure that grants, incentives, and rebates are properly used.

4. County of San Diego Funding Plan

Aside from budgeted funds, there are several available funding sources including 1) loans from the CEC, SDG&E and banks; 2) utility incentives, grants and rebates; 3) municipal bonds; 4) leases; 5) power purchase agreements; 6) federal and State government grants; 7) energy services companies; 8) pooled credit with other local governments; and 9) reinvestment of savings. A major part of reaching our goals is to leverage the available funding sources to maximize the public's benefit at the lowest overall cost.

5. Energy Strategy Plan Development

The County of San Diego has two distinct strategies related to energy:

The **County Government Energy Strategy (Part A)** has been developed to include County-owned facilities, leased facilities, and the County's vehicle fleet. The County's main objectives are to lower operational costs, reduce energy and water consumption and minimize greenhouse gas emissions. The County Government Energy Strategy has eight strategic goal statements with a major objective and execution strategies for each goal.

The **County Community Energy Strategy (Part B)** has been developed to include management of unincorporated areas of the county and coordination with cities and federal, State and local entities. The County Community Energy Strategy has a regional focus with specific emphasis on the unincorporated area where the County has land use jurisdiction. The main objectives are to reduce energy and water consumption, and minimize greenhouse gas emissions. The County Community Energy Strategy has six strategic goal statements with a major objective and execution strategies for each goal.

A. COUNTY GOVERNMENT ENERGY STRATEGY (PART A)

Commercial buildings account for 21 percent of the total energy use and the use of electricity and natural gas is responsible for more than 34 percent of greenhouse gas emissions in the San Diego region. On-road transportation accounts for almost half of the regional greenhouse gas emissions. Implementing energy-efficiency upgrades, designing highly energy- and water-efficient new facilities, reducing energy use during critical electricity demand periods, accelerating the deployment of alternative fuel vehicles and renewable energy systems contribute to reduced operational costs, increased energy reliability, a strong leadership example to the region and progress towards meeting California's greenhouse gas emissions goals. The County Energy Strategy will be updated at three year intervals. Items in brackets [] indicate applicable County of San Diego policies. (See Appendix A for a comprehensive list of policies.)

1. STRATEGIC GOAL #A-1: ENERGY EFFICIENCY AND UTILIZATION

Integrate energy retrofit projects into the County's Major Maintenance Improvement Projects (MMIP) process while including facility condition assessment information, energy efficient purchasing and energy improvements in building operations and maintenance. Reduce annual energy consumption by 1 percent on a kBTU (thousand British Thermal Units)/Square Foot/Year for each of the next three years based on a Fiscal Year (FY) 2008-2009 baseline.

Execution Strategies

1. Energy-Efficiency Retrofit Projects
 - a. Coordinate and evaluate building energy assessments findings.
 - b. Evaluate and integrate building condition assessments findings.
 - c. Identify buildings that require and/or can benefit from energy efficiency projects.
 - d. Integrate energy retrofit projects with energy efficiency goals using established benchmarks.
 - e. Conduct measurement and verification after installation of energy efficient retrofits to confirm performance.
 - f. Install equipment and software and establish policies, where feasible, to reduce energy consumption from plug loads (equipment such as desktop computers, monitors, printers, battery chargers and task lights using electrical outlets).
 - g. Convert antiquated building energy management systems to use state-of-the-art technology. [County of San Diego (COSD) Board Policy G-15]
2. Establish Energy-Efficient Purchasing Policy
 - a. Review, update and develop purchasing policies to promote procurement of the most energy efficient equipment and water efficient plumbing fixtures appropriate for specific use. [COSD Chief Administrative Officer (CAO) Administrative Manual Section 0050-01-7, Energy Conservation in County Buildings]
 - b. Promote purchasing policy of ENERGY STAR-designated equipment to County departments and contractors in order to facilitate procurement of energy-efficient equipment.
 - c. Promote the procurement, design, installation, and operation of telecommunications room and Sheriff's data center equipment that will minimize energy consumption.
3. Operate & Maintain Buildings to Optimize Performance
 - a. Evaluate energy efficiency and utilization information on buildings. [COSD Board Policy G-15]
 - b. Develop recommendations for building system energy improvements. [COSD Board Policy G-15]
 - c. Track and prioritize energy efficiency projects for improvements, repairs and replacements. [COSD Board Policy G-15]
 - d. Identify, initiate and implement repairs and replacements with a focus on energy and water efficiency (at appropriate expenditure levels and expertise). [COSD Board Policy G-15]
 - e. Implement periodic existing building retrocommissioning (building tune-up) procedures to improve facility operations and maintenance. [COSD Board Policy G-15]
 - f. Investigate use of the Leadership for Energy and Environmental Design for Existing Buildings Rating System for certifying our existing facilities have high operational efficiency while reducing their impact on the environment.
 - g. Set thermostat temperature in facilities during occupied periods not lower than 78 degrees Fahrenheit when cooling or higher than 68 degrees Fahrenheit when heating. [COSD Board Policy G-15 and COSD CAO Administrative Manual Section 0050-01-7]

