MEETING NOTICE
AND AGENDA

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

Thursday, April 23, 2009
11:30 a.m. to 1:30 p.m. (This meeting is scheduled for 2 hours)

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

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

AGENDA HIGHLIGHTS

• STATE LEGISLATIVE AND STIMULUS UPDATE
• REGIONAL ENERGY STRATEGY UPDATE GUIDING PRINCIPLES AND POLICIES
• REGIONAL CLIMATE ACTION PLAN GUIDING PRINCIPLES AND POLICIES

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<tr>
<th>ITEM #</th>
<th>RECOMMENDATION</th>
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<tbody>
<tr>
<td>1.</td>
<td>WELCOME AND INTRODUCTIONS</td>
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<td>+2.</td>
<td>APPROVE SUMMARY OF MARCH 26, 2009, ENERGY WORKING GROUP (EWG) MEETING</td>
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<td>The March 26, 2009, meeting summary is attached for the EWG review and approval.</td>
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<td>3.</td>
<td>COMMENT PUBLIC COMMENT</td>
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<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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<td>+4.</td>
<td>INFORMATION STATE LEGISLATIVE AND STIMULUS UPDATE (20 MIN)</td>
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<td>The Chair will lead a discussion of relevant energy bills EWG members identified at the March meeting. Staff has prepared a preliminary analysis of the pending legislation to facilitate discussion. The EWG will be asked to discuss whether SANDAG should support any of the pending energy bills. Also attached is an energy-related funding summary by the California Energy Commission (CEC) on federal stimulus programs.</td>
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<td>DISCUSSION DRAFT REGIONAL ASSESSMENT OF ALTERNATIVE FUEL AND VEHICLE OPPORTUNITIES (20 MIN)</td>
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<td>As part of the CEC partnership, SANDAG will write a report on available alternative fuel vehicles and infrastructure for government fleet applications, sample ordinances and procurement policies local governments can use, funding opportunities to accelerate deployment of alternative fuel vehicles, and specific areas in the region where fueling infrastructure could be sited. A final report is due to the CEC on September 15, 2009.</td>
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<td>RECOMMEND REGIONAL ENERGY STRATEGY UPDATE GUIDING PRINCIPLES (10 MIN)</td>
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<td>The EWG has discussed RES Guiding Principles for last three meetings. Attached is a set of proposed Guiding Principles based on input from the EWG, Regional Planning Committee (RPC), the RPC Technical Working Group (TWG), 1994 Regional Energy Plan and 2003 RES. The EWG is asked to review the principles and consider recommending their inclusion in the RES Update.</td>
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At the March EWG meeting, CCSE presented a regional energy efficiency analysis, recommended targets and identified policies that could yield energy savings. CCSE will present the high-priority policies from their analysis and propose actions to implement these measures. The EWG is asked to discuss these measures for use in the 2009 RES.

The EWG is asked to continue its earlier meeting discussions of proposed goals and policies for the RES Update. Attachment 1 is the expanded draft. Attachment 2 was prepared by CCSE for the distributed generation goal and is based on their analysis discussed at the February EWG. Members are asked to provide input and feedback on the proposed goals and policies.

The proposed RCAP guiding principles have been discussed and reviewed at earlier EWG meetings, the Regional Planning Technical Working Group, and the Regional Planning Committee. The EWG is asked to review the attached principles and consider recommending their inclusion in the RCAP.

The GHG reduction policies discussed at earlier EWG meetings have been run in the SANDAG travel demand model and the CARB emissions model (EMFAC). Staff will present preliminary GHG reduction results from the model and seek input on methods to quantify additional GHG reduction policies in the attachment.

SANDAG would like to hold a public workshop on the draft RES Update on the evening of July 9, 2009, at CCSE and a public workshop on the draft RCAP on the evening of July 16, 2009, at CCSE. The EWG is asked to alert staff if there are known conflicts with the proposed dates and will be asked to review draft agendas at future EWG meetings.
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<td>12.</td>
<td>SCHEDULING AGENDA ITEMS FOR FUTURE MEETINGS</td>
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<td>EWG members are invited to suggest topics for the upcoming meeting on May 28, 2009. The 2009 RES and RCAP development continue to be primary agenda items.</td>
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<td>ADJOURN</td>
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+ next to an item indicates an attachment
AGENDA ITEM NO.: 2

Action Requested: APPROVE

SUMMARY OF MARCH 26, 2009, EWG MEETING

AGENDA ITEM #1: WELCOME AND INTRODUCTIONS

Energy Working Group (EWG) Chair Carrie Downey, City of Coronado, called the meeting to order at 11:31 a.m.

AGENDA ITEM #2: SUMMARY OF FEBRUARY 26, 2009, MEETING

Mike Evans, Chamber of Commerce, requested changes to the attendance sheet from last month to reflect that he and Andrew McAllister, CCSE, were present. Solana Beach councilmember Lesa Heebner, representing the North County Coastal subregion, motioned to approve the summary. David Lloyd, Regional Economic Development Councils, seconded the motion. The motion passed without opposition.

AGENDA ITEM #3: PUBLIC COMMENT AND COMMUNICATIONS

Members of the public were given the opportunity to address the EWG on any topic not on the agenda. No public comments were made.

AGENDA ITEM #4: POSSIBLE CHANGE TO EWG MEETING TIME

Ms. Downey sought member input on whether to keep the monthly EWG meeting time at 11:30 a.m., with attendees bringing their own lunch. The meeting will remain on the fourth Thursday of every month with the flexibility of starting as early as 9:00 a.m. and ending as late as 2:30 p.m.

Ms. Heebner made a motion to keep the current time at 11:30 a.m., with Councilmember Rebecca Jones, North County Inland, seconding the motion. The motion passed without opposition.

AGENDA ITEM #5: CALIFORNIA LEGISLATIVE UPDATE

The EWG was asked to review a summary of pending energy-related legislation provided by the Energy Policy Initiatives Center (EPIC). Ms. Downey requested input on bills that EWG members think SANDAG should support. Identified bills will be discussed in detail at the April 23 meeting.
Ms. Jones asked if staff could provide a synopsis, list pros and cons, and indicate which bills are in play before the EWG decides upon them. Ms. Downey said Attachment #1 of the agenda is a synopsis of all of the bills and listed bills that she would like the EWG to discuss: Senate Bill (SB) 663, Assembly Bill (AB) 19, AB 231, AB 1405, SB 722, SB 412, AB 531, AB 1106, AB 782, SB 560, and AB 1502. In addition, Ms. Downey said that EWG members should send Susan Freedman, SANDAG, a list of bills that they would like staff to investigate further and discuss at the next meeting.

Mr. Lloyd, North County EDC, said that SB 42, Open Ocean Intake and Once-Through Cooling, raises an issue that the Regional Energy Strategy should address as it pertains to the Encina Power Plant. Mr. Evans added that the Chamber voted to oppose this bill. He added that SB 42 affects 19 power plants along the coast of California and it is infeasible to retrofit all in the short timeframe. He believes that SB 42 needs to be placed on hold and reevaluated.

Mr. Lloyd said that AB 380, California Clean Energy Curriculum and Training, may also be of interest. He noted that Carlsbad High School is currently engaging in a type of program addressed by this legislation. David Grubb, Sierra Club, noted that Mira Mesa High School has a similar program.

EWG members also indicated that they would like additional staff analysis on AB 46, AB 920, and AB 1031.

AGENDA ITEM #6: REGIONAL CLIMATE ACTION PLAN (RCAP) POLICY MEASURES AND GUIDING PRINCIPLES

Andrew Martin, SANDAG, presented a draft of the RCAP guiding principles and updated the EWG on the modeling of greenhouse gas (GHG) reduction modeling. A primary purpose of the RCAP is to quantify the GHG reduction potential of transportation and land use policies. SANDAG is obligated to achieve the GHG emission reduction targets, to be established through the SB 375 process, in the next Regional Transportation Plan (RTP) update. The model results will help SANDAG contribute to the target-setting process.

The modeling results were not ready at the time of this meeting and revisions to the draft guiding principles were made since the agenda mailout. The principles were re-ordered from general to specific and a new guiding principle was added for buildings: achieve zero net energy (ZNE) in residential and commercial buildings. Staff asked the EWG to review and provide feedback on the principles. Mr. Martin noted the RCAP items will be presented to the Regional Planning Committee on April 3. The goal is to submit the final RCAP to the California Energy Commission in December 2009.

With regard to a question from Nicole Capretz, Environmental Health Coalition, concerning the binding nature of the RCAP, Mr. Martin stated that it is up to the Board to adopt policies recommended in the plan. Ms. Downey added that SANDAG has no authority over how local governments implement the plan and cities are supposed to conduct their planning in anticipation of SANDAG’s Regional Transportation Plan (RTP). Susan Freedman, SANDAG, said that the RCAP serves as a foundation for SB 375, which requires GHG reductions for this region.
Mr. Grubb asked for clarification of what a motorist user fee might be. Mr. Martin replied that two fee increase amounts are being tested in the SANDAG model. Such motorist user fee increase could be implemented through many policy choices such as a gas tax, carbon tax, fee per mile of travel, or pay-as-you-drive automobile insurance.

Duncan McFetridge, Save Our Forests and Ranchlands (SOFAR), said that SANDAG’s efforts to address climate change are based upon mitigating impacts and not on affecting real change, a change that hinges on transit-based communities. Mr. McFetridge acknowledged that SANDAG considers public transit as one element of smart growth, but argued that transit should be considered the foundation of efforts to accomplish smart growth. He promoted an approach to addressing climate change featuring transit-based city centers interlinked by rail transit.

Jim Schmidt, in response to Mr. McFetridge’s comments, said that SANDAG has the reputation of being the best transportation planning agency in California and consists of hardworking individuals. He is displeased to see this negativity aimed at SANDAG (in the form of SOFAR’s letter to SANDAG) and feels that Mr. McFetridge’s critiques of SANDAG are misplaced.

Ms. Downey said that she would like to see the addition of the phrase “cross-border” along with interregional movement of people and goods in the principle stating, “Reduce GHG emissions from interregional movement of people and goods.” Mr. Martin said that he neglected to mention that the phrase “bi-national” was added to that principle after the agenda mailout.

