MEETING NOTICE
AND AGENDA

ENERGY WORKING GROUP
The Energy Working Group may take action on any item appearing on this agenda.

Thursday, January 22, 2009
11:30 a.m. to 1:00 p.m.

SANDAG, 7th Floor Conference Room
401 B Street, Suite 800
San Diego, CA  92101-4231

Staff Contact:  Susan Freedman
(619) 699-7387
sfr@sandag.org

AGENDA HIGHLIGHTS

• REGIONAL ENERGY STRATEGY GOALS - WHERE ARE WE NOW
• DISTRIBUTED GENERATION BRIEFING CONTINUED
• REGIONAL CLIMATE ACTION PLAN DEVELOPMENT
• RES GUIDING PRINCIPLES

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<table>
<thead>
<tr>
<th>ITEM #</th>
<th>RECOMMENDATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. WELCOME AND INTRODUCTIONS</td>
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<tr>
<td>2. SUMMARY OF THE DECEMBER 18, 2008, ENERGY WORKING GROUP (EWG) MEETING</td>
<td>APPROVE</td>
</tr>
<tr>
<td>The December 18, 2008, meeting summary is attached for EWG review and approval.</td>
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<tr>
<td>3. PUBLIC COMMENT</td>
<td>COMMENT</td>
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<tr>
<td>Members of the public who would like to address the EWG on a topic not on the agenda should do so at this time. Speakers are limited to three minutes each.</td>
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<tr>
<td>4. REGIONAL ENERGY STRATEGY (RES) 2030 GOALS: WHERE ARE WE NOW</td>
<td>DISCUSSION</td>
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<tr>
<td>At the January and February EWG meetings, the California Center for Sustainable Energy (CCSE) will present the existing RES 2030 goals and progress on them. EWG members are asked to assess the region’s performance and recommend continued or new regional energy goals for the RES Update. Goals 6, 2, 3, and 4 will be presented this month.</td>
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<tr>
<td>5. DISTRIBUTED GENERATION (DG) BRIEFING CONTINUED</td>
<td>DISCUSSION</td>
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<td>CCSE will continue its presentation on DG programs from the December 18 meeting with a focus on DG technologies. This will inform the EWG discussion on the role of DG in the RES Update.</td>
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<tr>
<td>6. REGIONAL CLIMATE ACTION PLAN (RCAP) DEVELOPMENT</td>
<td>DISCUSSION</td>
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<tr>
<td>Staff is seeking input on the attached transportation-related greenhouse gas (GHG) reduction measures and regional climate change performance measures proposed for the RCAP.</td>
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<tr>
<td>7. RES 2030 GUIDING PRINCIPLES</td>
<td>DISCUSSION</td>
</tr>
<tr>
<td>The EWG is asked to review the attached guiding principles from the existing RES 2030 for discussion today and at the February EWG meeting. Staff is seeking input and recommendations for inclusion in the RES Update.</td>
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</tbody>
</table>
For your information, a final copy of the marketing assessment and plan discussed at the December EWG meeting is attached.

EWG members are invited to suggest topics for the upcoming meeting on February 26, 2009. Goals and guiding principles for the RES Update and the RCAP will be agenda items.

+ next to an item indicates an attachment
1. WELCOME AND INTRODUCTIONS

Carrie Downey, EWG Chair, invited attending Energy Working Group (EWG) members to introduce themselves.

2. SUMMARY OF NOVEMBER 20, 2008, MEETING

Peter Livingston, County of San Diego, pointed out a typo in the November 20 summary. Under Item 4 of the Regional Energy Strategy (RES) Update: Energy Code Recommendation (page 5), the mandatory measures should state “achieve 10% above current Title 24 standards” and the voluntary measure should state “go 30% beyond current Title 24 standards.”

Rebecca Jones, City of San Marcos, motioned to approve the summary. The motion carried without opposition; Irene Stillings, CCSE, abstained.

3. PUBLIC COMMENTS

Members of the public were given the opportunity to address the EWG on any topic not on the agenda.

Alexandra Hart, IBEW, requested the following as future EWG agenda items: (1) a briefing on the mega-region project of the San Diego Regional Economic Development Corporation; and (2) a presentation from the County of San Diego regarding its current and future plans for sustainability.

4. REGIONAL ENERGY STRATEGY (RES) UPDATE: ENERGY CODE RECOMMENDATION

Jennifer Green, CCSE, updated the EWG on the amendments to the energy code recommendation based on their input at the November 20 meeting. The New Non-Residential Construction Building Energy Efficiency Standards Recommendation was modified to:

1. Include sample ordinance language in the Appendix as suggested by Don Wood;
2. Cite the ENERGY STAR rating system as an alternative to LEED Certification as requested by Ms. Jones;
3. Reflect the then-current standards, rather than a specific year or cycle as recommended by Brendon Reed; and
4. Reference the additional cost associated with training local government staff members to perform LEED equivalent certification.

Questions/Comments:

Ms. Downey requested that the recommendations of Ms. Jones be distributed to the EWG. Ms. Downey suggested that it would be a good opportunity for local governments to identify staff members who would be interested in LEED certification training as they are reviewing the energy code recommendation.

David Lloyd, North County Economic Development Council, commented that he would like to see an economic analysis included in the report.

Ms. Downey suggested that the EWG work with SDG&E to determine energy savings and costs.

Laura Hunter, Environmental Health Coalition, commented that the analysis should consider projected, long-term energy savings and costs. She suggested that this could be done through case studies.

Greg Newhouse, San Diego Clean Cities Coalition, commented that the case study approach would provide practical examples to others to follow.

Ms. Jones commented that the 10% above Title 24 measure is attainable, but the City of San Marcos is apprehensive about the voluntary 30% above Title 24 measure. She explained that such a voluntary measure may subsequently become a requirement and a financial burden to the City. Ms. Jones suggested that developing a laundry list of choices to achieve energy performance beyond Title 24 compliance would be helpful to local governments.

Ms. Downey responded that the update would clearly state that the energy code recommendation is an option for local governments to enact in their own ordinances. She explained that the intent is not to impose the recommendation on local governments, but to help them decide what works best in their jurisdiction. Ms. Downey added that as this effort moves forward, it would be important to consider the least-cost-best-fit option for energy efficiency for businesses.

Ahmad Solomon, SDG&E, commented that the utility offers numerous programs, such as Savings by Design, from which businesses and residents can benefit. Mr. Solomon cautioned, however, that the uncertainty of future energy costs will present a challenge for cost-benefit analyses.

Ms. Jones commented that she would like more involvement and input by the Building Industry Association (BIA). Ms. Downey inquired if anyone from the BIA had been contacted about this effort. Ms. Green confirmed that they had.

Ms. Hunter noted that the City of Chula Vista was visionary in the adoption of its CO2 Reduction Plan. She opined that including the policies, successes, and difficulties associated with developing this plan in the case studies would provide important lessons from which other local governments conducting similar planning efforts could learn.
Ms. Stillings commented that the City of San Diego’s Sustainable Energy Advisory Board should be referenced in the report. Ms. Downey commented that incorporating an in-house energy expertise like that of the Sustainable Energy Advisory Board is a good idea for local governments.

Ms. Hart commented that the training of building inspectors and staff is an essential component of green building code implementation and standardization of green building practices. Appropriate training ensures that inspectors and staff are prepared to uphold compliance measures for commercial and residential buildings.

Michael Meacham, City of Chula Vista, commented that the City of Chula Vista completed its Climate Change Greenhouse Gas (GHG) Inventory in 2005. The City had previously set a goal of reducing its GHG emissions to 20% below 1990 levels. By conducting the inventory the City was able to determine that it achieved certain local GHG reduction goals. He added that the case study concept is great, but the critical part of that approach would be measurement and evaluation.

5. REBUILD AMERICA ENERGY MARKETING STRATEGY PLAN

Ms. Green gave a presentation on the regional energy marketing plan, Task 4 of the Rebuild America Grant from the California Energy Commission (CEC). The objective of Task 4 was to develop an energy marketing strategy plan for local governments focused on expanding the use of available energy products and resources in the region. There are two deliverables associated with Task 4: (1) a list of local energy products and resources, and (2) a plan to market available energy-saving resources in the San Diego region that could serve as a model plan for other local governments in California.

Ms. Green provided the EWG with a list of energy-saving resources for the San Diego region and referenced other statewide energy products and resources. She also discussed energy policy and program drivers that facilitate growth in the availability and use of these products, potential barriers to sustainable energy practices, as well as other recommended marketing tactics. Ms. Green asked the EWG to provide feedback to her before December 31 in order to include it in the final plan.

Questions/Comments:

Ms. Stillings suggested that the Renewable Energy Society, a local chapter of ASES, and the Flex Your Power program be included in the plan as reference resources.

Mr. Lloyd commented that the Carlsbad Chamber of Commerce is currently developing a Sustainability Green Certification Checklist Program for businesses, which is a self-certified process in which businesses earning a certain score on the checklist are awarded a seal that demonstrates their green certification.

Ms. Hunter suggested offering free energy efficiency assessments to businesses as a remedy for the information barrier cited in the plan. Ms. Hunter also inquired if Mr. Meacham can provide information on the City of Chula Vista’s cost for energy assessments. Mr. Meacham replied that the concept of Chula Vista’s energy audit program for businesses is a quick and simple process to assess the business and link them up with available energy programs so they can take advantage of
rebates. Brendon Reed, City of Chula Vista, added that the cost to perform these energy assessments is approximately $300,000 a year, but the identified cost savings is about $1 million.

Ms. Hunter asked Mr. Lloyd if the recommended marketing tactics in this marketing plan represent a compelling way to approach business owners or the business community.

Mr. Lloyd responded that businesses will always consider the financial bottom line in their decision-making. He added that because of the current recession, businesses would generally not be interested in any new capital program that could not be paid for quickly, unless it were subsidized. Mr. Lloyd also suggested adding solar tubes to the plan’s list of locally available products. He also noted that the Carlsbad Chamber of Commerce has had a savings of $300 a month since installing this product.

Mr. Meacham commented that the document needs to focus more on existing homes and identify the importance of building a long-lasting local economic engine with manufacturing energy products.

Ms. Downey commented that language could be added in the plan to suggest to local governments that by carrying out these recommendations for businesses, they could subsequently transition them to existing homes as well.

6. REGIONAL CLIMATE ACTION PLAN DEVELOPMENT

Andrew Martin, SANDAG, updated the EWG on the progress of developing the Regional Climate Action Plan (RCAP). He briefed the EWG on changes in state climate policy since the June draft of the RCAP and provided a detailed outline of the plan. Mr. Martin also referred the EWG to the overview of transportation-related greenhouse gas reduction measures provided in the agenda. The primary focus of the measures is to reduce vehicle miles traveled in order to reduce transportation-related greenhouse gas emissions. The EWG was asked to provide comments and recommendations on these measures. The scheduled due date for the draft RCAP is May 2009.