4. Identify water conservation and efficiency activities that result in energy usage reductions from pumping and water heating.

2. STRATEGIC GOAL #A-2: ENERGY-EFFICIENT NEW CONSTRUCTION

Improve energy efficiency of new construction and major renovations for County facilities through design team selection criteria, improved energy efficient design, better design review processes and system selection criteria and the installation, use and training of state-of-the-art building controls and energy monitoring systems. Achieve annual energy usage at least 20 percent better than the current minimum California Energy Commission Title 24 Building Standards for both new construction and major renovations. (Title 24 of the California Code of Regulations establishes energy and water use standards for construction and remodeling of buildings in the State of California.)

Execution Strategies

1. Design Criteria
 - a. Review and update criteria for selecting architectural and engineering firms based on expertise in “green building” design. [COSD Board Policies G-15 and F-40]
 - b. Improve the design review process to reflect Strategic Energy Plan goals.
 - c. Participate in SDG&E “Savings by Design” and “Sustainable Communities Programs” to receive financial incentives for energy efficient and sustainable designs. [COSD Board Policy G-15].
 - d. Conduct Life Cycle Cost Analysis for alternative envelope (exterior walls, roof, windows) and system (air conditioning, lighting, plumbing, controls) types on all new facilities to determine impact on construction, operation and maintenance costs. [COSD Board Policies G-15 & G-16]
 - e. Obtain U.S. Green Building Council (USGBC) LEED Building Rating System Certification for “green building” design for new construction and major building renovations over 5,000 square feet. [COSD Board Policies B-67, G-15 & G-16]
 - f. Conduct building commissioning (design intent and operational verification) on all new facilities and include in facility budget. Perform USGBC LEED-Enhanced Commissioning for buildings over 20,000 square feet.
 - g. Install state-of-the-art building controls to optimize and monitor building performance.
 - h. Train building facility managers on operations of new building equipment and control systems and incorporate into building cost. [COSD Board Policy G-15]
 - i. Reference the Engineering Society of North America (IESNA) The Advanced Energy Design Guide for design of new and retrofit lighting systems [COSD Board Policy G-15]
 - j. Provide Department of General Services Real Estate Services staff with energy and sustainability guidelines and standards for selecting new properties and facilities to acquire or lease. [COSD Board Policy G-15]

3. STRATEGIC GOAL #A-3: ENERGY SUPPLY

Evaluate alternatives for supplying reliable and reasonably priced energy including distributed generation (cogeneration, photovoltaics, etc.) for County facilities. Provide a portfolio that achieves an overall annual cost savings at least two percent better than the utility bundled rates.

Execution Strategies

1. Procure the energy commodity in the most cost effective manner.
 - a. Electricity
 - b. Natural gas
 - c. Propane
2. Manage electricity Direct Access energy service contracts.
 - a. Monitor costs and benefits
 - b. Engage consultant with expertise in energy procurement
 - c. Determine type of electricity products
 - d. Monitor legislation affecting energy supply and transmission
3. Evaluate third party purchase of the natural gas commodity.
4. Evaluate available utility rates and tariffs for electricity, natural gas and water/sewer accounts and change, as appropriate, to ensure best value.
5. Conduct preliminary feasibility study for cogeneration at County facilities based on energy usage characteristics and ability to host the required infrastructure. [COSD Board Policy G-15]
6. Prioritize and install renewable energy systems at County facilities, where feasible.
7. Evaluate benefits of securing a portion of electricity through Renewable Energy Credits.