Additionally, Ms. Downey questioned the language accompanying the principle that reads, “Prepare for the impacts of a changing regional climate.” She is unsure if SANDAG can state that the region is preparing for projected impacts like sea level rise because this is still being figured out. She asked staff to revise this language.

Mr. Lloyd said that he would like to see language consistency regarding climate change between the Regional Energy Strategy (RES) and the RCAP. Ms. Freedman said staff received some direction to differentiate the two plans under the CEC contract, but staff will look into revising wording for consistency. Ms. Downey said that she preferred the language on page 45 to the language on page 36 of the agenda regarding guiding principles for climate change. Staff was directed to make the guiding principle language in the RCAP consistent with the language proposed for the RES.

Ms. Heebner noted there has been no discussion over the funding mechanisms and points out that ensuring transit funds is necessary to make land use planning work and suggested adding a new principle that identifies funding for transit as a priority point. Staff was asked to create a new guiding principle addressing the importance of public transit funding.

**AGENDA ITEM #7: 2009 REGIONAL ENERGY STRATEGY (RES) GOALS AND GUIDING PRINCIPLES**

Ms. Freedman discussed modifications to the 2009 RES draft guiding principles and goals. The EWG was asked to provide input on the below changes:

- Revision of the climate change principle to include a link to public health, environment, and economy
• Inclusion of the words “diversifying our fuel mix” after “employing resources efficiently” in sustainably meet future energy needs principle (first principle)
• Combining first principle with social equity principle, remove repetitive language from first principle, or leave as is
• Replace “decisions by the community” with “decision-making in the region” in promote education principle
• Change in plan format - targets moved to text as policy to implement goals
• Change “in-county resources” to “on-site or near-load resources” under the clean distributive generation (DG) goal

Ms. Freedman noted that Chair Downey and staff will present the guiding principles and concept of each of the energy goals to the Regional Planning Committee in April. Staff will not bring forward policies during that time because it will be a topic of discussion for the EWG over the next couple months.

Ms. Downey and Mr. Evans expressed support for the proposed language change of the first principle and leaving the social equity and first principle separate.

Ms. Heebner asked how the work product of the RES goals and principles are utilized by SANDAG and in the region. Ms. Freedman responded that it serves as guidance for local governments when they are updating General Plans or formulating policies on energy and the environment, and to determine consistency between plans when performing intergovernmental reviews. Additionally, this information is being shared with the CEC, CARB, the MPOs in the state, and the Local Government Commission as part of the CEC-SANDAG partnership.

Don Wood drew attention to the policy, support stringent, comprehensive local codes and standards, on page 38 of the agenda packet and stated that the PUC has adopted a policy of net zero energy building designs for residential buildings in 2020 and commercial buildings in 2030. He suggested including language to encourage member governments to adopt net zero energy and water building design standards. Ms. Freedman noted that language on net zero energy was included in the guiding principles and under the land use planning goal, but could be addressed in additional areas.

A discussion of plan terminology occurred including the distinctions among goals, targets, strategies, and policies. It was concluded that all the components were in the draft goals, and that staff would review other SANDAG plans to determine if the RES Update would be consistent to similar planning documents that SANDAG puts forward.

Mr. Evans stated that it is important to distinguish between what SANDAG has control over and what it does not have control over. He suggested setting goals for what SANDAG has control over and targets for what it does not have influence over.

Nilmini Silva-Send, EPIC, noted that EPIC is currently looking into this issue of direct and influential control of jurisdictional or municipal policies.

Ms. Stilling noted that the first RES in 2003 took 20 months to be produced and commended staff in trying to move along this RES Update process faster. She states also that she does not believe that the role of the EWG is to wordsmith the document for staff.
Ms. Heebner suggested citing additional standards in transmission lines, instead of just focusing on cost-effectiveness, in the policy statement regarding renewable energy supply. Additionally, under Energy Considerations for Land Use and Transportation Planning (Agenda p. 42), Ms. Heebner believes that transit infrastructure must also be considered.

In the interest of time, Ms. Downey asked EWG members to send their specific comments to Ms. Freedman after the meeting.

**AGENDA ITEM #8:  2009 RES: REGIONAL ENERGY EFFICIENCY ASSESSMENT**

Jennifer Green, CCSE, updated the EWG on the energy efficiency (EE) chapter of the 2009 RES. Included in this chapter is a definition of EE, the EE goals for the region, actions, and implementation measures. In discussing the San Diego market, Ms. Green stated that highest energy efficiency potential in the San Diego region comes from existing residential, followed by existing commercial sectors. By 2030, the existing residential would account for about 4% of the total annual consumption in savings followed by 2.5% with existing commercial. Ms. Green asked for EWG feedback on proposed actions to prioritize energy efficiency in existing buildings, weatherization programs, air-conditioning load reduction, and educating the public on the new energy efficiency lighting technologies.

Rich Caputo, San Diego Renewable Energy Society, recommended looking into Vermont’s statewide energy efficiency utility as a prototype to consider.

Mr. Wood noted the existence of a low-income weatherization program and suggested increasing the income guideline of this program to take advantage of this existing, effective infrastructure program; and also recommended looking into HVAC ice energy technology to reduce peak usage.

Michael Meacham, City of Chula Vista, said that this technology can be seen in action with the Ice Bear at the Chula Vista Nature Center at 5 p.m. He complimented staff identification of priorities and believes AB 811 is a real economic engine for the region.

Ms. Downey asked that additional comments or recommendation be sent to staff.

**AGENDA ITEM #9:  CITY OF SAN DIEGO GREEN STUDENTS PROGRAM AND 2009 YOUTH FORUM**

Kathie Pishny, City of San Diego, announced that the San Diego Green Students 2009 Youth Forum, “Planning Our Future: TAG! You’re It!” will be on April 25 at the Reuben H. Fleet Center. This program opens the dialogue between community leader and students regarding the creation of a more sustainable future. The program is in its ninth year and is free and open to high school students within the County of San Diego.

Mr. Caputo announced that the Green Career Conference 2009 will be held at SDSU on April 25 from 8 a.m. to 6 p.m. Additional information can be found at [www.sdres.org](http://www.sdres.org).
AGENDA ITEM #10: SCHEDULING AGENDA ITEMS FOR FUTURE MEETINGS

This item was postponed to a future meeting date.

AGENDA ITEM #11: ADJOURN

The meeting was adjourned at 1:27 p.m. The next meeting will be on April 23, 2009.

SANDAG ENERGY WORKING GROUP MEETING
ATTENDANCE MARCH 26, 2009

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<th>JURISDICTION</th>
<th>NAME</th>
<th>MEMBER/ALTERNATE</th>
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<td>South County</td>
<td>City of Coronado</td>
<td>Carrie Downey, Chair</td>
<td>Member</td>
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<td>Steve Castaneda</td>
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<td>Lesa Heebner</td>
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<td>San Diego Gas &amp; Electric</td>
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<td>Ahmad Solomon</td>
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<td>San Diego Regional Chamber of Commerce</td>
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<td>North County Economic Development Council</td>
<td>David Lloyd</td>
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<td>Bill Clevenger</td>
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<td>California Center for Sustainable Energy</td>
<td>Andrew McAllister</td>
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<td>Scott Anders, Vice Chair</td>
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<td>San Diego Clean Cities Coalition</td>
<td>Greg Newhouse</td>
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<td>Regional Sustainability Partnership, Clean Transportation Cmt</td>
<td>Derek Turbide</td>
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**OTHER ATTENDEES:**

Rich Caputo, San Diego Renewable Energy Society
Katy Williy, United States Green Building Council (USGBC)
Duncan McFetridge, Save Our Forests and Ranchlands (SOFAR)
Mark Puckett, Scheuten Solar USA
Cassandra Inman, SOFAR
Sephra Ninow, California Center for Sustainable Energy (CCSE)
Kathie Pishny, City of San Diego
STATE LEGISLATIVE AND STIMULUS UPDATE  File Number 7000900

Introduction

This report provides an analysis of pending state legislation Senate Bill 626, which would evaluate and implement policies to develop infrastructure for the use of plug-in hybrid and electric vehicles, and Senate Bill 412 which extends the self-generation incentive program until January 1, 2012. Attachment 1 provides a summary of various state legislative measures that SANDAG staff is monitoring. Attachment 2 provides a summary by the California Energy Commission (CEC) of energy-related funding opportunities in the American Recovery and Reinvestment Act of 2009.

Discussion

Senate Bill 626 (Kehoe) Electrical Infrastructure Plug-in Hybrid and Electric Vehicles

Senate Bill 626 (SB 626) was introduced on February 27, 2009, by Senator Christine Kehoe (D-San Diego). Under existing law, the California Public Utilities Commission (CPUC) has regulatory authority over public utilities, including electrical and gas corporations. Existing law also requires the CPUC, in cooperation with the California Energy Commission (CEC) and other agencies, to evaluate and implement policies to promote the development of equipment and infrastructure needed to facilitate the use of electric power and natural gas to fuel low-emission vehicles.

This bill would require the CPUC, in consultation with the CEC, California Air Resources Board, electrical corporations and motor vehicle industry, to evaluate and implement policies to develop infrastructure to overcome any barriers to the widespread development and use of plug-in hybrid and electric vehicles.

The bill requires that the CPUC, by January 1, 2011, adopt rules to address the following:

- Impacts upon electrical infrastructure, including infrastructure upgrades for widespread use of plug-in hybrid and electric vehicles
- Impacts of plug-in hybrids and electric vehicles on grid stability and the integration of renewable energy resources
- Whether incentives are necessary or desirable to promote the use of plug-in hybrid and electric vehicles
- What technological advances are needed to ensure widespread use
- What existing code and permit requirements will impact widespread use
- The role the state should take to ensure that technologies work across service territories
• The impact that widespread use will have on achieving the state’s goal pursuant to the California Global Warming Solutions Act of 2006

There is strong regional interest in alternative vehicle options, and in electric vehicles (EV) specifically. SDG&E recently signed a Memorandum of Understanding with Nissan to facilitate the accelerated deployment of zero emission vehicles in the San Diego region. SANDAG is interested in partnering with SDG&E and Nissan, and is pursuing federal and state funding opportunities for the region that would address vehicle and infrastructure costs. The electric vehicle infrastructure is standard for all manufacturers. Nissan plans to roll out its EV, an all-electric five-passenger sedan, in a select number of metropolitan markets as a fleet option beginning in 2010. The San Diego region is one of those selected. Vehicle cost is estimated at $27,000 to $30,000 per vehicle, has an 8-hour 220-Volt charge time, and a 100-mile range per charge. The intent is to expand EV sales to the general public in each region in 2010-2011.