Questions/Comments:

Mr. Lloyd commented that it is important to make sure that the mass transit system works prior to implementing measures such as ensuring that there is bicycle parking, safe conditions for biking, and efficiently-timed buses. Ms. Downey remarked that having efficiently-placed bike racks is as important as having them available for use.

A member of the public commented that even when bike racks are readily available, they are not being used because people cannot bike safely and the cost of using public transportation is discouraging to potential users.

Greg Newhouse, San Diego Clean Cities Coalition, inquired if the plan will include or consider alternative fuels or if SANDAG will look at how its suggested measures would inhibit the use of alternative fuels. Mr. Martin indicated that it is not the intent of the RCAP to inhibit the use of alternative fuels. Mr. Martin noted that SANDAG is undertaking a separate effort to support alternative fuel vehicles called the Alternative Transportation Fuels and Vehicles Program. The
effort will include identification of opportunities for alternative fuel vehicles in local government fleets and appropriate locations for the siting of alternative fuel infrastructure.

Ms. Hunter commented that it is important to lay out a vision of where they would like the region to go in terms of achieving greenhouse gas emission reductions. Mr. Martin responded that the draft outline provided in the agenda calls for the development of such a vision, which will be brought to the EWG in the future.

Ms. Jones commented that shuttles are planned to be implemented in the City of San Marcos’ smart growth areas to help reduce vehicle miles traveled. Additionally, she noted that the placement of electric car charging infrastructure in the lower level of parking structures is being discussed in the City.

Mike Evans, San Diego Regional Chamber of Commerce, commented that a vehicle’s low emissions profile and overall greenhouse gas rating must be considered. He noted that hybrids take substantial greenhouse gas emissions to produce, thus it may be better to drive older vehicles with good emissions profiles.

Ms. Hart commented business owners in Hillcrest would strongly object to a smart growth parking measure that would charge $3/hour because that would be detrimental to businesses.

7. REGIONAL DISTRIBUTED GENERATION (DG) UPDATE

Jon Fortune, CCSE, gave a brief overview on the efforts to increase the amount of distributed generation (DG) in the San Diego region. He discussed the Self-Generation Incentive Program (SGIP) and the California Solar Initiative (CSI), which are both DG incentive programs administered in the San Diego region by CCSE. Mr. Fortune noted some significant DG developments, such as the increase of new solar interconnections through the CSI from about 3 megawatts (MW) in 2007 to 10.8 MW by 2008. Also, in November the CPUC approved for eligibility advanced energy storage as long as it is coupled with currently eligible technology under the SGIP. He remarked that the latter development is important because advanced energy storage is the key link between distributed renewable resources and a reliable power source. Mr. Fortune’s presentation also touched on DG policies and plans, as well as barriers to the development of distributed resource in the region.

Questions/Comments:

Scott Anders asked for clarification on what is meant by “interconnection.” Mr. Fortune stated that the interconnections to which he referred are approved interconnections, not applications.

8. SCHEDULING AGENDA ITEMS FOR FUTURE MEETINGS

Due to time constraints during this meeting, members of the EWG requested that the topic of regional distributed generation be placed on next’s month agenda for further discussion.

Mr. Livingston offered to give a presentation on behalf of the County of San Diego regarding the County’s plans on sustainability, as requested by Ms. Hart.
Ms. Hunter said she would like to see presentations on the completed energy roadmap by Imperial Beach and the Port District that was done in partnership with SDG&E and on SDSU’s assessment on our readiness for a green economy.

Mr. Lloyd suggested a presentation on the results of a preliminary staff assessment of the repowering of the Encina Power Station in Carlsbad.

Ms. Stillings announced that the CCSE is currently accepting nominations for the 2008 SANDEE Awards, San Diego Excellence in Energy.

9. **ADJOURN**

Ms. Downey adjourned the meeting. The next EWG meeting is scheduled for January 22, 2009, 11:30 a.m. to 1:00 p.m.
<table>
<thead>
<tr>
<th>GEOGRAPHICAL AREA/ORGANIZATION</th>
<th>JURISDICTION</th>
<th>NAME</th>
<th>MEMBER/ALTERNATE</th>
<th>ATTENDING</th>
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<tbody>
<tr>
<td>South County</td>
<td>City of Coronado</td>
<td>Carrie Downey, Chair</td>
<td>Member</td>
<td>Y</td>
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<tr>
<td>North County Coastal</td>
<td></td>
<td>Vacant</td>
<td>Member</td>
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<tr>
<td>North County Inland</td>
<td>City of San Marcos</td>
<td>Rebecca Jones</td>
<td>Member</td>
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<td>East County</td>
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<td>Vacant</td>
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<tr>
<td>City of San Diego</td>
<td></td>
<td>Donna Frye</td>
<td>Member</td>
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<tr>
<td>County of San Diego</td>
<td></td>
<td>Peter Livingston</td>
<td>Alternate</td>
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<tr>
<td>Regional Transit Agencies</td>
<td>Metropolitan Transit System (MTS)</td>
<td>Sharon Cooney</td>
<td>Member</td>
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<td></td>
<td>North County Transit District (NCTD)</td>
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<td>San Diego Gas &amp; Electric</td>
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<td>David Geier</td>
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<td>J C Thomas</td>
<td>Alternate</td>
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<td></td>
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<td>Ahmad Solomon</td>
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<tr>
<td>San Diego Regional Chamber of Commerce</td>
<td>Shell Trading/ Coral Power</td>
<td>Mike Evans</td>
<td>Member</td>
<td>Y</td>
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<td></td>
<td></td>
<td>Carmen Sandoval</td>
<td>Alternate</td>
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<tr>
<td>Regional Economic Development Councils</td>
<td>North County Economic Development Council</td>
<td>David Lloyd</td>
<td>Member</td>
<td>Y</td>
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<td></td>
<td>South County Economic Development Council</td>
<td>Bill Clevelenger</td>
<td>Alternate</td>
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<tr>
<td>California Center for Sustainable Energy</td>
<td></td>
<td>Andrew McAllister</td>
<td>Member</td>
<td>N</td>
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<td></td>
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<td>Irene M. Stillings</td>
<td>Alternate</td>
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<tr>
<td>Environmental Health Coalition</td>
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<td>Laura Hunter</td>
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<td>Leo Miras</td>
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<tr>
<td>Energy Policy Initiatives Center</td>
<td>------</td>
<td>Scott Anders, Vice Chair</td>
<td>Member</td>
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<td></td>
<td></td>
<td>Nilmini Silva-Send Alternate</td>
<td>N</td>
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<tr>
<td>Regional Universities</td>
<td>University of California, San Diego (UCSD)</td>
<td>Dave Weil Member</td>
<td>Y</td>
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<td></td>
<td>San Diego State University (SDSU)</td>
<td>Dr. Heather Honea Alternate</td>
<td>N</td>
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<tr>
<td>Port of San Diego</td>
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<td>Bill Hays Member</td>
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<td></td>
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<td>Cody Hooven Alternate</td>
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<td>Sierra Club</td>
<td>Border Power Plants Working Group</td>
<td>Bill Powers Member</td>
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<td>David Grubb Alternate</td>
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<td>Regional Alternative Fuels Groups</td>
<td>San Diego Clean Cities Coalition</td>
<td>Greg Newhouse Member</td>
<td>Y</td>
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<td></td>
<td>Regional Sustainability Partnership, Clean Transportation Cmt</td>
<td>Derek Turbide Alternate</td>
<td>N</td>
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**OTHER ATTENDEES:**
Don Wood, C-3
Tom Blair, City of San Diego
John O’Donnell, City of La Mesa
Sephra Ninow, CCSE
Catherine Groves, CCSE
Alexandra Hart, IBEW
Julie Gelfat
Andrea Eaton, San Diego Unified School District
Brit Coupens, Invenergy
Carmine Iadarola
Kim Zuppiger
Brendan Reed, City of Chula Vista
Jason Videna
Shaun Dentice, Sempra Utilities
Julie Ricks, Sempra Utilities
Andy Hamilton
Gabriela Munoz-Melendez
Jennifer Green, CCSE
Andrew Martin, SANDAG
REGIONAL ENERGY STRATEGY (RES) 2030 GOALS - WHERE ARE WE NOW

Introduction

The adopted RES is being updated as part of a contract with the California Energy Commission (CEC). A draft of the RES Update is scheduled for completion in May 2009. The EWG is asked to discuss and provide feedback on the update throughout its development.

In accordance with the CEC contract, SANDAG is using a public process to develop the RES Update as a long-term energy plan to 2030 for the San Diego region that:

- Integrates land use, transportation, water, and climate change impacts;
- Addresses local implementation of the State’s preferred loading order;
- Identifies bi-national energy issues and solutions;
- Identifies energy imperatives for the region and implementation plan;
- Uses the EWG to serve as an Advisory Committee; and
- Serves as a model for regional and local governments in California.

Discussion

The adopted RES established energy policy goals for the region through 2030. Over two meetings, the EWG is asked to discuss them starting with goals related to electricity supply and demand in the region (Attachment 1). In particular, staff seeks EWG input whether each goal should be kept, revised, or deleted from the RES. In an effort to facilitate EWG discussion, staff has included an evaluation of progress toward attainment of these goals in the attachment. Policy goals related to other energy topics such as natural gas and transportation will be presented at the February EWG meeting.

Key Staff Contact: Susan Freedman, (619) 699-7387, sfr@sandag.org

Attachment: 1. DRAFT-Regional Energy Strategy 2030 Progress to Date
### RES Goal

<table>
<thead>
<tr>
<th>GOAL 2: Achieve and maintain capacity to generate 65% of summer peak demand with in-county generation by 2010 and 75% by 2020.</th>
<th>Historical and Current</th>
<th>Forecast</th>
<th>California Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>55%</td>
<td>2015: 55-80%&lt;sup&gt;2&lt;/sup&gt;</td>
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<tr>
<td>2005</td>
<td>57%</td>
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<td>2006</td>
<td>65%&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td></td>
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<tr>
<td>2007</td>
<td>64%&lt;sup&gt;1&lt;/sup&gt;</td>
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<thead>
<tr>
<th>GOAL 3A: Increase the total electricity supply from renewable resources to 15% by 2010, 25% by 2020 and 40% by 2030.</th>
<th>1990</th>
<th>0.5%</th>
<th>2010: 443MW out of 4416 (~10%)&lt;sup&gt;4&lt;/sup&gt;</th>
<th>Goal for 2020: 33 percent&lt;sup&gt;3&lt;/sup&gt;</th>
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<tr>
<td>1995</td>
<td>0.5%</td>
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<td>2000</td>
<td>1.0%</td>
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<td>2004</td>
<td>4.5%</td>
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<tr>
<td>2005</td>
<td>5.2%</td>
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<td>2007</td>
<td>5.2%&lt;sup&gt;3&lt;/sup&gt;</td>
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<thead>
<tr>
<th>GOAL 3B: 50% of total renewable resources from resources located within the County</th>
<th>2008: 120 MW out of 4688 (~3%)</th>
<th>2010=129 MW out of 4841 (~3%)</th>
<th>CPUC should develop a distributed generation portfolio standard including combined heat and power regardless of size or interconnection voltage for electric utility procurement plans&lt;sup&gt;7&lt;/sup&gt;</th>
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<tr>
<td>2018=166 MW out of 5429&lt;sup&gt;6&lt;/sup&gt; (~3.1%)</td>
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<sup>1</sup> SDG&E staff report to SANDAG, 2008 Note: SDG&E forecast assumptions differ from California Energy Commission assumptions and will need to be reconciled for apples to apples comparison

<sup>2</sup> SDG&E 90/10 forecast

<sup>3</sup> SDG&E staff report to SANDAG, 2008

<sup>4</sup> SDG&E’s 2007-2016 LTPP application, Section IV, Exhibits IV-1, extrapolation for capacity amounts. Note: SDG&E forecast assumptions differ from California Energy Commission assumptions and will need to be reconciled for apples to apples comparison


<sup>6</sup> California Energy Demand Report (CED), November 2007, p. 143, refers to SDG&E’s Renewable Portfolio Standard goals

<sup>7</sup> IEPR, p. 106
### GOAL 6: Reduce per capita electricity peak demand and per capita electricity consumption back to 1980 levels.