4. STRATEGIC GOAL #A-4: RENEWABLE ENERGY

The County will provide at least two percent of its annual electricity usage from renewable energy systems by FY2011-2012 with a FY2008-2009 baseline.

Execution Strategies

1. Design new buildings over 5,000 square feet with at least 2.5 percent of the estimated annual energy consumption supplied by an onsite renewable energy system.
2. Make all new buildings over 5,000 square feet ready for the installation of photovoltaic systems incorporated as part of the design and construction of the building.
3. Continue to evaluate renewable energy resources, procurement methods and potential sites for installation. [COSD Board Policy G-15]

5. STRATEGIC GOAL #A- 5: DEMAND REDUCTION

Invest in metering, building controls and energy monitoring systems in all County buildings with peak demand of 200 kilowatts (kW) or more to enable the County to

support demand response programs. The County will achieve at least 600 kW of demand responsiveness capability on a peak summer day by FY2011-2012.

Execution Strategies

1. Participate in SDG&E Demand Reduction Programs for Technical Assistance and Technology Incentives.
2. Provide enhanced metering and control strategies to automate demand responsiveness (automated load shedding), where feasible.
3. Evaluate participation in a demand response financial incentive program(s).

6. STRATEGIC GOAL #A- 6: UTILITY MONITORING AND REPORTING

Provide quarterly value-added energy and water usage and tracking information to support energy-efficient building system performance. Provide facility operators and energy management staff with near real-time monitoring of electricity and natural gas usage at facilities over 20,000 square feet by FY2011-2012.

Execution Strategies

1. Improve energy reporting formats, distribution and feedback individualized for each department. [COSD Board Policy G-15]
2. Integrate the building utility metering with Energy Management System reporting.
3. Provide hardware, software and processes to new buildings to comply with LEED Credit EA Credit 5, Measurement and Verification
4. Install additional sub metering to improve energy cost allocations for customers.
5. Increase the use of utility monitoring to maintain high building performance.
6. Increase participation in the U.S. Department of Energy's ENERGY STAR Portfolio Manager and Building Labeling Program.
7. Convert energy consumption and production data into carbon emission equivalents.

7. STRATEGIC GOAL #A-7: FLEET FUEL EFFICIENCY AND UTILIZATION

Manage County fleet vehicle procurement, maintenance and utilization to increase fuel efficiency, reduce vehicle emissions and decrease the impact on the environment. Achieve a 5 percent reduction in County fuel consumption and vehicle emissions by FY2012 - 2013 based on a FY 2008-2009 baseline. Evaluate, encourage and implement appropriate transportation alternatives.

Execution Strategies

1. Increase the number of eligible alternative fuel and/or hybrid vehicles in the County's fleet from 5 percent at the beginning of FY 2009-2010 to 25 percent or more, contingent on departmental functional requirements, funding and refueling infrastructure, by FY 2011-2012. [COSD Board Policy H-2]

2. Replace retiring vehicles with higher-efficiency, lower-emissions vehicles, as availability and budgets allow. [COSD Board Policy H-2]
3. Explore alternative transportation solutions such as shuttle bus service.
4. Improve maintenance practices that increase fuel efficiency.
5. Prepare and analyze of vehicle utilization reports to recommend Fleet reductions. [COSD Board Policy H-10]
6. Evaluate Countywide transportation requirements with a goal of 1) acquiring the appropriate type of vehicle for the work assignment, 2) potentially reducing the number of County vehicles, and 3) balancing the number of County vehicles and private mileage reimbursements.
7. Increase County vehicle user awareness of fuel-efficient, vehicle-driving techniques such as trip planning, proper utilization techniques, anti-idling restrictions, etc.

8. STRATEGIC GOAL #A-8: COMMUNICATIONS AND TRAINING

Develop a highly trained facilities operations staff, educate employees regarding energy conservation measures and be recognized and acknowledged for the successes in the Energy Management Program. Provide reports to management on the status of the Energy Management Program.