This bill is scheduled to be heard in Senate Energy, Utilities, and Communications Committee on April 21, 2009.

SB 412 (Kehoe) Self-generation Incentive Program: Inclusion of Non-Solar Technologies

Senate Bill 412 (SB 412) was introduced on February 26, 2009, by Senator Christine Kehoe (D-San Diego). Existing law requires the CPUC in consultation with the CEC to administer a self-generation incentive program for distributed generation resources until January 1, 2012.

SB 412 would extend until January 1, 2013, the self-generation incentive program for non-solar distributed generation resources and would limit the eligibility for incentives to distributed generation resources that the CPUC determines will support the state’s goals for the reduction of emissions of greenhouse gases pursuant to the California Global Warming Solutions Act of 2006 (AB 32).

This bill would require the CPUC to ensure that distributed generation resources are made available in the program for all ratepayers. SB 412 would prohibit recovery of the costs of the program from ratepayers that participate in the California Alternative Rates for Energy (CARE) program. Additionally, this bill would delete the authorization of the CPUC to include other ultra-clean and low-emission distributed generation technologies.

SANDAG has expressed support for all forms of clean distributed generation in the past and it is consistent with the existing Regional Energy Strategy as well as the draft RES Update. Since 2001, SGIP offered incentives for customers of the state’s investor-owned utilities to install clean distributed generation technologies like solar PV, fuel cells, wind, and combined heat and power (CHP). In 2006, the SGIP program was extended, but non-renewable technologies like CHP systems became excluded. Small-scale CHP systems, as well as fuel cells, have yet to become cost-competitive in the marketplace. They improve energy reliability and power quality, offset peak load needed from the grid, lower utility bills, reduce greenhouse gas impacts, and are part of California’s preferred loading order. The financial incentive, if made available once again through the SGIP, would make CHP installations economic as this clean distributed generation technology continues to mature.
This bill is scheduled to be heard in the Senate Energy, Utilities, and Communications Committee on April 21, 2009.

Attachments:  
1. Summary of Energy-Related State Legislation  
2. HR 1 American Recovery and Reinvestment Act of 2009: Energy-Related Funding Summary

Key Staff Contact: Susan Freedman, (619) 699-7387, sfr@sandag.org
### Summary of Energy-Related State Legislation

<table>
<thead>
<tr>
<th>Bill Number</th>
<th>Author</th>
<th>Title</th>
<th>Last Amend</th>
<th>Disposition</th>
<th>Location</th>
<th>Summary</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB 46</td>
<td>Blakeslee [R]</td>
<td>Energy: Energy Conservation Assistance</td>
<td>03/31/2009</td>
<td>Pending</td>
<td>Assembly Appropriations Committee</td>
<td>Amends the provisions of existing law that provides for the administration of the State Energy Conservation Assistance Account that provides grants and loans to local governments and public institutions for energy use savings. Extends the operation of those provisions. Extends the financial assistance program and the Local Jurisdiction Energy Assistance Account that provides loans to local jurisdictions for energy projects.</td>
<td>03/31/2009 In ASSEMBLY. Read second time and amended. Re-referred to Committee on APPROPRIATIONS.</td>
</tr>
<tr>
<td>AB 231</td>
<td>Huffman [D]</td>
<td>Global Warming Solutions Act of 2006: Trust Fund</td>
<td>02/05/2009</td>
<td></td>
<td>Assembly Natural Resources Committee</td>
<td>Requires the State Air Resources Board to adopt a schedule of fees to be paid by the sources of greenhouse emissions which would be deposited in the Climate Protection Trust Fund, for purposes of carrying out the Global Warming Solutions Act of 2006.</td>
<td>03/04/2009 To ASSEMBLY Committee on NATURAL RESOURCES.</td>
</tr>
<tr>
<td>AB 380</td>
<td>De La Torre [D]</td>
<td>Clean Energy Curriculum and Training Initiative</td>
<td>02/23/2009</td>
<td>Pending</td>
<td>Assembly Labor and Employment Committee</td>
<td>Creates the Clean Energy Curriculum and Training Initiative of 2009 to establish standardized curriculum for use at schools and provide outreach, assistance and guidance to schools on creating clean energy training programs. Creates a subaccount. Revises the PUC order to electrical corporations that have collected monies for research and development.</td>
<td>04/13/2009 From ASSEMBLY Committee on UTILITIES AND COMMERCE: Do pass to Committee on LABOR AND EMPLOYMENT.</td>
</tr>
<tr>
<td>CA AB 531</td>
<td>Saldana [D]</td>
<td>Energy Consumption Data: Disclosure</td>
<td>04/13/2009</td>
<td></td>
<td>Assembly Utilities and Commerce Committee</td>
<td>Relates to uploading energy consumption data for the account specified for a building to the United States Environmental Protection Agency's Energy Star Portfolio Manager. Exempts an electric or gas utility from these disclosure prohibitions when the utility is uploading the energy consumption data for the account specified for a building. Requires an owner or operator to disclose specified benchmarking data and rating to a prospective buyer, lessee of the entire building, or a building finance lender.</td>
<td>04/13/2009 From ASSEMBLY Committee on UTILITIES AND COMMERCE with author's amendments.</td>
</tr>
<tr>
<td>Bill Number</td>
<td>Author</td>
<td>Title</td>
<td>Introduced</td>
<td>Committee</td>
<td>Hearing</td>
<td>Summary</td>
<td>Status</td>
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<tr>
<td>CA AB 920</td>
<td>Huffman [D]</td>
<td>Solar and Wind Distributed Generation</td>
<td>02/26/2009</td>
<td>Assembly Utilities and Commerce Committee</td>
<td>04/20/2009 3:00 pm</td>
<td>Revises provisions of the Public Utilities Act regarding electric utilities and solar and wind distributed generation. Relates to standard contracts and tariffs between the utility and customer-generators. Relates to net energy surpluses counting towards the utility's renewable portfolio standard purchasing requirements.</td>
<td>03/26/2009 To ASSEMBLY Committees on UTILITIES AND COMMERCE and NATURAL RESOURCES.</td>
</tr>
<tr>
<td>CA AB 1031</td>
<td>Blumenfield [D]</td>
<td>Local Government Renewable Energy Program</td>
<td>02/27/2009</td>
<td>Assembly Utilities and Commerce Committee</td>
<td>04/20/2009 3:00 pm</td>
<td>Relates to the local government renewable energy self-generation program. Revises the definition of a local government to include an individual campus of the University of California or the State University and a joint powers authority or agency.</td>
<td>03/26/2009 To ASSEMBLY Committee on UTILITIES AND COMMERCE.</td>
</tr>
<tr>
<td>CA AB 1106</td>
<td>Fuentes [D]</td>
<td>Renewable Electric Generation Facilities: Tariffs</td>
<td>02/27/2009</td>
<td>Assembly Utilities and Commerce Committee</td>
<td>04/20/2009 3:00 pm</td>
<td>Requires every electrical corporation to file with the Public Utility Commission a standard feed-in tariff for the electricity generated by a renewable electric generation facility that is an eligible renewable energy resource and meets specified requirements. Requires the corporation to make the tariff available to any customer on a specified basis. Authorizes limitations upon a customer for completion of a renewable electric generation facility. Requires the development of tariffs for specified sources.</td>
<td>03/26/2009 To ASSEMBLY Committees on UTILITIES AND COMMERCE and NATURAL RESOURCES.</td>
</tr>
<tr>
<td>CA AB 1405</td>
<td>De Leon [D]</td>
<td>California Global Warming Solutions Act of 2006</td>
<td>04/14/2009</td>
<td>Assembly Natural Resources Committee</td>
<td>04/20/2009 1:30 pm</td>
<td>Amends the State Global Warming Solutions Act of 2006 that requires the revenues collected from fees paid by the sources of greenhouse gas emissions regulated under the act. Establishes the Community Benefits Fund. Requires an unspecified percentage of the revenue from those fees to be deposited into the fund to be used in the most impacted and disadvantaged communities to accelerate the reduction of such emissions and to mitigate direct health impacts of climate change.</td>
<td>04/14/2009 From ASSEMBLY Committee on NATURAL RESOURCES with author's amendments.</td>
</tr>
</tbody>
</table>
CA SB 14

AUTHOR: Simitian [D]
TITLE: Utilities: Renewable Energy Resources
LAST AMEND: 03/24/2009
LOCATION: ASSEMBLY
SUMMARY: Revises the requirement for retail sellers of electricity to meet and exceed a specified percentage of their procurement targets from renewable energy resources. Requires an accounting system to verify compliance by retail sellers and local publicly owned electric utilities to comply with the renewables portfolio standards program. Relates to Public Utility Commission and Independent System Operator responsibilities under the program. Relates to thermal energy facilities certification. Requires reports.
STATUS: 03/31/2009 In SENATE. Read third time. Passed SENATE. *****To ASSEMBLY.

CA SB 32

AUTHOR: Negrete McLeod [D]
TITLE: Renewable Electric Generation Facilities.
LAST AMEND: 04/14/2009
COMMITTEE: Senate Energy, Utilities and Communications Committee
HEARING: 04/21/2009 9:00 am
SUMMARY: Requires an electrical corporation to file with the Public Utilities Commission a standard tariff for the electricity purchased from an electric generation facility that is owned, leased, or rented by a retail customer of the corporation. Requires the facility to have a specified effective capacity. Requires the facility to be strategically located and interconnected to the electric grid. Requires that the tariff provide for a base payment rate utilizing a specified formula.
STATUS: 04/14/2009 From SENATE Committee on ENERGY, UTILITIES AND COMMUNICATIONS with author's amendments.