<table>
<thead>
<tr>
<th>Year</th>
<th>Demand (in kW)</th>
<th>Consumption (in kWh)</th>
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<tbody>
<tr>
<td>1990</td>
<td>1,076</td>
<td>5,231</td>
</tr>
<tr>
<td>1995</td>
<td>1,130</td>
<td>5,490</td>
</tr>
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<td>2000</td>
<td>1,181</td>
<td>6,008</td>
</tr>
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<td>2005</td>
<td>1,275</td>
<td>5,867</td>
</tr>
<tr>
<td>2006</td>
<td>1,295</td>
<td>5,892</td>
</tr>
<tr>
<td>2007</td>
<td>1,310</td>
<td>5,907</td>
</tr>
</tbody>
</table>

**Forecast**

N/A

**California Goals**

New residential construction at zero net energy by 2020; new commercial construction at net zero by 2030.

---

**SDG&E Resource Mix**

- **Coal**: 4%
- **Large Hydro**: 0%
- **Natural Gas**: 52%
- **Renewable**: 6%
- **Purchase Power**: 20%
- **Nuclear**: 18%

---

8. SDG&E staff report to SANDAG, 2008
DISTRIBUTED GENERATION (DG) BRIEFING CONTINUED

Introduction

At the December 18, 2008, EWG meeting, Jon Fortune of the California Center for Sustainable Energy (CCSE) presented an update of the California Solar Initiative (CSI) and Self-Generation Incentive Program (SGIP). CCSE staff will expand on this discussion to address regional DG technology, barriers to installation, and its role in the Regional Energy Strategy (RES) Update.

Discussion

The RES 2030 includes specific recommendations for increased DG resource penetration in the region. Goal #3 states “Increase the total electricity supply from renewable resources to 15 percent by 2010, 25 percent by 2020, and 40 percent by 2030.” Goal #4 states “Increase the total contribution of clean DG resources (non-renewable) to 12 percent of peak demand by 2010, 18 percent by 2020, and 30 percent by 2030.”

As part of the RES Update, the EWG is asked to assess progress toward this goal, if the goal is appropriate for the RES Update and policies to increase DG penetration in the San Diego region. The attached presentation identifies barriers and measures that could increase DG deployment.

Key Staff Contact: Susan Freedman, (619) 699-7387, sfr@sandag.org

Attachment: 1. Distributed Generation in San Diego presentation by CCSE
Distributed Generation in San Diego

Jon Fortune, Self Generation Incentive Program Manager, California Center for Sustainable Energy

January 22, 2009

Solar in San Diego

- 3.0 MW of new solar interconnection in 2007 through CSI
- 10.8 MW of new solar interconnections in 2008 through CSI

Recent Concerns
- Standardization of requirements for fire safety permitting is needed
- State Fire Marshal created solar guidelines, but local authorities are choosing to implement additional or modified requirements
- This can impede the progress of installations and the permitting requirements are not always easy to identify
Wind, Fuel Cells, and Energy Storage

- Recent SGIP Monthly Report – Active Projects
  - Renewable Microturbines – 530 kW
  - Wind – 2.5 MW
  - Renewable Fuel Cells – 4.9 MW

- Wind development is increasing in the region

- CPUC recently decided Advanced Energy Storage (AES) is eligible for SGIP incentives when coupled with a currently eligible DG system (Wind and/or Fuel Cells)

- UCSD has recently committed to exploring the installation of a 2.8 MW advanced energy storage system coupled with their 2.8 MW of Renewable Fuel Cell project

Wind, Fuel Cells, and Energy Storage

- Recent Concerns
  - Issues surrounding permitting related to meteorological towers used to assess the wind resource of a potential site
  - Requires the same major use permit from the BLM that is required of a Utility Scale combine-cycle power plant
  - This places unnecessary barriers on developers who are trying to determine if a project is viable
Current Tariff Impacts

- Stand-by Charges
  - Can severely impact the financial feasibility of DG projects.

- DG-R
  - Implemented in May 2008
  - Adds great benefit, but also complexity

- AB1969
  - As a feed-in tariff fails to adequately motivate adoption of renewable resources

- Feed-In Tariffs
  - Local governments are jointly pushing for an appropriately priced feed-in tariff
  - Feed-In tariffs are not solely the answer, but will go a long way to attracting investment

Summary

- CCSE sees a bright future for DG in San Diego
- CSI and SGIP participation is increasing
- More attention needs to be paid to permitting issues in order to facilitate adoption
- The DG-R is a success.
- AB1969 fails to generate interest for DG.
- Appropriately valued feed-In tariffs are right around the corner considering the growing tide of influential supporters.
REGIONAL CLIMATE ACTION PLAN (RCAP) DEVELOPMENT

Introduction

SANDAG is preparing the RCAP under a planning contract with the California Energy Commission (CEC). A draft of the RCAP is scheduled for submittal to the CEC in May 2009. A primary objective of the RCAP is to identify measures to reduce greenhouse gas emissions in the on-road transportation sector in line with the state climate policy framework established by the AB 32 Scoping Plan and SB 375.

Discussion

Staff presented a comprehensive overview of transportation-related greenhouse gas reduction measures to the December 2008 EWG meeting. After soliciting input from the EWG and SANDAG transportation planners and modelers, staff has condensed the comprehensive overview into a preliminary list, or scenario, of measures for input into the SANDAG transportation model (Attachment 1). The model will calculate the cumulative greenhouse gas reduction that would result from implementation of the scenario and the reduction attributed to each individual measure. The EWG is asked to provide an additional review before modeling is conducted. Staff expects modeling of the transportation-related greenhouse gas reduction measures to commence in February 2009. The modeling results will be presented at a future EWG meeting.

Staff also has developed a preliminary list of factors to measure the performance of the transportation-related reduction measures (Attachment 2). The EWG is asked to discuss and comment on these regional performance measures and any potential measures not included in the attached list.

Key Staff Contact: Andrew Martin, (619) 699-7319; ama@sandag.org

Attachments:
1. Transportation-Related Greenhouse Gas Reduction Measures
2. Regional Climate Change Performance Measures
### Measures for the SANDAG Transportation Model

#### Land Use

<table>
<thead>
<tr>
<th>Measure</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart Growth Land Use Scenario*</td>
<td>The Smart Growth Land Use Scenario is based on build-out of the SANDAG Smart Growth Concept Map. The Concept Map illustrates the location of existing, planned, and potential smart growth “opportunity areas” in the region. Seven types of smart growth areas (called place types) are depicted on the Concept Map including the Metropolitan Center, Urban Centers, Town Centers, Community Centers, Rural Villages, Mixed Use Transit Corridors, and Special Use Centers. To date, almost 200 smart growth opportunity areas are identified on the Concept Map.</td>
</tr>
</tbody>
</table>

#### Transit

<table>
<thead>
<tr>
<th>Measure</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhanced Transit Scenario *</td>
<td>The scenario includes the roadway network from the adopted 2030 Regional Transportation Plan: Pathways for the Future (2030 RTP), and a transit network that would provide additional bus routes and more frequent service than the 2030 RTP. The scenario includes new circulator bus service in three central San Diego neighborhoods – Mission Valley, North Park, and City Heights – with 10 minute frequency all day, and a new Downtown circulator bus route with five minute frequency all day. The transit network would also include 10 minute all day service for all Bus Rapid Transit (BRT) routes and regional buses, which is an increase in service for some routes, which have 15 minute off-peak service in the 2030 RTP. The scenario also features seven-and-a-half minute all day headways for Trolley service and 20 minute all day service for the COASTER.</td>
</tr>
</tbody>
</table>

#### Transportation Demand Management

<table>
<thead>
<tr>
<th>Measure</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Tax</td>
<td>A tax on the amount of carbon released when a fuel is burned.</td>
</tr>
<tr>
<td>Congestion Pricing</td>
<td>A specific type of roadway pricing in which the charge per trip varies by the time of day, based on changes in the demand for travel and resulting congestion. Usually assessed at one or more points along a road. This measure would involve charging a fee for single-occupancy vehicles to enter high-occupancy vehicle (HOV) lanes. A different fee would be charged during peak and off-peak driving times.</td>
</tr>
<tr>
<td>Cordon Pricing</td>
<td>Also referred to as area pricing, cordon pricing is applied to a large area or region (such as a central business district) in which congestion is a problem. Typically, a series of pricing points are established in a ring around the congested area. Motorists are charged as they enter the cordoned area. A different fee would be charged during peak and off-peak driving times.</td>
</tr>
<tr>
<td>Lower Speed Limit</td>
<td>This measure would avoid the fuel economy reductions associated with high vehicle speeds (i.e., fuel economy generally decreases at speeds above 55 miles per hour) by lowering the maximum speed limit to 55 miles per hour.</td>
</tr>
<tr>
<td>Pay-as-you-drive (PAYD) Insurance*</td>
<td>Pay-as-you-drive (PAYD) insurance charges drivers for insurance based on the number of miles they drive, rather than based on an annual, flat-rate premium. Assumes that PAYD insurance would reach 100 percent market saturation. A rate of six cents per mile was developed for preliminary modeling by dividing the 2005 average annual insurance cost in California of $845 by the average annual regional VMT.</td>
</tr>
<tr>
<td>Regional Vanpool Program</td>
<td>An ongoing SANDAG program providing long-distance commuters with an alternative to driving alone. This program reduced nearly 114 million vehicle miles traveled in fiscal year 2007.</td>
</tr>
<tr>
<td>Retail Fuel Tax*</td>
<td>An additional 20 cent tax on retail fuel.</td>
</tr>
<tr>
<td>Smart Growth Parking Fees*</td>
<td>Under this measure, parking zones are established in the smart growth opportunity areas. Parking fees are assessed according to level of density and land use mixture, with prices ranging from $3/hour in the Metropolitan Center to $1/hour in Community Centers and Transit Corridors. Parking is not charged at residential uses.</td>
</tr>
<tr>
<td>Telecommuting*</td>
<td>Also called teleworking, telecommuting is a substitution of telecommunications for transportation to a conventional workplace. It is assumed that approximately one-third of the region’s jobs will be suitable for telecommuting in 2030. SANDAG’s adopted 2030 RTP assumes a five percent telecommute share for all office work trips in 2030. For the scenario, this figure was increased to 40 percent of all jobs suitable for telecommuting, or two days offsite per work week. One day offsite per work week, or 20 percent of all jobs suitable for telecommuting, will also be modeled.</td>
</tr>
<tr>
<td>Vehicle Miles Traveled (VMT) Fees</td>
<td>A charge levied on an annual or semi-annual basis based on the number of vehicle miles traveled per year.</td>
</tr>
</tbody>
</table>
### Measures That Cannot be Modeled at This Time