Execution Strategies

1. Provide Energy Efficiency Communications and Training
 - a. Department of General Services - Develop, implement and/or coordinate an energy and water efficiency training program for building facilities managers, project managers, procurement staff and other employees having direct impact on water conservation and energy efficiency and utilization.
 - b. Other County Departments – Provide educational materials and communicate to employees regarding energy, water and other sustainability topics.
2. Expand participation in the SDG&E Partnership Program to advance communication and training activities.
3. Integrate energy-efficiency goals into the Department Excellence Goals and the Operational Incentive Plan programs.
4. Recognize of Energy Program accomplishments annually at Departmental Meetings.
5. Provide formal recognition of outstanding employee contributions.
6. Publication of Energy Program highlights in County of San Diego publications.
7. Apply for applicable energy/green/sustainability awards.
8. Presentation of Energy Program accomplishments to peers at other Counties or in technical societies.
9. Provide an annual report, for management use, on the status of the Strategic Energy Plan.

B. COUNTY COMMUNITY ENERGY STRATEGY (PART B)

Energy use is responsible for more than 90 percent of greenhouse gas emissions in the San Diego Region. The largest contributors are on-road transportation (46 percent), electricity use (25 percent) and natural gas-fired equipment (9 percent). Adopting energy efficiency measures for buildings, accelerating the deployment of alternative fuel vehicles, and considering the energy impacts of land use and transportation planning decisions, all contribute to meeting the state law to reduce greenhouse gas emissions economy-wide to 1990 levels by 2020 and the long-term goal of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050.

1. STRATEGIC GOAL #B-1: REDUCE ENERGY CONSUMPTION

Reduce per capita energy consumption of County communities by 20 percent from 2007 to 2030 through a comprehensive approach that addresses new construction, existing buildings, and water use. Energy efficiency in existing buildings is the key to achieving cost-effective carbon reductions on a mass scale in the time frame that is required. Existing residential buildings in particular represent the largest potential for energy performance improvements in our region. A \$3,000-\$7,000 investment by the homeowner or other entity through incentives can reduce the consumption of a typical inland San Diego home by 30 percent or more, whereas the investment in solar-electric systems to generate an equivalent amount of energy would be roughly three times that amount. In actuality, energy efficiency and distributed generation are perfect partners, and the County's programs should facilitate widespread installation of both. Therefore, implementation of this goal is interrelated with Goal B-2.

Execution Strategies

1. Update and Expand the County's Green Building Program and Related Codes (see <http://www.sdcountry.ca.gov/dplu/greenbuildings.html>).
 - a. Update the County's Green Building Incentive Program to incorporate the latest green building principles, reference available certification programs, and to address green building in remodels (existing homes). Reevaluate incentives to ensure that they provide for maximum effectiveness.
 - b. Update County's Building and Energy Codes (Title 9, County Code of Regulatory Ordinances) and supporting County procedures in alignment with the California Green Building Code and Energy Code update and specify certain mandatory measures to increase energy efficiency.
 - c. Require standardized ratings and performance-based measures. The Home Energy Rating System (HERS/HERS2), developed as part of the 2006 International Energy Conservation Code (IECC) and supported by the U.S. Environmental Protection Agency and U.S. Department of Energy, is the most prominent example, but there are other options as well. An in-home assessment provides essential information for residential building owners to identify and