CA SB 42

AUTHOR: Corbett [D]
TITLE: Coastal Resources: Seawater Intake
LAST AMEND: 04/14/2009
COMMITTEE: Senate Energy, Utilities and Communications Committee
HEARING: 04/21/2009 9:00 am
SUMMARY: Prohibits a state agency from authorizing, approving, or certifying a new power plant or industrial facility that uses once-through cooling or the expansion of an existing open seawater intake unless necessary to connect an alternative system. Prohibits a new, expanded, or existing open seawater intake for desalination unless certain findings are made. Requires implementation of a phase-out schedule for once-through cooling at power plants. Requires a fee on facilities using once-through cooling.
STATUS: 04/14/2009 From SENATE Committee on ENERGY, UTILITIES AND COMMUNICATIONS with author's amendments.

CA SB 523

AUTHOR: Pavley [D]
TITLE: Solar Feed-In Tariff Pilot Program
LAST AMEND: 04/13/2009
COMMITTEE: Senate Energy, Utilities and Communications Committee
HEARING: 04/21/2009 9:00 am
SUMMARY: Creates the Solar Feed-in Tariff Pilot Program. Requires specified electrical corporations to enter into agreements to purchase all of the electricity generated by the owner or operator of a solar energy generation facility located within the territory serviced by that electrical corporation at specified prices using a contract developed by the Public Utilities Commission. Limits the program to a specified city and other pilot cities to be selected by the commission.
STATUS: 04/13/2009 From SENATE Committee on ENERGY, UTILITIES AND COMMUNICATIONS with author's amendments.
CA SB 663

AUTHOR: Benoit [R]
TITLE: Neighborhood Electric Vehicles
INTRODUCED: 02/27/2009
LOCATION: Senate Transportation and Housing Committee
SUMMARY: Authorizes the city of Palm Desert to establish a neighborhood electric vehicle transportation plan.
STATUS: 04/14/2009 In SENATE Committee on TRANSPORTATION AND HOUSING: Not heard.

CA SB 722

AUTHOR: Steinberg [D]
TITLE: Greenhouse Gas Credits
INTRODUCED: 02/27/2009
COMMITTEE: Senate Environmental Quality Committee
HEARING: 04/20/2009 1:30 pm
SUMMARY: Makes it unlawful for a person to represent in an advertisement or in any other sales or promotional materials made available to the public for the sale of a greenhouse gas credit or emissions unless certain requirements are met and requires such a persons to maintain in written form and make available to any member of the public who request it certain information and documentation supporting the validity of that representation.
STATUS: 03/19/2009 To SENATE Committees on ENVIRONMENTAL QUALITY and JUDICIARY.
# Energy and Climate

<table>
<thead>
<tr>
<th>Energy and Climate</th>
<th>Conference Agreement National Total</th>
<th>California Share (AS OF APRIL 2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>State Energy Program</strong></td>
<td>$3,100,000,000</td>
<td>$226,093,000 (Energy Commission allocation)</td>
</tr>
<tr>
<td><strong>Energy Efficiency &amp; Conservation Block Grant Program</strong></td>
<td>$3,200,000,000</td>
<td>$49,600,000 (Energy Commission allocation)</td>
</tr>
</tbody>
</table>

**Program Comments**

The California Energy Commission was allocated $226 million on March 12, 2009 to support various programs in residential, commercial, transportation, industrial, institutional, and agricultural energy efficiency in renewable energy research and development and in transmission planning.

**Status**

State Energy Program monies awarded to states. Guidelines available.

Application from California to the Department of Energy (DOE) due May 12, 2009. State application process not available yet.

**Transportation Electrification**

<table>
<thead>
<tr>
<th>Transportation Electrification</th>
<th>Conference Agreement National Total</th>
<th>California Share</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy Efficiency &amp; Conservation Block Grant Program</strong></td>
<td>$3,200,000,000</td>
<td>$400,000,000 (Competitive)</td>
</tr>
</tbody>
</table>

These competitive grants could be used for a variety of infrastructure electrification efforts.

**Program Comments**

Funds could be used by ports for portside electric power for ships and electrification of drayage trucks, truck-stop electrification, and airport support equipment electrification. Includes plug-in electric drive program as authorized in Section 131 of the EISA.

Recipients likely to be states, local governments, port authorities and metropolitan transportation authorities.

**Status**

**Smart Grid**

Conference Agreement National Total $4,500,000,000
California Share Competitive

For research and development of smart grid technologies.

**PROGRAM COMMENTS**

Proposed 50% cost match for private smart grid demonstration projects.

Expect release of the solicitation soon to support regional demonstrations, utility-scale energy storage demonstration and synchrophaser demonstrations.

**STATUS**

Notice of Intention (NOI) originally released and then pulled. No new information on when NOI will be re-issued.

---

**Diesel Emissions Reduction Act**

Conference Agreement National Total $300,000,000
California Share Competitive

For diesel truck and equipment owners to retrofit or replace equipment, school bus replacement, marine engines and locomotives.

**PROGRAM COMMENTS**

Increases funding for an existing program through the U.S. EPA's National Clean Diesel Funding Assistance Program. Funding split 70% (National) - 30% (State). National program ($206 million) is allocated among three national programs areas. State program funding is $88 million.

**STATUS**

Applications requesting EPA funding between $500,000 to $10 million will be accepted for Region (that includes California). Application deadlines vary between April 28 - May 5, depending on program.

---

**Clean Cities**

Conference Agreement National Total $300,000,000
California Share Competitive

Acquisition of alternative fuel or fuel-cell vehicles.

**PROGRAM COMMENTS**

Competitive grant program for state and local governments to purchase energy efficient alternative fuel vehicles. Authorized under Section 721 of the E.P.A. of 2005. Anticipitated award size is $5 million minimum to $15 million maximum for Alternative Fuel and Advanced Technology Vehicles Pilot Program (Funding Area of Interest 4).

**STATUS**

Solicitation released March 10, 2009.

Applications to DOE due May 29, 2009 (Round 1) and Sept 30, 2009 (Round 2).

---

**GSA Federal Buildings and Vehicle Fleet**

Conference Agreement National Total $5,000,000,000
California Share Competitive

Energy efficiency upgrades for ready-to-go building projects and fleet upgrades.

**PROGRAM COMMENTS**

No determination on which federal buildings in which states might be eligible for funding.

$300 million for replacing Federal fleet with more efficient vehicles.

$4.5 billion to convert General Services Administration facilities to high-performance green buildings.
### Renewable Energy Loan Guarantees

| Conference Agreement National Total | $6,000,000,000 |
| California Share | Competitive |

For loans and renewable power generation and transmission projects.

**PROGRAM COMMENTS**

Competitive grants for projects that avoid and lower air pollutants and greenhouse gas emissions as authorized under Title XVII of EPAct 2005.

### Clean Fossil Energy

| Conference Agreement National Total | $3,400,000,000 |
| California Share | Competitive |

Carbon capture and sequestration technology projects.

**PROGRAM COMMENTS**

Competitive grants. Recipients are to be determined, but likely will include states, utilities and private entities and partnerships.

### Bonneville and Western Power Administration

| Conference Agreement National Total | $6,500,000,000 |
| California Share | N/A |

Increased loan and borrowing authority for new construction and upgrading of electric power transmission lines and related facilities.

**PROGRAM COMMENTS**

$3.25 billion in loans to Western Power Administration.

$3.25 billion in borrowing authority to Bonneville Power Administration.

### Energy Efficiency and Renewable Energy Research and Advanced Battery Research

| Conference Agreement National Total | $3,400,000,000 |
| California Share | Competitive |

(includes $8 billion for advanced battery system and vehicle batteries)

**PROGRAM COMMENTS**

Competitive grants for energy efficiency and renewable energy research, development, demonstration and deployment to universities, business and national laboratories.

No less than $800 million for biomass projects and $400 million for geothermal projects, leaving about $1.2 billion for other energy efficiency and renewable energy research.
## OTHER ENERGY-RELATED PROGRAMS

### Energy Efficient Appliance Rebate Program and Energy Star Recovery Funding

<table>
<thead>
<tr>
<th>Conference Agreement National Total</th>
<th>California Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>$300,000,000</td>
<td>Competitive</td>
</tr>
</tbody>
</table>

**PROGRAM COMMENTS**
Created in Section 124 of the EPAct of 2005. States may receive funding if they have a rebate program for Energy Star products and submit an application to DOE.

**STATUS**
DOE guidelines have not been released.

### Research, Development, Demonstration, and Deployment (ARPA-Energy)

<table>
<thead>
<tr>
<th>Conference Agreement National Total</th>
<th>California Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>$400,000,000</td>
<td>Competitive</td>
</tr>
</tbody>
</table>

**PROGRAM COMMENTS**
Authorized under Section 5012 of the America Competes Act.

**STATUS**
No funding opportunity notices have been released, but DOE National Laboratories are receiving direct allocations. California national laboratories have received $1.2 billion to date.

## COMMUNITY SERVICES & DEVELOPMENT

CSD.CA.GOV/RECOVERY/RECOVERY.ASPX

<table>
<thead>
<tr>
<th>Conference Agreement National Total</th>
<th>California Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>$6,000,000,000</td>
<td>$185,811,061</td>
</tr>
</tbody>
</table>

### Department of Energy Weatherization Assistance Program

<table>
<thead>
<tr>
<th>Conference Agreement National Total</th>
<th>California Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5,000,000,000</td>
<td>$185,811,061</td>
</tr>
</tbody>
</table>

**PROGRAM COMMENTS**
Funds to be distributed to states through the existing DOE Weatherization Assistance Program formula to provide additional free installation of weatherization measures that increase the energy efficiency of dwellings occupied by low-income persons.

**STATUS**
Client eligibility is increased to 200 percent of the federal poverty level and the dwelling assistance cap would be increased from $2,500 to $5,000.

Weatherization Assistance monies awarded by DOE to states March 12, 2009.
### Homeless Assistance Grants
- **Conference Agreement National Total:** $1,500,000,000
- **California Share:** $189,086,299

**PROGRAM COMMENTS**
Grants to Emergency Shelter Programs to provide short term rental assistance, housing relocation, and stabilization services.

### Neighborhood Stabilization
- **Conference Agreement National Total:** $2,000,000,000
- **California Share:** Competitive

**PROGRAM COMMENTS**
To be distributed based on competitive applications. HCD is working through a regional economic development structure to build coalitions of local governments and nonprofits to apply jointly for funding to maximize leverage.