<table>
<thead>
<tr>
<th>Measures That Cannot be Modeled at This Time</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative Work Schedules</td>
<td>Under this scenario, workers would participate in a flexible work schedule or compressed work hours program to limit commuting during peak periods and/or limit the number of home-to-work commuting trips. Typical programs involve employees working 10 hours per day, four days per week, or nine hours per day with one day off every two weeks.</td>
</tr>
<tr>
<td>Bicycle Support Facilities</td>
<td>Measures that enhance the built environment for bicycling as an alternative to driving alone.</td>
</tr>
<tr>
<td>Driver Education</td>
<td>This strategy would promote fuel-efficient driving practices, such as reduced idling, gentle accelerations, and the like. This strategy could be implemented as a new driver education program or added to existing ones.</td>
</tr>
<tr>
<td>Emissions-based Vehicle Registration Fees</td>
<td>Under this measure, a surcharge would be added to vehicle registration of license fees based on vehicle fuel economy.</td>
</tr>
<tr>
<td>Enhanced Carpooling</td>
<td>New or expanded policies, programs, and incentives to promote ridesharing (other than the vanpool program).</td>
</tr>
<tr>
<td>Park-and-Ride Facilities</td>
<td>Collection points for individuals in carpools, vanpools, shuttle services or using public transit intended to encourage use of these modes as alternatives to driving alone.</td>
</tr>
<tr>
<td>Pedestrian Enhancements</td>
<td>Measures that enhance the safety and pleasantness of walking as an alternative mode of travel.</td>
</tr>
<tr>
<td>Vehicle Efficiency Tax or Feebates</td>
<td>This measure would involve a tax on the purchase of fuel-inefficient vehicles and a rebate for the purchase of fuel-efficient vehicles. As described in the Proposed AB32 Scoping Plan, ARB is currently evaluating the use of a feebate program as a complement to, or substitute for, the Pavley regulations.</td>
</tr>
<tr>
<td>Vehicle Retirement Buyback Programs</td>
<td>This strategy would offer financial incentives to voluntarily remove a vehicle from use.</td>
</tr>
</tbody>
</table>
**DRAFT**

**Regional Climate Change Performance Measures**

<table>
<thead>
<tr>
<th><strong>On-Road Transportation Sector</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse gas emissions, total and by passenger vehicle type (e.g., passenger cars and light-duty trucks)</td>
</tr>
<tr>
<td>On-road fuel consumption, total by fuel type and per-capita*</td>
</tr>
<tr>
<td>Regional vehicles miles traveled, total and per capita*</td>
</tr>
<tr>
<td>Passenger vehicle ownership, total and per-capita</td>
</tr>
<tr>
<td>Share of passenger cars, light-duty trucks, and low emission/clean/alternative fuel vehicles in the passenger vehicle fleet</td>
</tr>
<tr>
<td>Average vehicle occupancy</td>
</tr>
<tr>
<td>Average trip distance*</td>
</tr>
<tr>
<td>Number of alternative fueling stations, privately and publicly accessible and by fuel type</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Regional Transit Operations</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse gas emissions, total by transit mode for each operator</td>
</tr>
<tr>
<td>Fuel consumption, total by fuel type, transit mode for each operator</td>
</tr>
<tr>
<td>Share of low emission/clean/alternative fuel vehicles for each operator’s fleet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Local Government Vehicle Fleets</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse gas emissions, total by jurisdiction’s fleet</td>
</tr>
<tr>
<td>Share of low emission/clean/alternative fuel vehicles for each jurisdiction’s fleet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Alternative Transportation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Transit passenger miles, total and per capita*</td>
</tr>
<tr>
<td>Number of transit boardings</td>
</tr>
<tr>
<td>Work and non-work trip mode split (drive alone, carpool, transit, bike/walk/other)*</td>
</tr>
<tr>
<td>Miles of bike paths and lanes, total</td>
</tr>
<tr>
<td>Miles of HOV lanes, total</td>
</tr>
<tr>
<td>Employers providing trip reduction programs and/or incentives, total employers and covered employees</td>
</tr>
</tbody>
</table>

*Existing 2030 Regional Transportation Plan Performance Measure
RES 2030 GUIDING PRINCIPLES

Introduction

The EWG is asked to review the attached guiding principles from the existing RES 2030 for discussion today and at the February EWG meeting. Staff is seeking input and recommendations for inclusion in the RES Update. Staff will present an overview of the existing guiding principles, revisions that were vetted by the EWG in 2005, and areas for consideration of new guiding principles.

The RES Update will expand on the existing RES to address global climate change, the transportation sector, and energy implications of transportation and land use planning. Principles to guide development in these areas and others should be considered. All recommendations for new and existing guiding principles will occur at the February 26 EWG meeting.

Key Staff Contact: Susan Freedman, (619) 699-7387, sfr@sandag.org

Attachment: 1. Regional Energy Strategy 2030 Guiding Principles
### Regional Energy Strategy 2030 Guiding Principles

The following table consists of the Guiding Principles as adopted in the RES 2030. Each guiding principle is followed by revisions recommended by the EWG in September 2005. The guiding principles were revisited prior to the EWG’s assessment of SDG&E’s 2006 long term procurement plan.

<table>
<thead>
<tr>
<th>Version</th>
<th>Guiding Principle Language</th>
</tr>
</thead>
</table>
| 1. RES 2030 | The supply portfolio will be diversified, cost efficient, environmentally sound, self sustaining, secure and reliable.  
EWG (2005) | No change. |
| 2. RES 2030 | The planning process will be open and inclusive.  
EWG (2005) | The planning process will be open, transparent, and inclusive. |
| 3. RES 2030 | Energy projects, programs and policies will protect the interests of the vulnerable and disadvantaged communities in the San Diego region and Mexico.  
EWG (2005) | Energy projects, programs and policies will protect the interests of all communities in the San Diego region and Baja California, Mexico. |
| 4. RES 2030 (EWG separated into 2 Guiding Principles) | The region will have adequate indigenous resources to ensure reliability and stabilize prices.  
EWG (2005) | The San Diego region will have adequate resources to ensure reliability, with a preference for electricity generation resources within the transmission limit.  
EWG (2005) | The electricity generation portfolio will be sufficiently diverse to ensure resource adequacy and stable prices. |
| 5. RES 2030 (EWG separated into 2 Guiding Principles) | Energy efficiency and demand management programs will be preferred over the development of new fossil-fueled generation resources.  
EWG (2005) | Conservation, energy efficiency, demand response, renewable energy, and distributed resources will be preferred over new transmission infrastructure and utility-scale fossil-fueled or nuclear generation resources.  
Additional EWG (2005) | Energy programs, policies, and infrastructure decisions will encourage the deployment of distributed energy resources. |
| 6. RES 2030 | Future development and land-use planning decisions will reflect progressive standards for energy efficiency and responsible energy supply.  
EWG (2005) | Development and land-use planning decisions will incorporate standards for energy efficiency, distributed energy resources, and renewable energy. |
<p>| 7. RES 2030 | Energy programs and policies will support economic development activities and the creation of new jobs in the San Diego Region. |</p>
<table>
<thead>
<tr>
<th>Version</th>
<th>Guiding Principle Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>EWG (2005)</td>
<td>Energy programs and policies will foster sustainable economic development activities with the goal of creating new jobs and industries in the San Diego Region.</td>
</tr>
<tr>
<td>8. RES 2030</td>
<td>Public awareness and education programs will promote responsible energy decisions by the public.</td>
</tr>
<tr>
<td>EWG (2005)</td>
<td>Public awareness and education programs will foster responsible energy decisions by the community.</td>
</tr>
<tr>
<td>9. RES 2030 (EWG separated into 2 Guiding Principles)</td>
<td>San Diego and Baja California, Mexico are an inseparable economic and environmental region, requiring close coordination of energy planning and action. Recognizing this union of economy and environment, energy generated outside of the San Diego region and imported for us in the region should be encouraged to comply with both California and United States environmental labor law. Likewise, energy projects located in San Diego should take into account potential environmental effects in nearby Baja California.</td>
</tr>
<tr>
<td>EWG (2005)</td>
<td>Energy generation facilities located in Baja California, Mexico that supply energy to the San Diego region should be encouraged to comply with both California and United States environmental and labor laws.</td>
</tr>
<tr>
<td>EWG (2005)</td>
<td>Energy projects located in San Diego should take into account potential environmental and socio-economic effects in Baja California, Mexico.</td>
</tr>
<tr>
<td>10. RES 2030</td>
<td>Markets and regulation must be designed and adapted as necessary to maximize the benefits of competition in wholesale markets while protecting the public from inappropriate pricing practices in retail markets.</td>
</tr>
<tr>
<td>EWG (2005)</td>
<td>Markets and regulation must be designed and adapted as necessary to maximize the benefits of competition in wholesale and retail markets while protecting the public from inappropriate pricing practices in retail markets.</td>
</tr>
<tr>
<td>11. RES 2030</td>
<td>All energy usage affects the environment. Any energy policy or program must balance benefits and costs against the impact on the environment.</td>
</tr>
<tr>
<td>12. RES 2030</td>
<td>Energy is an essential social need. All energy policies and programs must consider environmental justice impacts by ensuring the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income.</td>
</tr>
<tr>
<td>EWG (2005)</td>
<td>All energy policies and programs must consider environmental justice impacts by ensuring the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income.</td>
</tr>
</tbody>
</table>
San Diego Regional Energy Assessment and Marketing Strategy Plan

Rebuild America Grant Task 4
CEC Agreement Number: FED-06-003
SANDAG OWP: 3003001
SANDAG Contract No. 5000957

Submitted to the California Energy Commission by the San Diego Association of Governments (SANDAG)

December 22, 2008
Acknowledgements and Disclaimers

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I. Introduction

This energy marketing strategy plan ("Plan") serves as a tool to expand the use and availability of energy-saving resources in the San Diego region. The Plan is intended as a resource for local governments and other energy stakeholders.