- prioritize energy efficiency measures. To be most comprehensive and cost-effective, energy efficiency requires fact-based decision making for each project; a standardized in-home assessment, conducted by a trained and/or certified individual, is the best way to achieve this systematically.
- d. Emphasize the “Zero-Energy Homes,” which are those that produce as much energy as they use over the course of a year. Distributed generation and energy efficiency go hand-in-hand, and a few examples of successful Zero Energy Homes (ZEHs) will provide a concrete, but visionary, end-goal for the program. Not all residents can or will attempt to achieve the ZEH, but it serves as a powerful model and motivator. Indeed, in the medium term, state policy is headed towards requirement of ZEH for new construction.
2. Develop a San Diego regional greenhouse gases emissions offset CEQA mitigation program to generate funds for an existing home and business retrofit incentive program and other programs with quantifiable greenhouse gas reductions.
 3. Develop an Energy Efficiency Audit Program.
 - a. Develop a voluntary residential and commercial building energy audit and retrofit program. Trained/certified individuals, as noted above, will assess existing homes and businesses for the costs, benefits, and estimated payback periods for energy conservation and retrofit alternatives. They will also identify available rebates, incentives, and financing options.
 - b. Develop the necessary guidelines and standards (i.e., for energy-efficiency audits and retrofits), retrofits contractor participation, inspection system for retrofits, and reporting protocol). This could include active qualification of contractors to perform work under the program. This will encourage transparency and accountability, and will assist in record-keeping and program evaluation.
 4. Continue efforts to support the use of Compact Fluorescent Lamps (CFLs) and related recycling programs that provide opportunities to unincorporated area residents to recycle Universal Waste Fluorescent Lamps including CFLs.
 5. Explore the expansion of the regional Green Business Program (http://www.co.san-diego.ca.us/deh/doing_business/chd_greenbus.html) recognize and promote resource conservation, energy efficiency and pollution prevention activities among local businesses.
 6. Update the County’s Landscape Water Conservation Ordinance to reduce water consumption associated with landscaping irrigation and water features.
 7. Update the County’s codes and ordinances to require, facilitate, or encourage energy and water conserving techniques including those relating to recycled water, gray water, solar water heating, optimal building orientation, tankless water heaters, lighting regulations, pre-wiring and plumbing, building materials that require low amounts of energy to produce, etc.
 8. Develop a program that assists and informs property owners regarding financial alternatives for energy efficiency retrofits and renewable energy alternatives (photovoltaics) such as property assessments pursuant to AB 811.
 9. Explore development of a program to buy down the upfront cost of the home energy assessment, as well as the retrofit work when the property commits to and demonstrates a certain level of achieved efficiency. This “carrot” approach can

encourage property owners to act, while much of the capital investment could come from elsewhere, such as federal and State grants. These incentives could be linked with existing incentives from SDG&E, where applicable. A basic approach:

- a. HERS inspection or equivalent - \$250 voucher against the work (typically \$500)
 - b. 10% performance efficiency improvement - \$500 voucher
 - c. 15% performance efficiency - \$1,000 voucher
 - d. 20% or greater performance efficiency - \$1,500 voucher
10. Investigate possible outreach, incentive, or other programs to advance improvements to home weatherization, maintenance/retrofits to air conditioning (A/C) units, overall A/C energy use reduction, ENERGY STAR-buyer programs, home water consumption, smart grid technologies (technologies that allow for energy users to interact with the energy delivery system to improve overall reliability, efficiency, and cost), etc.
 11. Provide low-income weatherization and energy-efficiency retrofit programs through the Department of Housing and Community Development and collaborate with the efforts of other County Departments as appropriate.
 12. Support CEC's upcoming appliance rebate program. Refrigerators, for example, are an area of large potential savings in the residential sector but are not eligible for AB 811 financing; an effective rebate-replacement program could have a large impact.

2. STRATEGIC GOAL #B-2: RENEWABLE ENERGY

Facilitate the development of at least 200 residential/commercial photovoltaics projects per year and the development of commercial renewable energy in the unincorporated County with the goal of at least 50 megawatts (mW) of production by 2015.

Execution Strategies

1. Update the County's codes and ordinances to modify requirements that may interfere with solar installations (e.g., height and setback restrictions).
2. Revise the County Zoning Ordinance and other codes to streamline the permitting process for renewable energy technology (e.g., solar and wind energy, fuel cells, and biomass (typically green waste)).
3. Provide incentives (such as fee waivers and expedited processing) for permitting the installation of photovoltaics systems and other projects that involve renewable energy.
4. Coordinate with the California Center for Sustainable Energy, the California Solar Homes program, and other programs and entities that are advancing the installation of solar energy systems.
5. Support market "value-pricing" – such as a feed-in tariff, which basically allows homeowners to sell energy produced on their property back to the energy provider – to encourage solar energy installations.

6. Evaluate undertaking a Countywide Renewable Energy Planning Study to address potential environmental and community concerns, target priority areas for development, and streamline processing.
7. Develop a program that assists and informs property owners regarding financial alternatives for energy-efficiency retrofits and renewable energy alternatives (e.g., photovoltaics) such as property assessments pursuant to AB 811.