### Community Development Block Grant
- **Conference Agreement National Total:** $1,000,000,000
- **California Share:** $123,327,429

**PROGRAM COMMENTS**
Programs to help distressed areas counter the economic downturn. Distributed based on 2008 formula for Entitlement areas.

### Tax Credit Assistance Program (TCAP)
- **Conference Agreement National Total:** $2,250,000,000
- **California Share:** $325,877,114

**PROGRAM COMMENTS**
Funds flow to the California Tax Credit Allocation Committee. The Tax Credit Allocation Committee has indicated it is likely to partner with the State housing agencies in administering these funds.
Tax Credits for Energy-Efficient Improvements to Existing Homes

| Final ACT Estimates | $2,300,000,000 |

**COMMENTS**
The bill extends the tax credits for improvements to energy-efficient existing homes through 2010. Under current law, individuals are allowed a tax credit equal to 10% of the amount paid or incurred by the taxpayer for qualified energy efficiency improvements installed during the year. This tax credit is capped at $50 for any advanced main air circulating fan, $150 for any qualified natural gas, propane, oil furnace or hot water boiler and $300 for any item of energy-efficient building property. For 2009 and 2010, the bill increases the amount of the tax credit to 30% of the amount paid or incurred by the taxpayer for qualified energy efficiency improvements during the year. The bill also eliminates the property-by-property dollar caps on this tax credit and provides an aggregate $1,500 cap on all property qualifying for the credit. The bill updates the energy-efficiency standards of the property qualifying for the credit.

Long-term Extension and Modification of Renewable Energy Production Tax Credit

| Final ACT Estimates | $13,143,000,000 |

**COMMENTS**
The bill extends the placed-in-service date for wind facilities for three years (through Dec. 31, 2012). The bill also extends the placed-in-service date for three years (through Dec. 31, 2013) for certain other qualifying facilities: closed-loop biomass, open-loop biomass, geothermal, small irrigation, hydropower, landfill gas, waste-to-energy and marine renewable facilities.

Temporary Election to Claim the Investment Tax Credit in Lieu of the Production Tax Credit

| Final ACT Estimates | $285,000,000 |

**COMMENTS**
Under current law, facilities that produce electricity from solar facilities are eligible to take a 30% investment tax credit in the year that the facility is placed in service. Facilities that produce electricity from wind, closed-loop biomass, open-loop biomass, geothermal, small irrigation, hydropower, landfill gas, waste-to-energy and marine renewable facilities are eligible for a production tax credit. The production tax credit is payable over a 10-year period. Because of current market conditions, it is difficult for many renewable projects to find financing due to the uncertain future tax positions of potential investors in these projects. The bill allows facilities to elect to claim the investment tax credit in lieu of the production tax credit.

Qualified Energy Conservation Bonds

| Final ACT Estimates | $803,000,000 |

**COMMENTS**
The bill authorizes an additional $2.4 billion of qualified energy conservation loans and grants to finance state, municipal and tribal government programs and initiatives designed to reduce greenhouse gas emissions. The bill would also clarify that qualified energy conservation bonds may be issued to make loans and grants for capital expenditures to implement green community programs. The bill also clarifies that qualified energy conservation bonds may be used for programs in which utilities provide ratepayers with energy-efficient property and recoup the costs of that property over an extended period of time.
Removal of Dollar Limitations on Certain Energy Credits

<table>
<thead>
<tr>
<th>Final ACT Estimates</th>
<th>$872,000,000</th>
</tr>
</thead>
</table>

**COMMENTS**
Under current law, businesses are allowed to claim a 30% tax credit for qualified small wind energy property (capped at $4,000). Individuals are allowed to claim a 30% tax credit for qualified solar water heating property (capped at $2,000), qualified small wind energy property (capped at $500 per kilowatt of capacity, up to $4,000), and qualified geothermal heat pumps (capped at $2,000). The bill repeals the individual dollar caps. As a result, each of these properties would be eligible for an uncapped 30% credit.

Clean Renewable Energy Bonds

<table>
<thead>
<tr>
<th>Final ACT Estimates</th>
<th>$578,000,000</th>
</tr>
</thead>
</table>

**COMMENTS**
The bill authorizes an additional $1.6 billion of new clean renewable energy bonds to finance facilities that generate electricity from the following resources: wind, closed-loop biomass, open-loop biomass, geothermal, small irrigation, hydropower, landfill gas, marine renewable and trash combustion facilities. This $1.6 billion authorization will be subdivided into thirds: qualifying state/local/tribal government projects; qualifying projects of public power providers; and qualifying projects of electric cooperatives.

Plug-in Electric Drive Vehicle Credit

<table>
<thead>
<tr>
<th>Final ACT Estimates</th>
<th>$2,002,000,000</th>
</tr>
</thead>
</table>

**COMMENTS**
The bill modifies and increases a tax credit passed into law at the end of last Congress for plug-in electric drive vehicles placed in service during the year. The base amount of the credit is $2,500. If the qualified vehicle draws propulsion from a battery with at least 5 kilowatt hours of capacity, the credit is increased by $417, plus another $417 for each kilowatt hour of battery capacity in excess of 5 kilowatt hours up to 16 kilowatt hours. Taxpayers may claim the full amount of the allowable credit up to the end of the first calendar quarter in which the manufacturer records its 200,000th sale of a plug-in electric drive vehicle. The credit is reduced in following calendar quarters. The credit is allowed against the alternative minimum tax. The bill also restores and updates the electric vehicle credit for plug-in electric vehicles that would not otherwise qualify for the larger plug-in electric drive vehicle credit and provides a tax credit for plug-in electric drive conversion kits.

Tax Credits for Alternative Refueling Property

<table>
<thead>
<tr>
<th>Final ACT Estimates</th>
<th>$54,000,000</th>
</tr>
</thead>
</table>

**COMMENTS**
The alternative refueling property credit provides a tax credit to gas stations that install alternative fuel pumps, such as fuel pumps that dispense E85 fuel, electricity, hydrogen and natural gas. For 2009 and 2010, the bill increases the 30% alternative refueling property credit for businesses (capped at $20,000) to 50% (capped at $50,000). Hydrogen refueling pumps remain at a 30% credit percentage; however, the cap for hydrogen refueling pumps will be increased to $200,000. In addition, the bill increases the 30% alternative refueling property credit for individuals (capped at $1,000) to 50% (capped at $2,000).

Treasury Department Energy Grants in Lieu of Tax Credits

<table>
<thead>
<tr>
<th>Final ACT Estimates</th>
<th>$5,000,000</th>
</tr>
</thead>
</table>

**COMMENTS**
Under current law, taxpayers are allowed to claim a production tax credit for electricity produced by certain renewable energy facilities and an investment tax credit for certain renewable energy property. These tax credits help attract private capital to invest in renewable energy projects. Economic conditions have undermined the effectiveness of these tax credits. As a result, the bill allows taxpayers to receive a grant from the Treasury Department in lieu of tax credits. This grant will operate like the current-law investment tax credit. The Treasury Department will issue a grant in an amount equal to 30% of the cost of the renewable energy facility within 60 days of the facility being placed in service or, if later, within 60 days of receiving an application for such grant.
DRAFT REGIONAL ASSESSMENT OF ALTERNATIVE FUEL AND VEHICLE OPPORTUNITIES  

Introduction  

SANDAG’s partnership with the California Energy Commission (CEC) calls for the preparation of a regional alternative transportation fuels and vehicles assessment, which focuses on identifying alternative fuel vehicle opportunities for local government fleets and appropriate locations for siting alternative fuel infrastructure. Staff has prepared a draft report that will be presented to the EWG. Members are asked to provide input on the working draft of the assessment prior to submittal of a complete draft report to the CEC at the end of the month.

Discussion  

This regional assessment features an analysis of multiple alternative fuel types and vehicle technologies and opportunities for integration of alternative fuel vehicles in fleets owned by local government and their franchisees (such as refuse haulers). Alternative fuel vehicle recommendations are made for specific fleet applications. The report analyzes specific locations in the region where infrastructure could be sited. Also, grant and other funding opportunities to aid in the addition of alternative fuel vehicles to fleets and construction of supporting infrastructure are discussed.

Other topics covered by the draft report include analysis of regional, state, and national fuel supply and model ordinances, procurement policies, and cost calculators local governments can use to help transform their fleets and those of their franchisees to alternative fuel vehicles.

A final report is due to the CEC on September 15, 2009.

Key Staff Contact: Andrew Martin, (619) 699-7319, ama@sandag.org
REGIONAL ENERGY STRATEGY UPDATE GUIDING PRINCIPLES

Introduction

Over the past several meetings, the Energy Working Group (EWG) has been discussing the update of the Regional Energy Strategy (RES) including goals, policies and guiding principles. Attachment 1 is the proposed Guiding Principles document, based on input from the Regional Planning Committee (RPC), the RPC Technical Working Group, EWG, 1994 Regional Energy Plan, and the 2003 RES.

The EWG is asked to consider recommending the attached Guiding Principles for inclusion in the RES Update.

Attachment:  1. Proposed Guiding Principles for the Regional Energy Strategy Update

Key Staff Contact:  Susan Freedman, (619) 699-7387, sfr@sandag.org
**Proposed Guiding Principles for the Regional Energy Strategy Update**

**Sustainably Meet Future Energy Needs**
The region’s energy needs are met while maintaining environmental quality by employing resources efficiently, diversifying our fuel mix, and utilizing supplies that minimize cost.

**Reduce Greenhouse Gas Emissions from Energy Use**
Climate change is a serious global challenge to public health, the environment and the economy requiring all levels of government to engage in immediate and sustained cost-effective actions to reduce and mitigate greenhouse gas emissions and prepare for the impacts.

**Promote Education and Consensus-Building**
An open, transparent and inclusive planning process, combined with education programs, increase public awareness and responsible energy decision-making in the region.

**Foster the Clean Energy Sector**
Economic development initiatives and workforce training programs position the region to supply a growing demand for energy efficient and renewable energy products and services.

**Promote Social Equity and Environmental Justice**
Energy planning and programs promote the principles of opportunity, inclusion, and equal access for disadvantaged populations and ensure fair treatment and meaningful involvement for all people regardless of race, ethnicity, gender, income, national origin or geography.