California has demonstrated its desire to create sustainable communities through a variety of policies and programs. Through adoption of the Regional Energy Strategy 2030 (RES) and the longstanding work of the San Diego Association of Governments (SANDAG) Regional Energy Working Group (EWG), the San Diego region has made a commitment to increasing conservation, energy efficiency, renewable resources and other clean distributed generation. This commitment is further realized by the successful work of the California Center for Sustainable Energy (CCSE) (formerly the San Diego Regional Energy Office). CCSE is an independent energy voice that provides education, marketing, tools and technical assistance to bring about a more sustainable energy future for the region.

The Plan provides an assessment of available local energy products and resources (e.g., useful websites, case studies, incentive programs) and identifies existing marketing avenues to expand their use in the San Diego region. The Plan identifies beneficial marketing strategies, state policy drivers that influence local actions, and market participants that individually and in partnership play a role. The Plan further addresses barriers to increased infiltration of energy products and resources.

II. Existing Market Conditions

A. Energy Products

Several existing reference resources can assist local governments and other agencies in expanding the purchase and use of energy products in the San Diego region.

1. ENERGY STAR Qualified Products

ENERGY STAR qualified products use less energy, save money, and help protect the environment. According to the U.S. Environmental Protection Agency (EPA), products in more than 50 categories are eligible for this energy-saving designation. See www.energystar.gov/.

ENERGY STAR is a joint program of the EPA and the U.S. Department of Energy (DOE) that promotes energy efficient products and practices. The program addresses energy-savings for the home and businesses. Products meet strict energy efficiency guidelines set by the EPA and DOE. You can identify them by the blue ENERGY STAR label.

The ENERGY STAR website has a complete product list, detailed information on each product, and links to stores and manufacturers where products are available. The following is a comprehensive list of the products available under ENERGY STAR.

<table>
<thead>
<tr>
<th>Energy Star Product Categories</th>
<th>Available Product Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appliances</td>
<td>Battery Chargers</td>
</tr>
<tr>
<td></td>
<td>Dehumidifiers</td>
</tr>
<tr>
<td></td>
<td>Refrigerators &amp; Freezers</td>
</tr>
<tr>
<td></td>
<td>Room Air Cleaners</td>
</tr>
</tbody>
</table>

29
| Heating & Cooling                          | Air-source Heat Pumps | Boilers           |
|                                         | Central AC            | Ceiling Fans     |
|                                         | Dehumidifiers         | Furnaces          |
|                                         | Geothermal Heat Pumps | Home Sealing (Insulation) |
|                                         | Light Commercial     | Programmable Thermostats |
|                                         | Room AC               | Ventilating Fans  |
| Home Envelope                           | Home Sealing (Insulation and Air Sealing) | Roof Products |
|                                         | Windows, Doors, & Skylights |
| Home Electronics                        | Battery Charging Systems | Cordless Phones |
|                                         | Combination Units     | Digital-to-Analog Converter Boxes (DTAs) |
|                                         | DVD Products          | External Power Adapters |
|                                         | Home Audio            | Televisions       |
| Office Equipment                        | Computers             | Copiers and Fax Machines |
|                                         | Digital Duplicators   | External Power Adapters |
|                                         | Notebook Computers/Tablet PCs | Mailing Machines |
|                                         | Monitors              | Printers, Scanners, and All-in-Ones |
|                                         | Water Coolers         |                           |
| Lighting                                | Light Bulbs (CFLs)    |                           |
|                                         | Light Fixtures        |                           |
|                                         | Decorative Light Strings |                         |
| Commercial Food Service                 | Commercial Dishwashers | Commercial Fryers |
|                                         | Commercial Hot Food Holding Cabinets |                     |
|                                         | Commercial Ice Machines | Commercial Steam Cookers |
|                                         | Commercial Solid Door Refrigerators & Freezers |                |
| Other Commercial Products               | LED Lighting           | Battery Charging Systems |
|                                         | Exit Signs             | External Power Adapters |
|                                         | Roof Products          | Vending Machines     |

Further information, tools and services for each product are available at the Energy Star website, including:

- Special Offers
- Store search
- Product Search
- Consumer Purchasing Tips
- Manufacturer List
- Product List
- Consumer FAQs
- Product Energy Savings Calculator(s)
- Purchasing & Procurement for Businesses
- Information Resources for Businesses
- Get a Quote from Product Suppliers

2. DOE Federal Energy Management Program (FEMP)
FEMP reduces federal government costs and environmental impacts by advancing energy efficiency, water conservation, distributed and renewable energy, and by improving utility management decisions at
Federal sites. FEMP has developed energy-efficient product requirements, energy cost calculators, model procurement language and other tools to aid government purchasing and management decisions at http://www1.eere.energy.gov/femp/procurement/. A FEMP energy product guide that identifies ENERGY STAR-qualified, WaterSense-labeled and FEMP-designated products is available at http://www1.eere.energy.gov/femp/pdfs/leep_productfactsheet.pdf.

3. Office of the Federal Environmental Executive (OFEE)

OFEE manages a Federal Green Purchasing Program (http://ofee.gov/gp/gp.asp) to aid green purchasing decisions and promoting sustainable practices. Under the program, green purchasing includes the acquisition of recycled content products, environmentally preferable products and services, biobased products, energy- and water-efficient products, alternate fuel vehicles, products using renewable energy, and alternatives to hazardous or toxic chemicals. The OFEE defines sustainable practices as those practices, technological applications, and methodologies that not only improve the environment, but go beyond and do so in a way that is more long term in thinking and implications, and that apply the tools.

4. Building Green

The Building Green website provides information related to green building in the region ands throughout the country. The following is a partial list of products for which availability, green attribute and contact information is available: windows, stwork and landscaping, foundations, footers, slabs, exterior finish and trim, insulation, flooring, mechanical systems, heating, ventilation and air conditioning systems (HVAC), plumbing, lighting, electrical, appliances, and renewable energy technologies. To see a current list of all energy products, visit http://www.buildinggreen.com/menus/index.cfm.

B. San Diego Regional Energy Resources

Several existing resources can assist local governments and other agencies in expanding the use of energy products and resources in the San Diego region.

1. California Center for Sustainable Energy (CCSE)

CCSE, located in the San Diego region, serves as a resource for energy education as well as a source for energy planning documents. The CCSE website is a regional clearinghouse for current energy information, including energy efficiency and renewables policy, education and outreach, technologies and other energy issues. For further information on any of the following CCSE efforts, visit www.energycenter.org.

- CCSE has aided in various cities’ transitions to sustainable practices and purchases. Through a partnership with SANDAG, CCSE has assisted in the realization of significant energy efficiency potential in the cities of Carlsbad, Solana Beach and Poway. From their work with these local governments, CCSE has developed a set of documents to help other localities transition to sustainable energy practices and purchases.

- CCSE worked with municipal partners to develop the Regional Energy Strategy 2030 (RES). The RES is a regional energy blueprint for energy products and plans and has guided the decisions of the EWG and San Diego Gas and Electric (SDG&E) on their long term procurement plans.

- Through the Energy Resource Center (ERC), a partnership between CCSE and SDG&E, CCSE hosts and/or facilitates educational workshops almost daily to educate interested stakeholders and the public on energy efficiency and green building, as well as renewable and other energy technologies. The ERC educates and markets sustainable energy practices through a four-pronged approach: educate, demonstrate, replicate and facilitate action. By providing workshops, hands-on displays, a tool and book lending library and staff resources on a wide range of energy topics, the
ERC assists key decision-makers to answer questions related to the costs and benefits of sustainable development. The Energy Connection newsletter addresses current energy efficiency policy, regulations, technologies and program updates for the general public.

- Through their administration of both the California Solar Initiative (CSI) and the Self-Generation Incentive Program (SGIP), CCSE has compiled a vendor database of potential contractors for distributed generation technologies. The CSI webpage also contains links to training videos, presentations and other valuable energy information.

- The energy efficiency webpage on the CCSE website hosts links to energy efficiency resources and data throughout the US.

2. San Diego Gas and Electric
As the region’s investor-owned utility (IOU), SDG&E serves many functions in the energy field. SDG&E offers energy efficiency and energy conservation incentives and rebates through programs overseen by the California Public Utilities Commission (CPUC). Many of the programs offered through SDG&E and California’s other IOUs provide sizeable rewards for replacing inefficient technologies with newer, cleaner and more efficient technologies. For more information on SDG&E’s energy products, visit http://SDG&E.com. Energy saving programs run by SDG&E include, but are not limited to, the following:

- SDG&E offers rebates for local governments through funds collected on ratepayer electricity bills. For fiscal years 2006-2008, SDG&E is administering $250 million in rebates and incentives for energy efficiency, including both the retrofit and new construction sectors. The most popular programs for building energy efficiency are the Savings by Design and Energy Savings Bid programs.

- The “Go Green, Save Green” Low Income Efficiency Retrofit Program provides 0% financing and a maximum $30,000 loan to low income housing units and targeted customers.

- Energy education also receives incentives through SDG&E rebates programs, which rely heavily on education and outreach programs as well as technical incentives. Educational products include brochures and pamphlets, as well as trainings and workshops held at CCSE and other locations throughout the region.

3. University of San Diego (USD)
The USD Burnham-Moores Center for Real Estate and the Energy Policy Initiative Center (EPIC) are exploring energy issues in the region and producing reports for use by policymakers as well as the building industry. Documents and presentations from USD are available at http://www.sandiego.edu. Brief descriptions of the Burnham-Moores Center for Real Estate and EPIC are provided below.

- The Burnham-Moores Center for Real Estate has explored the financial implications, barriers and solutions to green and sustainable real estate development. In July 2008, the Center released a study of the economic benefits of sustainable buildings, focusing on both nonresidential and residential construction, as well as their “Guide to Going Green”. They also hosted the “Is It Easy Being Green?” conference on green development and its benefits.

- EPIC is dedicated to studying energy policy and law. The Center recently completed a greenhouse gas inventory for San Diego County, which will aid the development of a regional climate action plan.

4. Other Regional Energy Resources
In the San Diego region, stakeholders have created numerous energy resources and forums that address current energy issues including:
C. Statewide Energy Resources

Statewide education and outreach programs exist to spread the word on sustainable energy practices that can assist local governments interested in marketing the benefits of sustainability. Developers and owners/occupants should be educated about the long-term benefits of sustainability; but just as important, a concerted effort must engage local government elected officials and other government officials involved in setting and applying local codes, developing permitting rules, determining permitting cost schedules and enforcing compliance. Use of a model ordinance like the one created for this grant will allow city officials and staff members to use a “plug and play” template.