3. STRATEGIC GOAL #B-3: ENERGY INFRASTRUCTURE

Support development of energy infrastructure that is compatible with the character and natural resources of the unincorporated area, and which accommodates a transition to local distributed generation. Distributed generation includes solar, wind, biomass (biological material from living, or recently living organisms used to generate electricity or produce heat) and biogas (methane and carbon dioxide from bacterial degradation of organic matter), fuel cells, clean and efficient combined heat and power systems, efficient microturbines, internal combustion engines, and advanced energy storage.

Execution Strategies

1. Coordinate with San Diego Association of Governments (SANDAG), SDG&E, the California Center for Sustainable Energy, and other entities to provide information on unincorporated lands for energy infrastructure planning.
2. Support market “value-pricing” for *distributed generation*’s environmental attributes being fed into the power grid through a feed-in tariff or other mechanism determined by the CPUC.

4. STRATEGIC GOAL #B-4: TRANSPORTATION AND LAND USE

Reduce petroleum demand through reduced vehicle demand and vehicle miles traveled, and by encouraging deployment of alternative fuel vehicles.

Execution Strategies

1. Improve operational and system efficiency by implementation of intelligent transportation system strategies (advanced sensor, computer, electronics and communication technologies, and management strategies that improve traffic flow) and by synchronizing/coordinating traffic signals.
2. Update the County’s Bike Master Plan to refine and expand the County’s bicycle network to better serve existing and planned communities, connect to other routes, and encourage increased bicycle use.
3. Prepare and implement pedestrian studies, traffic calming or road design plans, town center plans, form-based codes (codes that emphasize design over use), and other planning concepts that promote walkability and improved community design that promote non-vehicular transportation.
4. Revise the County Zoning Ordinance and other codes to encourage or require measures that support alternative fuel vehicles such as preferred parking and charging stations.

5. Review and revise Zoning and other applicable regulations as necessary to support the installation of infrastructure to accommodate widespread use of alternative fuel vehicles (e.g., commercial and at-home/business fueling stations).
6. Facilitate public transit and transportation demand management programs like iCommute, carpools, vanpools and telecommuting.
7. Participate in regional planning forums to develop consistent and efficient approaches to the above strategies.

5. STRATEGIC GOAL #B-5: EDUCATION AND OUTREACH

Provide resources to the residents of the unincorporated County so they can be readily informed of steps they can take to reduce their energy consumption and improve energy efficiency at their homes and businesses.

Execution Strategies

1. Enhance County websites to provide various resources on energy use and efficiency.
2. Use traditional media outlets (newspapers, radio, television, etc.) and County media capabilities to promote measures to improve energy efficiency.
3. Expand existing outreach programs, such as those of Department of Parks and Recreation and Department of Environmental Health, to include materials on energy efficiency.

6. STRATEGIC GOAL #B-6: RECYCLING

Reduce energy use associated with first generation manufacturing and distribution through increased recycling and reuse. (Significantly greater amounts of energy are used in the initial production and delivery of consumer products compared to those products that are reused or recycled.)

Execution Strategies

1. Review and revise regulations as necessary to accommodate recycling facilities (including composting) and encourage diversion of organics from landfills to agricultural soils (which also replaces the need for energy-intensive fertilizers and other chemicals).
2. Review and revise regulations (such as the Zoning Ordinance and Regulatory Code Section 68.501, et seq.) as necessary to promote recycling at businesses and residences.
3. Review and revise regulations (such as the Zoning Ordinance and Regulatory Code Section 68.501, et seq.) as necessary to further require construction and demolition debris recycling.
4. Develop solid waste recycling educational programs to increase public participation and improve landfill diversion of recyclable materials.

Appendix A – Board Policies

Policy	Title
A-106	Water Supply, Conservation, and Reclamation
B-67	Recycled Products Procurement
F-40	Procuring Architectural, Engineering, and Related Professional Services
F-47	Procuring Professional Services to Assist with County Acquisition and Leasing of Real Property
G-15	Design Standards for County Facilities and Property
G-15a	County Administration Center Design Guidelines and Facilities Project Coordination
G-16	Capital Facilities and Space Planning
H-2	Fleet Vehicle Acquisition Policy
H-10	Assignment and Use of County –Owned Vehicles