**Acquire Cost-Effective Electricity Resources in a Sustainable Manner**
New resources come from energy efficiency, demand response, renewable energy, and distributed generation before resources from new transmission and fossil-fuel based generation are sought.

**Implement the Smart Grid**
The deployment of smart devices, controls and communications modernize our electricity grid to improve reliability, power quality, and detect problems before service is affected.

**Reduce Energy Demand and Renewable Energy System Cost**
Policies and programs promote the integration of energy efficiency at a structure prior to the installation of a renewable energy system in order to reduce the size and cost of the renewable energy system.

**Achieve Zero Net Energy Residential and Commercial Buildings**
Aggressive strategies, including regulations and incentives, are employed to achieve zero net energy usage in new and existing residential and commercial buildings through deployment of energy efficiency and clean distributed generation.

**Reduce the Energy Intensity of the Built Environment**
The energy intensity of community design, including buildings and travel options, is an integral component of land use and transportation planning.

**Ready the Region for Wide-Scale Deployment of Alternative Fuel Vehicles**
The region has convenient access to alternative transportation fuels that reduce our dependence on foreign oil supply, reduce local economic impacts from oil price volatility and reduce greenhouse gas emissions.
Regional Energy Strategy Update:

Priority Action Items for Increased Energy Efficiency Penetration in the San Diego Region

As context for this examination of exceptional EE opportunities, it is appropriate to reexamine the market sectors and their relative contribution to overall energy consumption reduction. The six market sectors that exist in San Diego (agricultural sector consumption is low and therefore not included in this forecast) are charted below to illustrate the effects of varying levels of incentives on EE penetration levels. Further, they illustrate that of the six market sectors, existing residential penetration can provide more benefits per dollar spent than the other sectors.

Figure 1 represents three scenarios of cumulative EE savings impacts that could be realized by incentivizing EE technologies at varying levels. The anchor or “mid-level” (red line) scenario is the level of EE that would be achieved with an increase in EE incentives above current practice that is substantial but not so much as to cover the full additional cost of the EE measures. The mix of EE measures funded is limited to those that pass a cost-effectiveness threshold, specifically that the Total Resource Test (TRC) shows a benefit-to-cost ratio of at least 0.85—again, this is somewhat more liberal than current practice, under which TRC must exceed 1.0 for a program to be deemed cost-effective. The “base-level” scenario (green line) illustrates the EE savings projected if current (2006-2008 program) EE programs and associated incentives were continued through 2030. The third or “full-level” (blue line) represents the EE savings that would result if full incremental costs of cost-effective EE retrofits (TRC > 0.85) were incentivized.
Figure 1: Energy Efficiency Percent Total Consumption Saved Through All Sectors

Figure 1 shows that over the forecast period, the range of overall savings in 2030 is from 7.1 percent for continuation of current incentive levels to 9.9 percent for aggressive incentive levels.

Figure 2 shows the share of total EE savings that would be realized within each market sector; the proportions do not vary substantially between the three scenarios (base-, mid- and full). Regardless of incentive levels, the existing residential sector holds the highest promise for EE savings over the forecast study period.

<table>
<thead>
<tr>
<th>Market Sector / Year</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2026</th>
<th>2030</th>
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<tr>
<td>Residential, Existing</td>
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<td>48.08%</td>
<td>47.40%</td>
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<td>9.36%</td>
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<td>10.77%</td>
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<td>10.99%</td>
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<tr>
<td>Industrial, New</td>
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<td>0.26%</td>
<td>0.29%</td>
<td>0.27%</td>
</tr>
</tbody>
</table>

The remainder of this section defines and describes four actions LGs can undertake to generate meaningful savings within the existing residential sector. Other sectors are also important for potential energy savings, particularly existing small and large commercial, but we focus here on residential as the sector that requires concerted effort by LGs and other stakeholders to effectively access and impact outcomes.

1 These EE goals are based on market projections of the results of EE incentive programs using Itron’s ASSET modeling software. ASSET is a bottom-up model of energy usage throughout the state’s economy, allowing projection of project future consumption patterns under a wide variety of EE policy scenarios, from business as usual to very aggressive.
Prioritize Comprehensive Existing Residential Retrofits

Existing buildings, particularly the residential sector, are typically more difficult to influence and impact than new construction, where mandates can relatively easily be added to building codes. According to the GreenPoint Rated Climate Calculator\(^2\) report, 70 percent of homes that could benefit from EE technologies are pre-1980 construction. As a complement to a statewide policy goal of pursuing all “cost-effective” EE programs through the IOU EE programs, LGs can leverage their regular contact with every property owner and permitted project to push a broader set of activities. This could include pursuing measures and approaches that have a relatively long cost-effectiveness horizon but which still meet multiple city goals.

While prioritizing existing residential construction, regional goal-setting activities must account for market saturation and diminishing program accomplishments over time. By supporting comprehensive approaches to EE, single technologies that may reach market saturation earlier can be coupled with those opportunities that will take longer to fully deploy and diffuse.

Recent California EE plans, namely the CEC Integrated Energy Policy Report (IEPR), the CPUC Long-Term EE Strategic Plan (EE Plan) and CEC Achieving All Cost-Effective EE for California, focus on comprehensive approaches as a means to realizing aggressive EE goals. The EE Plan cites existing residential buildings as a key tool to meet statewide goals of 20 percent consumption reduction over business as usual by 2015 and 40 percent by 2020.

Comprehensive Residential Retrofit Approaches to Increase EE Penetration

The EE plan recognizes the potential for market-wide consumer hesitation to EE projects in existing homes due to the perception that the payback or ROI is unacceptably high. Combating this notion will necessitate multiple, coordinated efforts by industry leaders, LG staff, the utility and other stakeholders to reach consumer segments. The marketing of the benefits of installing efficient systems and appliances needs to move beyond emphasizing primarily energy savings and long-term cost savings to focus on a broader array of areas such as comfort, noise reduction, public good and eco-lifestyle choices.

The potential for strengthening market acceptance and achieving EE goals for existing homes, especially middle and lower income residences, is greatly enhanced by increasing customer affordability. AB 811, passed by the California legislature in 2008, provides a financial mechanism for residential and commercial improvements that allows LGs to address EE for audiences that have previously been labeled as “hard-to-reach.” The legislation allows LGs to establish tax assessment districts that can provide loans for EE installations to be repaid through property taxes. AB 811 programs allow property owners to avoid the upfront cost for comprehensive or “whole-home” EE approaches by permitting them to pay in installments included in their biannual property tax payments. AB811 programs designed and implemented in Berkeley and Palm Desert are proving to be extremely popular and are helping to overcome the financial obstacles that inhibit EE improvements.

To determine the EE opportunities that best suit existing residential structures, experts can perform tests that indicate deficiencies in the envelope of the home and within it. Home Energy Rating System (HERS) raters who are certified by the CEC to perform these assessments can be deployed as a means to quantifying the benefits of EE. LGs that are interested in determining the EE potential in their existing housing stock could encourage HERS ratings and promote the energy savings that ratings can be provided through proper identification of trouble areas. Another rating option is through the national Energy Star rating system, developed for existing residential construction in which property owners can view their energy consumption relative to others in their communities, allowing them to understand how a building is performing. In addition to AB 811 implementation programs, LGs will soon be able to leverage funds available through the American Recovery and Reinvestment Act of 2009 (ARRA) to offset the cost of these ratings prior and subsequent to EE technology installations.

LGs can also institute ordinances to address EE retrofits at point of sale or major remodel. The cities of Berkeley and San Francisco have instituted ordinances that require homebuyers to undergo EE upgrades at point-of-sale or home renovation. Such Residential Energy Conservation Ordinances (RECOs) mandate a set of cost-effective EE prescriptive measures, including duct sealing, ceiling insulation, low-flow water devices, weatherstripping and bulb replacement. Based on an aggressive climate change measure passed in 2006 that mandates 80 percent reduction in GHG levels by 2050, the Berkeley RECO is being reviewed and revamped to include in the ordinance sustainability measures like water conservation, environmental and transportation recommendations rather than EE only.

Weatherization Programs

Weatherization refers to a subset of a comprehensive home retrofit that focuses on steps to protect homes and commercial structures from the outside environment, resulting in reduced electricity usage and potentially lower energy bills. Weatherization technology installers and verification experts use tools to assess weatherization needs, which range from weatherstripping around doors and windows to gaskets on electric outlets and areas where outside air seeps into building interiors. Weatherization also refers to reducing air infiltration and pressure imbalances, sealing air ducts, tuning HVAC equipment, window replacement, chimney dampers, and insulation of walls, attics and hot water tanks and pipes. The DOE estimates that on average, weatherization reduces residential heating and cooling costs by 32 percent.

3 More comprehensive approaches for new residential construction exist through the Green Point rating system. Green Point raters provide an even broader array of opportunities for comprehensive retrofit opportunities that includes not only EE but also water, emissions, transportation and environment considerations.

4 Berkeley Measure G: “Should the People of the City of Berkeley have a goal of 80% reduction in greenhouse gas emissions by 2050 and advise the Mayor to work with the community to develop a plan for Council adoption in 2007, which sets a ten year emissions reduction target and identifies actions by the City and residents to achieve both the ten year target and the ultimate goal of 80 percent emissions reduction?” (November, 2006)
To date, weatherization programs have focused on lower income properties. Low-income households spend nearly 17% of their total annual income on energy\(^5\) compared to other households that spend only 4% of their annual income on energy. Low-income families often cut back on other necessities to pay their energy bills. Because low-income residents pay such a high percentage of their income on energy, the necessity to focus on this demographic and weatherization as a potential solution is necessary.

SDG&E's proposed Low Income Energy Efficiency (LIEE) program\(^6\) comprises customized energy audits and energy education as well as incentives for installation of weatherization measures, followed by installation inspections and customer acknowledgement. The current LIEE program (2006-2008) has resulted in reducing annual energy costs by an average of $669 per household per year in the region and produced ~5012kWh savings over the cycle for the measures for each home weatherized. \(^7\) However, in the past decade, out of the 5.5 million customers in California qualified for the program, only 1.6 million participated in the program, or approximately 29 percent. In the SDG&E territory, this has translated to weatherization services for 134,454 out of 352,737 qualified residents of San Diego County, or approximately 28 percent.