   Through this program, the CEC offers technical assistance of up to $20K to local governments to identify ways to save energy costs to their buildings. The Program can assist with conducting energy audits, reviewing existing proposals and designs, and developing equipment performance specifications. Visit www.energy.ca.gov/efficiency/public_programs.html.

2. The Lawrence Berkeley National Laboratory (LBNL)
   The LBNL, located in Berkeley California, is the federal Department of Energy’s primary home for building energy efficiency research. Over the last four decades, LBNL scientists and research partners have developed a formidable body of knowledge on high-performance residential and non-residential buildings and numerous tools and analysis techniques for identifying efficiency opportunities and assessing policy options. LBNL also has researched and developed strategies to make energy efficiency and other energy-saving practices mainstream. Visit http://www.lbl.gov/.

3. The California Public Utilities Commission (CPUC)
   The CPUC oversees the CSI for new commercial construction while the CEC oversees the New Solar Homes Partnership (NSHP). Both programs were authorized in 2006 by California Senate Bill 1. Each component of the CSI emphasizes education and outreach. The marketing strategy plan for these programs is available online at www.gosolarcalifornia.org.

4. ICLEI - Local Governments for Sustainability
   ICLEI is teaming with the U.S. Green Building Council (USGBC) and the Center for American Progress (CAP) to develop a national framework for sustainable communities. The STAR Community Index is a national, consensus-based framework for gauging the sustainability and livability of U.S. communities. STAR will be launched by 2010 to help governments set priorities and implement policies to improve sustainable energy performance. Local governments will be able to certify their achievements through the STAR Community Index.

D. Barriers to Sustainable Energy Practice

Two common barriers to the expanded use and availability of energy-saving resources and products in the San Diego region are cost concerns and a lack of information. There has historically been a perception in the market – amongst the private sector, government, and consumers – that energy saving resources and products are more expensive than their conventional counterparts. This is often due to their higher
upfront costs and a market focus on short-term results. However, the life-cycle costing approach affords the market a mechanism in which the cost implications of energy saving resources and products are evaluated over a longer time horizon. Despite sometimes higher upfront costs, many energy saving resources and products have lower life-cycle costs than their conventional counterparts.

The complexity of multiple market participants with competing interests navigating a myriad of energy policies, codes, standards and legislation can make understanding and embracing energy saving resources and products difficult. Complexity often leads to confusion in messages to potential consumers and in the facts underlying the messages. This confusion can ultimately lead to aversion from energy saving resources and products and present an impediment to their growth.

E. Energy Policy and Program Drivers

An understanding of the relevant energy policy drivers is essential to facilitating growth in the availability and use of energy saving products and resources. Most energy legislation and policies enacted in California since 1978 promote an integrated approach to reaching either net zero energy and sustainable materials and methodologies, or achieving maximum energy efficiency prior to pursuing renewable technologies.

1. Energy Star Rating System
According to the Burnham-Moores Center for Real Estate, energy efficient buildings started gaining popularity when the United States Environmental Protection Agency (US EPA) began using its Energy Star rating system to measure energy efficiency. Energy Star is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy designed to identify and promote energy efficient products including office equipment, residential heating and cooling equipment, lighting, and more. The Energy Star label also covers new homes and commercial and industrial buildings. The program also provides technical information and tools on energy efficient solutions and best management practices to thousands of private and public sector organizations.

2. California Public Utilities Commission Energy Efficiency Strategic Plan
The current CPUC Energy Efficiency Strategic Plan (Strategic Plan) sets a state goal to make energy efficiency and sustainability practices standard features in new building construction by 2020. The Strategic Plan identifies several areas in which new construction must exceed energy efficiency standards to create zero net energy buildings. The Strategic Plan also established the following goals:

**Local Government**
- Local governments lead adoption and implementation of “reach” codes stronger than the California Building Energy Efficiency Standards (Title 24 or T24), on both mandatory and voluntary bases.
- Strong support from local governments for energy code compliance enforcement.
- Local governments lead by example with their own facilities and energy usage practices.
- Local governments lead their communities with innovative programs for energy efficiency, sustainability and climate change.
- Local government energy efficiency expertise becomes widespread and typical.

**Commercial Sector**
- New construction will increasingly embrace zero net energy performance (including clean, distributed generation), reaching 100 percent penetration of new projects in 2030.

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1 “Market Transformation Lessons Learned from an Automated Demand Response Test in the Summer and Fall of 2003”, August 2004, Chris Shockman, Mary Ann Piette and Laurie ten Hope.
2 Dr. Norm Miller, Director of Academic Affairs at the University of San Diego Burnham-Moores Center for Real Estate.
• Fifty percent of existing buildings will be retrofitted to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.
• Transform the commercial lighting market through technological advancement and innovative utility initiatives.

**Codes and Standards**
• Continually strengthen and expand building and appliance codes and standards as market experience reveals greater efficiency opportunities and compelling economic benefits.

3. **California Building Energy Efficiency Standards: Title 24**
California is a leader in minimizing the energy consumption of new buildings through the California Building Energy Efficiency Standards (Title 24 or T24). In 1978, T24 set energy efficiency standards for all new residential and nonresidential construction in the state. These standards are designed to reduce energy consumption by enforcing stringent energy efficient building standards. By requiring such standards as improved duct insulation, cool roofs, fenestration, and time switch-controlled outdoor lighting, T24 strives to provide an integrated approach to energy efficiency.

According to the CEC, T24 contributes to the overall goal of “[providing] California with an adequate, reasonably-priced, and environmentally-sound supply of energy” while decreasing GHG emissions and reducing water use. All of these requirements help citizens, business owners and local governments reduce their energy consumption and save money.³ T24 is updated approximately every three years and sets minimum standards for energy efficiency in future construction efforts. T24 Section 25402.1(h)(2) states that local governments may adopt energy standards that are more stringent than California’s energy code if they are cost-effective and approved by the CEC. This provision establishes a framework in which local governments can achieve greater-than-T24 requirements for new buildings.

4. **California Executive Order S-20-04**
The Governor’s signing of Executive Order S-20-04 in December 2004 established the State of California’s priority for energy and resource-efficient high performance buildings. The Executive Order sets a goal of reducing energy use in state-owned buildings by 20 percent by 2015 (from a 2003 baseline) and encourages the private commercial sector to set the same goal. The order also directs compliance with the Green Building Action Plan, which details the measures the state will take to meet this goal. The Executive Order and Green Building Action Plan direct the California Energy Commission to:

• Develop and propose by July 2005, a simple building efficiency benchmarking system for all commercial buildings in the state.
• Develop commissioning and retro-commissioning guidelines for commercial buildings.
• Further develop and refine T24 building energy efficiency standards applicable to the commercial building sector to result in 20 percent savings by 2015 using 2003 standards as the baseline.

5. **Senate Bill 1037**
California Senate Bill 1037 (2005), requires electrical utilities, municipal utilities and the CPUC to make energy efficiency programs a priority before acquiring other sources of electricity or building new transmission lines.

F. **Market Participants and Motivators**

1. **Supply-side and Demand-side Participants**
Participants in the sustainable construction market include supply- and demand-side participants. Supply-side participants, including developers, builders, lenders/investors, building inspectors, utilities and local

³ California State Public Resource Code, Title 24, Section 6
government staff, all play a role in the implementation of new construction projects. Demand-side participants, such as buyers, lessees, property managers and agents, purchase or lease completed projects. In order to achieve growth in energy efficient products and practices, their financial benefits relative to the status quo need to be clearly understood by all market participants. Local government can facilitate growth by providing the market with reliable information on the financial benefits of various energy efficient products and practices.

2. Market Motivators
Various motivational factors influence the decisions of developers, builders, local governments, and other stakeholders to embrace energy efficient practices and products. Understanding stakeholder motivations is essential to successful marketing. The following are the most common market motivators:

- Societal benefit/Protect the Environment/Health
- Peer pressure/Image
- Economic/Life cycle cost
- Niche Marketing

**Societal Benefit/Protect the Environment/Health**
Societal needs sometimes influence decisions that save energy or use it more efficiently. Through government loans and a nonprofit status, philanthropic endeavors can help a community incorporate energy efficient design and renewable technology into affordable housing construction.

For example, Community Housing Works builds affordable residential communities in San Diego. The Solara affordable rental housing project was completed in 2007 with all energy efficient appliances, on-site solar power and drought tolerant plants (which save energy by reducing demand for irrigation). The site is nearly a net-zero consumer of energy.

**Peer Pressure/Image**
Builders and developers are beginning to experience market pressure to incorporate energy efficiency and renewable energy technology into their projects. Market differentiation is important in the real estate business, and in many respects this imperative is actually heightened by the current downturn in new construction and the economy in general. Developers and builders are often motivated by the positive media attention and image associated with so-called “green” projects that incorporate renewable energy and efficiency.

For example, Christopherson Homes wanted to identify features that would further set its Wisteria community apart in response to a slow housing market. They were eager to differentiate themselves from competitors in order to boost sales. Through market research, they determined that there was a growing concern in California to conserve energy and preserve natural resources. They built energy efficient homes with solar photovoltaic arrays that attracted buyers to low-, mid-, and high-priced homes. As a result of their success with Wisteria, Christopherson Homes is interested in providing similar sustainable attributes like renewable energy in future projects.4

**Understanding Cost Issues: Life Cycle Cost**
Life cycle benefits for sustainable building practices can exceed the initial extra cost incurred for energy efficient choices. In October 2008, federal energy efficiency incentives were extended eight years for residential energy efficient buildings and five years for commercial construction.5 Typically a project is eligible for this federal incentive by complying with California’s Title 24

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4 Christopherson Homes, Rocklin California Corporate Office
5 U.S. Congress House Resolution (HR) 6049, 2008
standards. In addition, federal tax credits for residential and nonresidential construction have been extended for eight years. The extension of these tax credits will likely increase home buyer demand for efficiency and renewables, which in turn would encourage the private sector to satisfy this demand.

Although all involved in new construction are sensitive to cost, developers are especially conscious of what the market will bear in terms of additional fees for energy efficiency and sustainability practices. The price of third-party certification for energy efficiency or renewables, such as LEED certification, is often a disincentive. The cost of LEED certification for new residential construction is typically about $2 per square foot more than the cost of a conventional new home. To remove this barrier, some local governments require energy efficiency performance beyond T24 requirements, but do not require third-party certification (e.g., USGBC certification for LEED projects). Local governments may also adopt broader green building rating systems, such as LEED or Build It Green, without requiring third-party certification.

Shea Homes saw the cost differential to building sustainable communities as both a barrier and a motivator. The company was able to convince home buyers of the value solar provided, despite a higher upfront cost. Life cycle cost assessments played a critical role in convincing the developer, builders, investors and purchasers of the value associated with sustainable development. According to Shea, a mindset shift had to be addressed to make sustainable practices more attractive to the contractors and homebuyers. By demonstrating long-term savings, however, buyers of both Shea and Treasure Homes were able to identify and capture the added value of a sustainable home.

**Niche Marketing**

Incorporating renewable energy, conservation, and efficiency features in a development can create a unique image that sets a company apart from its competition. For example, Treasure Homes entered the sustainable home business upon learning that homes could be built to produce as much energy as they consumed – what is often termed as net zero energy homes. Their decision to build net zero energy homes was motivated by the fact that none of their competitors were.

**G. Understanding Marketing Approaches**

**Push/Pull Marketing:** In a "push" approach, a consumer does not request development of the product or service. Rather, the product or service is "pushed" onto the consumer through methods like advertising and outreach programs. Local governments and others should implement a push approach to increase knowledge of and generate demand for efficiency and renewables since they are not widely known or understood.

In a "pull" marketing strategy, the customer requests the development of a product or service. Pull marketing lets a local government or other entity focus on development of a brand. While push marketing is more concerned with short-term results, pull marketing is intended to create loyal supporters by setting a certain standard for their brand. For the purposes of this report, the participants who will typically "push" a product like sustainable energy technology are supply-side participants and the "pull" participants are demand-side participants like buyers and lessees who want to purchase a product or service.

**1. Cooperative Marketing**

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6 Shea Homes Case Study for New Solar Homes Partnership

7 Interviews with Jim Bayless, owner, Treasure Homes

Cooperative marketing involves working with vendors and influencers to develop relationships and marketing approaches to reach potential customers. For example, cooperative marketing could include direct financial assistance for vendor advertising, sponsored events and opportunistic activities that can arise.

2. Recruiting Program Evangelists/Influencers
Educating key program evangelists and influencers like environmental organizations, business and philanthropic groups and elected officials to promote program benefits within their respective circles of influence on an ongoing basis.

3. Customer Focus Groups and Surveys
Marketers can stay on top of the latest trends in customer tastes, technology development and the like by holding public meetings, targeted to relevant audiences. This information can be disseminated to supply-side participants to keep them aware of such trends. More generalized surveys among affiliate organizations can identify targets and sectors that are predisposed to purchasing or leasing sustainable products and/or properties and the messaging that would persuade them.

4. Branding
Local governments can play a key role in the development of brands for sustainable energy products in their regions. Effective branding takes time to develop and establish, but when applied with a consistent strategy in a compelling context, has tremendous influence and staying power. One notable statewide example of branding is Flex Your Power (FYP) in California. FYP is an established brand associated with energy conservation and efficiency. This established statewide brand could potentially be leveraged to promote public embrace of sustainable energy. In addition to FYP, brands like the Green Builder Program, LEED and California Sun Certified are examples of other brands associated with sustainable energy.

For example, the “California Sun Certified” label was created by the CEC for energy efficient buildings also equipped with a solar generation system. Originally created with the New Solar Homes Partnership in mind, the “Sun Certified” brand could have broader applicability for existing efficient and solar-powered homes, and could be adopted or adapted for use within a local or regional sustainable building initiative.

III. Recommended Marketing Groups and Audiences

For a marketing strategy to be effective, all participants should be engaged throughout the entire process. Local governments should work to achieve commitment from participants by introducing and promoting the following marketing goals:

- Make efficient practices and renewable technologies mainstream and commonplace;
- Create and brand clear definitions of efficiency, renewables, and sustainable new construction;
- Address the “first-cost” barrier to implementation of renewables and efficient technologies by emphasizing life-cycle costs over upfront costs;
- Address market motivators that outweigh barriers;
- Educate consumers on sustainability issues and their benefits;
- Develop Integrated Marketing: Development of marketing messages that offer bundles of demand-side management programs targeted to specific customer groups and delivery of effective messages using partnerships with a range of energy efficiency participants, including local governments, retailers and manufacturers;
- Use social marketing techniques to create emotional and intellectual drivers for consumers to make a commitment to change and participate in energy efficiency; and
- Dedicate Marketing Labor: To facilitate an effective marketing effort, each partner should contribute staff hours, with local government staff as the lead in the endeavor.
A. Public Outreach

The following includes possible strategies that can utilize and enhance existing energy activities and get local commercial drivers and community organizations more active in promoting efficiency and renewables. While many existing initiatives are focused on energy conservation and efficiency, they could be expanded to also inform residents about the sources of their electricity, the embodied energy in water and materials, greenhouse gas emissions, and the energy implications of their consumer choices. These public outreach initiatives are designed to:

- Increase private sector motivation to adopt sustainable operations;
- Motivate citizens to make sustainable choices in all aspects of their lives; and
- Foster an appreciation and understanding of the link between energy consumption and environmental protection.

1. Community Outreach

Local governments can successfully reach out to constituents through community meetings. SANDAG’s monthly working group meetings offer another medium for community engagement. Another outreach avenue for the region can be through the City of San Diego Parks and Recreational Department. The Parks Department promotes environmental education and ecotourism and connects individual behaviors with larger environmental challenges. By disseminating information to residents and visitors on the relationship of energy and the environment at parks, multiple audiences could be reached.

2. Commercial Sector Outreach

Local governments can successfully reach out to their business community through established avenues like the local Chambers of Commerce and Economic Development Corporations. Another opportunity is through the San Diego Area Green Business Program (SDAGBP). Established in 2002, the goal of the SDAGBP is to promote environmentally-friendly practices in the private sector by helping businesses to minimize the environmental impacts of their operations and recognizing businesses that meet environmental compliance and conservation criteria. Features of the SDAGBP include:

- Established checklists for food facilities, automotive repair facilities, and commercial offices;
- Stickers and certificates for display awarded to businesses that successfully complete the assessment and recognition process;
- Internet information at http://www.co.san-diego.ca.us/deh/doing_business/chd_greenbus.html

B. Local Government Education

Local implementation of the California Global Warming Solutions Act of 2006 and future climate action plans will require local government staff to gain technical knowledge of energy efficiency. Government employees and commercial business responsible for building maintenance and operations need to understand energy codes, adapt to emerging policies and techniques, and implement more sustainable practices.

A partial list of Certified Building Operator training opportunities for local government and commercial building engineers, building services managers, maintenance supervisors, O&M technicians, electricians, is provided below.

- Building Operator Certification - Energy Efficiency through Operator Training: Building Operator Certification is a nationally recognized training and certification program for building operators offering improved job skills and more comfortable, efficient facilities. Two Levels of certification are offered in an eight-session, seven-month program. For details, visit www.theboc.info/ca
- SDG&E Energy Education & Training: SDG&E offers free workshops and seminars to improve energy usage at facilities including topics on heating, ventilation, and air conditioning (HVAC)
from The Institute of Heating and Air Conditioning Industries, T24 Standards, energy modeling, operations, and efficiency. For more information, visit www.sdge.com/training

- SDG&E Inspector Training: Still in development, the curriculum will include equipment identification and compliance, residential and commercial California Energy Code documentation and compliance, building plan verification for energy efficiency standards, and the 2010 California Green Building Code
- CCSE Events & Workshops: CCSE offers free public programs, services, information, and forums that facilitate the adoption of renewable and efficient technologies and practices. Their Energy Resource Center offers a library of media and tools to help make facilities more energy efficient. Past workshops include trainings in permitting, installation, and inspection of alternative generation technologies. For more information, visit http://www.energycenter.org/index.asp.

C. Greenest Employee Competitions (e.g., “The Biggest Loser”)

Energy and water saving competitions at individual companies can facilitate widespread employee participation in an energy awareness campaign. Competition among co-workers to save energy can reinforce commitments to protect the environment, and help extend learned sustainable behaviors beyond the workplace. In such competitions, employees voluntarily compete to be “The Biggest Loser” in a specified sustainability indicator (such as carbon emissions or energy consumption) at their business or department by reducing at-home consumption of electricity, natural gas, and water. Employees submit their monthly residential energy and water bills for verification to receive awards such as:

- Highest total reduction;
- Highest percentage reduction; and
- Most Innovative Individual - recognition of exemplary inexpensive energy (or non-energy) practices including: biking or riding transit to work, composting, participating in the FYP program, cultivating a garden of drought-tolerant plants, and using recycled materials at home.

Awards to encourage participation should educate residents about the connection between energy and environment. Potential awards include public recognition, an energy-efficient product, or a trip to a local ecotourism destination or sustainable restaurant.

To implement such competitions, interested employers should administer pre-competition surveys to gauge the level of energy knowledge in the workplace and for comparison with post-competition surveys to determine the effectiveness of the competition.

D. Developer, Builder and Investor Education

To increase local energy product and resource availability, a local agency can enable behind-the-sales-floor marketing techniques that educate developers, builders, investors and other participants about the benefits of sustainable development. These groups must be supported through collaboration, outreach materials and targeted training opportunities. Placing these activities in the context of a local policy or branded initiative can help the message carry more sway in the marketplace by clarifying and contextualizing it to members of the target audience. To begin, each local government should consider conducting additional market research to confirm or adjust proposed tactics. This information can be used to educate other participants, such as developers, builders and investors about the interests of their client base.

E. Forming Partnerships

1. Sustainable Region Program (SRP)
Since 2005, SANDAG has worked in partnership with SDG&E and CCSE to provide technical assistance and education to member jurisdictions on energy-saving measures for buildings, land use planning and policy. This is called the Sustainable Region Program (SRP). The SRP has been in pilot phases from 2005-2008. The SRP will be implemented region-wide to help local governments identify energy usage, track changes and realize savings in their operations. Under the SRP, energy management plans or “energy roadmaps” will be prepared for each local government in the San Diego region.

This joint effort among SANDAG, SDG&E and CCSE provides technical assistance and staff support to local governments that either have not participated or have participated minimally in available regional energy efficiency, renewable and green building programs. The SRP should increase the regional availability and use of products related to renewables and efficiency.

2. Public and Private Partnerships
Partnerships among supply-side actors are especially important in expanding local energy product use and availability, in particular in marketing sustainable new construction programs. Partnerships lighten the load of each participant and leverage the expertise of each to produce a superior product and consistent messaging. Partners spanning multiple areas of the sustainable energy spectrum can achieve seamless, comprehensive and well-targeted marketing coverage.

Examples of successful collaborations exist between builders and developers, local governments and developers, technology vendors and developers and others. Each partnership produces multiple benefits, including the following:

- Program offerings are vetted by all participants for accuracy
- More partners equates to higher visibility
- Duplication of work can be reduced through better communication between partners

One example of a successful partnership in California is the New Solar Homes Partnership (NSHP). The NSHP combines the strengths of the utility (offering incentive programs), building developers (owning the homes until they are sold to the buyer) and the local government (implementing sustainable energy requirements). Each can market the benefits of the process to their constituents through co-promotion of the local government, developer and utility.