**Weatherization Approaches to Increase EE Penetration**

LGs can support weatherization in their communities in two distinct ways:

1. Publishing outreach and educational materials and web pages, as well as at activities at community events and forums,
2. Imposing mandatory quality control measures

Providing literature to residents about current and new weatherization services, identifying green stewards who are part of low-income communities and facilitating workshops and outreach programs through parks and recreation departments are examples of outreach opportunities. By serving low- and moderate-income constituents and promoting weatherization in LG documents, ordinances and education and outreach collateral, customers can further the goals of energy-savings, GHG emissions reductions and energy bill savings.

LGs can promote weatherization through the regional portion of a $5 billion weatherization funds available through the ARRA.\(^8\) The ARRA weatherization program has the potential to significantly increase the amount of work that can be funded on each housing unit and the number of homes that will receive improvements. In addition to these funds, LIEE funds are expected to continue, which when combined with ARRA weatherization funds, can produce positive results. As part of the ARRA spending requirements, LGs will be asked to verify opportunities and then account for savings realized from their installation. By requiring pre-and post-measure inspections (HERS, GreenRated), LGs can ensure contractors identify proper

\(^5\) U.S. Department of Energy
\(^6\) SDG&E application to the CPUC for approval of their 2009-2011 Low Income EE Programs
\(^7\) 2.www.calamac.org (R.07-01-042, A.07-05-010 COM/DGX, ALJ/KLM/rbg, LIEE Annual Reports, 2006 for PGE, SCE, SDG&E, and SoCalGas
\(^8\) These funds have not been released as of 4-09
weatherization measures on the front end and verify their proper installation as part of their EM&V activities.

**Encourage Educational Opportunities for Lighting**

Although efficient lamps are widely available and have become increasingly cost effective, education about new lighting technologies has not kept pace. The EE Plan highlights the need to promote efficient new lighting technologies as they are introduced. The plan states “Utilities will begin to phase traditional mass market CFL bulb promotions and giveaways out of program portfolios and shift focus toward new lighting technologies and other innovative programs…” To underscore the need for a productive lighting market transformation campaign, AB 1109 was passed by the California legislature in 2007. The *California Lighting Efficiency and Toxics Reduction Act*, which requires a 50 percent increase in general lighting efficiency by 2018, will spur the need to educate the public about the most innovative lighting technologies.

Improved market penetration for the most efficient lighting technologies represents ~50 percent of the cumulative potential for EE savings. Because lighting replacements have an almost immediate payback, the market potential is expected to be almost as high as its technical penetration potential. By improving the value proposition of lighting, 40-70 percent of the technical potential for lighting can be realized by 2030, with the lower end of the scale representing continuation of current utility incentive programs and the upper limit representing incentivizes for the full incremental costs for all lighting incentives.

**Lighting Approaches to Increase EE Penetration**

A key market penetration strategy for most EE goal action is to develop an aggressive outreach and education program. By increasing awareness of and information on EE, consumers will be better aware of the technologies available to them, their costs and the environmental, aesthetic, cost and energy benefits of their actions. The program materials will focus on new lighting technologies and contest the long-held misconceptions about EE lighting:

- The lamps are unattractive and do not fit most fixtures
- They are too expensive
- Light or color of bulb is cold and provides minimum light output
- Energy savings is not very substantial

The current strategy for efficient lighting technology market transformation includes bulb exchange events where targeted market segment customers receive efficient CFL bulbs in exchange when they turn in their less efficient bulbs. However, evaluation, measurement and validation studies show that more education about new technologies and their improved quality should occur along with this shorter-term solution. While some education about CFL lighting is offered through the exchange events, to date the efforts have not successfully demonstrated the newest and best lighting technologies.10

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9 Technical potential based on projections through 2030
LGs have opportunities for education and outreach about EE lighting in partnerships with IOUs and third party administrators who design and execute EE marketing programs. LGs are particularly well positioned to place educational materials, field demonstrations and other targeted onsite activities at the community level where contractors, property owners and residents can learn about the latest lighting technologies. LGs also have established relationships with businesses, local chambers of commerce, schools and other organizations and their members to promote EE goals.

A promising option for increased use of newly introduced efficient lighting technologies is through the proposed incentive and educational programs provided by utilities. The proposed Lighting Market Transformation Program offers the opportunity for not only research but also transformation through adaptable educational materials to inform all market segments, including the contractors that install lighting, commercial and residential builders, end-users and distributors. Business advocates, e.g. San Diego CleanTech and local chambers of commerce and economic development councils can further the benefit of the program by connecting businesses with research and then to local government through their membership bases.

For the educational portion of lighting and other EE programs, LGs can support IOUs and third party-administrators in their public information efforts. Such IOU/government partnerships will provide significant opportunities for penetrating both consumer and business markets with details about new lighting technologies.

**Aggressive A/C Load Reduction through Efficient HVAC Systems**

Similar to most other LGs in California, the San Diego region has experienced a rapid increase in the use of A/C in both residential and commercial buildings. Construction has been concentrated in areas where A/C load is higher than in the cooler coastal climate zones. Overall, the A/C load increase in California has translated to a seven-fold increase in energy capacity needed to meet load since 1976.

One of the Big Bold Energy Efficiency Strategies in the EE plan is to reshape residential and small commercial HVAC to ensure optimal equipment performance. This initiative targets a 50 percent improvement in efficiency in the HVAC sector by 2020 and a 75 % improvement by 2030. Other statewide energy policy documents emphasize A/C load as a major contributor to GHG emissions and a potential area for deep energy consumption reduction. The CEC/CPUC Energy Action Plan increased A/C efficiency as a critical element to attaining of state energy goals. Passed in 2008, AB 2021 mirrors this concern with a mandate for evaluation of and options for improvements in HVAC performance.

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11 Application of San Diego Gas and Electric company for Approval of Energy Efficiency Programs and Budgets for Years 2009-2011
The potential for improving A/C systems is high, representing ~16 percent of the technical potential of the overall potential for EE through 2030. A 16 percent penetration level in 2030 represents 10-46 percent of the technical potential of the technology by 2030.

**HVAC Approaches to Increase EE Penetration**

The rapid growth in A/C use in the region made it one of the largest energy consuming end uses and the single largest contributor to peak demand, which makes it an obvious choice for aggressive EE and peak reduction strategies. Higher upfront costs for HVAC upgrades and replacements also make it necessary to incentivize HVAC system installation.

LGs can address aggressive A/C goals locally with four actions:

- Encouraging and ensuring that permits are attained prior to HVAC unit installation
- Encouraging maintenance of installed units
- Incentivizing “smart systems” and innovative approaches to HVAC systems
- Promoting HVAC contractor and the construction industry ongoing education

The SDG&E 2009-2011 EE program application to the CPUC includes an HVAC program that includes several sub-programs, including providing incentives to contractors for quality installations and maintenance. SDG&E can co-brand with HVAC contractors to additional clients. Another sub-program provides upstream financial incentives to distributors who sell high efficiency systems, encouraging the sale of those units, while other sub-programs will incentivize HVAC tune-ups if they prove to be cost-effective.

LGs can promote each sub-program through education and outreach to HVAC industry participants including contractors, end-users and inspectors. They can also provide quality assurance through the permitting process, and can recommend that any incentives be contingent upon successful post-installation inspection. LGs can also support the less popular actions within the program, especially those that are shown to be cost-ineffective. By including the tenets presented here, LGs can assist in reducing consumption, which when combined with other EE measures, can be cost-effective over the life cycle of such program measures.

LGs can educate residents about the necessity of obtaining proper permits prior to HVAC installation can aid contractors in promoting proper installations that will increase quality performance results from the system. LGs can also incentivize installation of smart and innovative new HVAC technologies by educating residents and contractors about their benefits by including them in general plans and climate action plans. Finally, using third-party verification (see Prioritize Comprehensive Existing Residential Retrofits section) can assure proper equipment installation.

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13 Since 2006, HVAC units have come arrived on the market with efficiencies of 18 to 20 SEER. However, HVAC systems with a 15 SEER and above improves only the “part-load” efficiency, which is not the same as “peak load” efficiency.

14 20 percent of technical potential represents the continuation of current incentives while 50 percent of technical potential represents incentivizing the full incremental cost.
Currently, contractors and residents who install and replace HVAC systems do not always obtain the proper and required remodeling permits prior to installing systems. By instituting streamlined permitting processes or waiving permitting fees for installations, more contractors could be persuaded to procure the proper permits for installation, thereby educating the installer about current requirements including post-installation inspection and proper duct sealing.
RES UPDATE GOALS AND POLICIES

Introduction

Over the past several meetings, the Energy Working Group (EWG) has been discussing the update of the Regional Energy Strategy (RES) including goals, policies, and guiding principles. Attachment 1 is an updated set of proposed goals and policies. Updates to the goals from last month include input from the EWG meeting discussion, the Regional Planning Committee, RPC Technical Working Group, and additional analysis by CCSE on energy efficiency and distributed generation. This is a draft document that continues to be refined and improved. It will be main area of discussion for the EWG.

Staff is working on two new goals for consideration by the EWG. One addresses water-energy issues and the other addresses cross-border energy issues. The RPC at its April 3 meeting recommended that water be emphasized more. Prior to the meeting, drafts of these goals will be sent via the electronic distribution list and handouts will be provided at the meeting.

Please note that agenda item 7 addresses potential policies and actions for the region to further address energy efficiency. This would be priority implementation measures to meet the energy efficiency goal. Attachment 2 was prepared by CCSE as continuation of its distributed generation analysis included in the EWG February 2009 agenda packet. This addresses priority implementation measures to meet the recommended distributed generation (DG) goal.

A draft of the 2009 RES Update must be completed for the California Energy Commission by June 1, 2009. A public workshop is planned for the evening of July 7 at CCSE. A final draft is to be considered by the SANDAG Board or Directors in October 2009, with a final report submittal to the CEC by the end of 2009.

Attachments: 1: Proposed Regional Energy Strategy Update Goals and Policies
2: RES Update: Priority Action Items for Distributed Generation Penetration in the San Diego Region

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

**ENERGY EFFICIENCY**

**Goal:** Reduce total electricity consumption (GWh) across the region through aggressive but achievable energy efficiency measures.