Partnerships between developers and their vendors are also critical. For example, developer Shea Homes and their solar supplier, SunPower, formed an alliance through the Madeira development in Del Mar, California under the NSHP. This partnership facilitated a smooth application and installation process. SunPower handled the rebate paperwork for the Shea project and helped educate home buyers about the benefits of solar power. They also trained new homeowners on how to use their solar systems and track their energy consumption and production online.

In San Diego, SANDAG has brought together multiple stakeholders to address regional energy issues through its Energy Working Group meetings. The EWG provides an ongoing venue to discuss and promote energy efficient policies and practices. The EWG members possess individual strengths that collectively influence regional energy policy. SANDAG, along with business, ratepayer, environmental, utility, nonprofit energy advocates and other energy stakeholders have developed an interactive dialogue at the EWG. This body both vets ideas and builds consensus on topics related to energy planning and implementation in the greater San Diego region. Through plans like the Regional Energy Strategy 2030, these partners have collaborated to promote energy efficiency as a procurement priority.

IV. Recommended Marketing Tactics

A. Industry Focus Meetings
Another marketing strategy is to conduct periodic focus meetings or presentations to educate supply-side partners on the benefits of approaches to incorporate efficiency and renewables into new construction. The concept of a “pod” approach\(^9\) is to introduce a wide range of supply-side participants to stimulate sustainability topic discussions, each consisting of a concise, personal presentation. Pod presentations are repeated in approximately 20-minute intervals so that participants are able to receive succinct information tailored to their interests. Pod meetings also help local governments develop appropriate tactics that increase sustainable energy activities in the private sector and in their permitting and planning departments. Using meetings like these to facilitate networking allows participants to share successes and failures in a non-competitive environment.

B. Collateral Materials

Collateral materials are an effective marketing tool that should be combined with other marketing strategies. Some examples include:

- Frequently asked questions (FAQs) on the benefits of sustainable energy, (e.g., expedited permitting processes, case studies\(^10\) including LEED Certified New Construction Case Studies in the San Diego Region from the CEC);
- Pamphlets to distribute to potential buyers and lessees; and
- Contact information to promote collaboration between supply-side participants (e.g., developers, local government staff and technology vendors).

C. Technology Education

Local governments can educate constituents about energy efficient products and sustainable energy practices by taking advantage of the state and regional energy resources discussed in Sections II.B. and II.C. Continuing education is beneficial from the advanced to the most basic of levels (e.g., energy efficiency measures, solar water heating and conservation). Lack of knowledge is a significant barrier to implementation that most local governments will have to overcome.

D. The Internet

A partial list of internet marketing ideas is provided below.

- Mailing Lists and Newsletters
- Web pages providing information on available energy programs and products, planning efforts, incentives and rebates to targeted audiences;
- Online brochures and fact sheets;
- Webinars and training modules intended to reach large audiences within target segments;
- Links to partner websites such as sustainable developers, regulatory agencies and those providing relevant case studies; and
- Question and answer (Q&A) and online queries to address common questions and misperceptions.

E. Workshops, Special Events & Conferences

Attending, participating in and hosting conferences or seminars are important tools for increasing education and reaching market participants. Developing and maintaining relationships with regional and


\(^10\) Case studies should be plotted on a matrix according to benefits of each new construction attribute cross referenced with builder contact information
national associations can help identify ways to promote energy efficient products and practices at the local level. Groups like the American Council for an Energy Efficient Economy (ACEEE), FYP, the Alliance to Save Energy and others are some examples. Attending conferences, seminars or trade shows relevant to sustainable practices helps to elicit ideas and techniques for local programs and products.

F. Case Studies

Case studies on successful implementation of energy efficiency, renewable energy resources, and other sustainable practices can be used to encourage others to make similar changes. Case study information can be presented in multiple formats, including flyers, local government websites and through local media. The green building case studies developed as part of this Rebuild America grant are already being used as examples of sustainable building practices for local governments.

G. Public Relations

Local governments can promote energy efficient products and practices through their public relations activities. PR can utilize the positive experiences of most residential buyers and nonresidential lessees to build awareness and acceptance for efficiency, renewables, and other sustainable energy practices. Public relations activities can include the following components:

- News releases that reference a partnership between local governments, supply-side and demand-side participants;
- News conferences;
- Check presentations for energy efficiency improvements at the building site;
- Editorials about the positive experience of a green home purchase or green building environment;
- Proactive story pitches on the benefits of sustainable new construction; and
- Public service announcements.

H. Direct Mail

Direct mail can be used to target specific audiences in a region where new green development is occurring. Informing green vendors of upcoming opportunities can encourage partnering. Similar to internet marketing, developers and builders can collect physical mailing addresses while conducting market research. Local governments can partner with their utility to mail informational materials or energy efficiency program opportunities to constituents.

I. Videos and Multimedia

Video and multimedia productions that focus on the benefits of energy efficient products or practices—replete with testimonials, technology displays, sustainable building samples and other positive marketing pieces—can assist potential purchasers in making more informed decisions.

V. Next Steps for the San Diego Region

Marketing is essential to bringing increased understanding, practices and products related to sustainable energy to the region. SANDAG will continue its relationships with SDG&E, CCSE and EPIC to expand regional knowledge and actions related to sustainable energy.

Through this assessment of existing market conditions, this plan outlines methods to overcome barriers and expand the use of energy products and resources. SANDAG and other participants will continue to

11 The CEC has developed a list of case studies with their New Solar Homes Partnership partners to demonstrate results of the programs at http://www.gosolarcalifornia.ca.gov/.
build on the existing resources and products in the region as part of the Regional Energy Strategy Update and the SRP.
Appendix: Sustainable Building Life Cycle Cost Analysis

The California Center for Sustainable Energy (CCSE) has provided the following information. This Appendix represents estimated market cost premiums associated with residential and new nonresidential new construction projects for energy efficiency improvements beyond T24 energy code requirements. It should be noted that T24 is required to meet the following cost effectiveness criteria before being adopted per Section 25402 of the Warren Alquist Act:

“The Energy Commission is required by law to develop and maintain energy efficiency standards that are “...cost effective, when taken in their entirety, and when amortized over the economic life of the structure when compared with historic practice.”

A. Cost Benefit Analysis of Title 24 Energy Efficiency Standards\(^\text{12}\)

1. 2005 vs. 2001 Energy Efficiency Standards

<table>
<thead>
<tr>
<th>Table 1 – 2005 vs. 2001 Energy Standards, San Diego Climate Zone 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>residential</td>
</tr>
<tr>
<td>Avg. Building Size</td>
</tr>
<tr>
<td>Total 2005 Building Starts</td>
</tr>
<tr>
<td>Total Building Area</td>
</tr>
<tr>
<td>Incremental Cost - Total</td>
</tr>
<tr>
<td>Incremental Savings - Total</td>
</tr>
<tr>
<td>Incremental Cost - Per sf</td>
</tr>
<tr>
<td>Incremental Savings - Per sf</td>
</tr>
</tbody>
</table>

2. 2008 vs. 2005 Energy Efficiency Standards

<table>
<thead>
<tr>
<th>Table 2 – 2008 vs. 2005 Energy Standards, San Diego Climate Zone 7 (Defined as the Coastal Zone, which is generally located west of Interstate 15, for the 2005 standards. The boundary of the coastal zone may be moved to Interstates 5 and 805 for the 2008 standards)</th>
</tr>
</thead>
<tbody>
<tr>
<td>residential</td>
</tr>
<tr>
<td>Avg. Building Size</td>
</tr>
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</tr>
<tr>
<td>Incremental Cost - Per sf</td>
</tr>
<tr>
<td>Incremental Savings - Per sf</td>
</tr>
</tbody>
</table>

\(^{12}\) Per December 4, 2008 phone conversation with Rob Hudler of the California Energy Commission.

\(^{13}\) Based on average cost of $500/SFR home for incremental measures of higher performance windows, AC unit refrigerant management, new ventilation requirement for IAQ, and improved lighting controls.

\(^{14}\) Using a 30-year lifecycle period and $690/home average savings.

\(^{15}\) 15-year lifecycle savings comprised of $4 million for therm and $153 million for kWh savings.
### Table 3 - 2005 vs. 2001 Energy Standards, San Diego Climate Zone 10

<table>
<thead>
<tr>
<th></th>
<th>Residential</th>
<th>NonResidential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. Building Size</td>
<td>1,761 sf</td>
<td>15,000 sf</td>
</tr>
<tr>
<td>Total 2005 Building Starts</td>
<td>15,172</td>
<td>74</td>
</tr>
<tr>
<td>Total Building Area</td>
<td>26.7 million sf</td>
<td>1.1 million sf</td>
</tr>
<tr>
<td>Incremental Cost - Total</td>
<td>$7.50 million</td>
<td>$6.5 million</td>
</tr>
<tr>
<td>Incremental Savings - Total</td>
<td>$9.8 million</td>
<td>$25.6 million</td>
</tr>
<tr>
<td>Incremental Cost - Per sf</td>
<td>$0.26/sf</td>
<td>$0.67/sf</td>
</tr>
<tr>
<td>Incremental Savings - Per sf</td>
<td>$1.07/sf</td>
<td>$1.50/sf</td>
</tr>
</tbody>
</table>

### Table 4 - 2008 vs. 2005 Energy Standards, San Diego Climate Zone 10

(Inland Zone – generally east of Interstate 15 and west of mountains)

<table>
<thead>
<tr>
<th></th>
<th>Residential</th>
<th>NonResidential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. Building Size</td>
<td>1,761 sf</td>
<td>15,000 sf</td>
</tr>
<tr>
<td>Total 2008 Building Starts</td>
<td>18,600</td>
<td>1,015</td>
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<tr>
<td>Total Building Area</td>
<td>33 million sf</td>
<td>15.2 million sf</td>
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<td>Incremental Cost - Total</td>
<td>$20 million</td>
<td>$23 million</td>
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<tr>
<td>Incremental Savings - Total</td>
<td>$55 million</td>
<td>$79 million</td>
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<tr>
<td>Incremental Cost - Per sf</td>
<td>$0.49/sf</td>
<td>$1.33/sf</td>
</tr>
<tr>
<td>Incremental Savings - Per sf</td>
<td>$1.67/sf</td>
<td>$11.63/sf</td>
</tr>
<tr>
<td>Incremental Cost - %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incremental Savings - %</td>
<td>Approx. 15%</td>
<td>Approx. 5%</td>
</tr>
</tbody>
</table>

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16 Note that Sempra Energy has petitioned the CEC to move the CZ 10 boundary westward from I-15 to I-805 to be consistent with higher utility usage (mostly cooling electricity) associated with billing data for these homes. According to Rob Hudler, this reduces CZ 7 to 1/3 of its original area.
17 Based on average of $850/SFR home for incremental measure of cool roofing.
18 Average annual savings of $2,950/home
19 15 year lifecycle savings representing 253,000 therms and 24.6 million kWh.