**Targets:**

![Graph](image.png)

Source: CCSE, 2009

Targets for reducing total electricity consumption will be established for 2020 and 2030. Based on CCSE’s analysis, they have proposed three possible regional energy efficiency targets for the RES Update. A Base-Level Target, Mid-Level Target, or Full-Level target (depicted above) would require different levels of commitment to achieve. Within these totals, targets are identified for each electricity sector, including new and existing
residential, commercial and industrial structures. The Base-Level Target is illustrated in the following table and graph as example.

<table>
<thead>
<tr>
<th>Sector/Year</th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
</tr>
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<tbody>
<tr>
<td>Residential, Existing</td>
<td>2.1%</td>
<td>3.7%</td>
<td>4.2%</td>
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<tr>
<td>Commercial, Existing</td>
<td>1.5%</td>
<td>2.5%</td>
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<td>Industrial, Existing</td>
<td>0.3%</td>
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<td>Residential, New</td>
<td>0.02%</td>
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<td>0.08%</td>
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<td>Commercial, New</td>
<td>0.2%</td>
<td>0.6%</td>
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<tr>
<td>Industrial, New</td>
<td>0.01%</td>
<td>0.02%</td>
<td>0.02%</td>
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</tbody>
</table>

**Figure 2: Energy Efficiency Percent Total Consumption Saved, Mid-Level Scenario**

Source: CCSE, 2009

The energy efficiency targets reflect a projection forward applying existing funding levels from the Public Goods Charge (PGC) program mechanism through San Diego Gas and Electric (SDG&E). Stretch targets for energy efficiency by sector are currently under analysis by the California Center for Sustainable Energy (CCSE). The more aggressive goal would result if the region leverages other policies and programs outside the scope of PGC programs.
Based on analysis to date, the proposed Base-Level Targets will result in a 6.0 percent reduction in total electricity consumption below projected levels in 2020 and a 7.1 percent reduction in 2030. For the RES Update, energy efficiency is broadly defined as using less energy to accomplish the same level of electrical output as a less efficient energy appliance or application. Energy efficiency can be more precisely defined by the potential for it, by type. For this goal, energy efficiency is defined as the market potential for energy efficiency penetration in each electricity sector.

**Policies:**

- Leverage federal funding
  - Energy Efficiency and Conservation Block Grants
  - Weatherization programs
  - State Energy Programs
- Support renewable energy/energy efficiency financing options
  - Assembly Bill 811
- Support advanced metering infrastructure
- Support long-term energy efficiency plans
  - CPUC Energy Efficiency Long Term Strategic Plan
    - Focus on energy efficiency market transformation
    - 100 percent of eligible and willing customers will have received all cost effective EE measures by 2020 (CPUC Plan)
- Support California green building initiative directives
  - 20 percent reduction of energy use in state-owned buildings by 2015
  - Recommended private commercial sector goals and compliance with Green Building Action Plan
- Implement legislation that encourages energy efficiency
  - SB 1037 (2005)
  - AB 2021 (2006)
  - AB 32 (2006)
  - AB 1109 (2007)
- Support current legislative cycle energy efficiency bills
- Promote workforce development in the clean energy sector
REGIONAL PEAK DEMAND

Goal: Reduce per capita electricity peak demand (MW) through targeted energy efficiency and demand response measures, and deployment of smart grid technologies.

Target:

<table>
<thead>
<tr>
<th></th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
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<tr>
<td>Overall Peak Demand</td>
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<td>3163 MW</td>
<td>4405 MW</td>
<td>4925 MW</td>
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<td>Population</td>
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<td>2,813,833</td>
<td>3,245,279</td>
<td>3,635,855</td>
<td>3,984,753</td>
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<td>Per capita peak demand</td>
<td>1.08 kW</td>
<td>1.12 kW</td>
<td>1.36 kW</td>
<td>1.35 kW</td>
<td>Tbd</td>
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</table>

[Placeholder for graphs showing current San Diego regional peak load demand and desire to flatten load curve and achieve higher capacity factor]

Reducing electric demand through conservation, energy efficiency, and demand response activities are the first actions that should be taken by the region. Such demand-side measures can be considered a most reliable “supply resource” option and have been consistently shown to be the easiest to achieve. Demand reduction delays the need for the construction of new generation and new transmission. Demand reduction reduces the output requirements placed on in-region power plants, thus improving air quality and community health.

Approximately one-third of energy demand in the SDG&E territory is derived from A/C units during peak summer periods. Not only does this affect overall consumption, but high A/C demand during summer peak periods has necessitated the use of less efficient regional peaker plants that have air quality impacts for the region.

In addition to demand-side measures, implementing a smart grid in the San Diego region will provide a reduction in peak demand, improve system availability and provide capacity improvements due to improved power flow. A smart grid is further detailed in the RES goal for the electricity grid. It includes smart devices, two-way communications and advanced control systems. A smart grid can detect and address emerging problems on the transmission and distribution system before they affect service and enable ratepayers that chose to participate to use smart devices that can cycle A/C units, set dryers or other energy intensive equipment to run at off peak hours energy is in greater supply and less costly.

Policies:

- Encourage participation in demand response programs
- Support fair and reasonable rate designs and incentives that encourage reductions in peak demand
- Support SDG&E in obtaining resources to implement a smart grid in San Diego region.
- Support and promote development of A/C load reduction programs
- Support aggressive energy efficiency programs that prioritize existing building retrofits
- Support development of a regionally consistent and comprehensive energy efficiency building retrofit program

CLEAN DISTRIBUTED GENERATION

**Goal:** Increase the total amount of distributed generation resources (renewable and non-renewable) in the region to diversify the electricity resource mix and reduce summer peak demand with onsite or near-load resources.

**Targets:**

<table>
<thead>
<tr>
<th>DG Technology</th>
<th>2008 (MW) actual</th>
<th>2020 Goal (MW) = 8% of State Goals</th>
<th>2030 Goal</th>
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<tbody>
<tr>
<td>Hydro (built out)</td>
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<td>3.8</td>
<td>3.8</td>
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<tr>
<td>Bio</td>
<td>6.4</td>
<td>24</td>
<td>26.55</td>
</tr>
<tr>
<td>Steam (built out)</td>
<td>6.6</td>
<td>6.6</td>
<td>6.6</td>
</tr>
<tr>
<td>PV</td>
<td>49.4</td>
<td>210</td>
<td>249.29</td>
</tr>
<tr>
<td>CHP</td>
<td>341.0</td>
<td>264</td>
<td>397.79</td>
</tr>
<tr>
<td><strong>Total DG</strong></td>
<td><strong>407.2</strong></td>
<td><strong>508.4</strong></td>
<td><strong>684.03</strong></td>
</tr>
<tr>
<td>Net Peak Demand</td>
<td>4568.0</td>
<td>5411</td>
<td>6218</td>
</tr>
</tbody>
</table>

**Penetration of DG**

<table>
<thead>
<tr>
<th></th>
<th>2008 (%)</th>
<th>2020 Goal (MW) = 8% of State Goals</th>
<th>2030 Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8.9%</td>
<td>9.4%</td>
<td>11.0%</td>
</tr>
</tbody>
</table>


Stacked CEC-Based Market Penetration (in MW by Year) for SDG&E Territory

Source: CCSE, 2009
The draft targets are to exceed 500MW (9 percent of net peak demand) by 2020 and 684 MW (11 percent of net peak demand) by 2030. Targets by technology also have been established.

The overall targets have been revised downward from the 2003 RES after analysis by the California Energy Commission (CEC) and CCSE of the market potential for these technologies shown that the earlier goals were unachievable. For the RES Update, distributed generation is defined as an onsite or near-load electricity generator, under 20 MW, serving either onsite load (or a portion thereof) or the regional utility grid. Technologies and fuels included in the definition of distributed generation are solar, wind, biomass and biogas, fuel cells, clean and efficient combined heat and power (CHP) systems, efficient microturbines, and internal combustion engines (ICEs). Advanced energy storage (AES) is included here as a recently added component of DG applications.

**Policies:**

- Implement legislation that encourages distributed generation technologies and implementation
  - AB 32 (2006)
  - SB 1078 (2002)
  - AB 2466 (2008)
  - AB 1613 (2007)
- Continue incentive programs for distributed generation technologies
  - Self-Generation Incentive Program
  - California Solar Initiative
- Implement financing options that promote distributed generation
  - AB 811
- Support smart grid policy implementation
- Promote workforce development in the clean energy sector

**LARGE-SCALE RENEWABLE ENERGY SUPPLY**

**Goal:** Significantly increase the region's total electricity supply from renewable energy resources.

**Targets:**

<table>
<thead>
<tr>
<th>Renewable Resources</th>
<th>2008 (actual)</th>
<th>2020</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Included in SDG&amp;E RPS</td>
<td>7%</td>
<td>33%</td>
<td>50%</td>
</tr>
<tr>
<td>Net Peak Demand (MW)</td>
<td>4568.0</td>
<td>5411</td>
<td>6218</td>
</tr>
</tbody>
</table>

Small-scale renewable resources are addressed in the distributed generation goal above. The 2010 and 2020 targets have been revised upward from the 2003 RES to reflect more aggressive state law and policy. The 2030 target from the 2003 RES remains unchanged. The draft targets for the RES Update call for increases in the amount of renewable energy resources to 20 percent by 2010, 33 percent by 2020 and 50 percent by 2030.
Renewable resources include supply that counts toward SDG&E meeting the renewable portfolio standard (RPS). California's RPS program requires electric corporations to increase procurement from eligible renewable energy resources to reach 20 percent by 2010. In November 2008, the governor signed Executive Order S-14-08 directing all state agencies to work toward achieving 33 percent by 2020. The CEC, California Public Utilities Commission (CPUC) and California Air Resources Board (CARB) support the higher RPS goal for 2020, which still must be codified into law through legislation. The large-scale renewable energy goal also will include any renewable resources not counted in the DG goal.

**Policies:**
- In a regionally-consistent manner, assist local governments in the identification and removal of barriers to siting renewable energy installations in San Diego County.
- Assist local governments in identification of potential sites for renewable energy projects that will help the region and SDG&E meet renewable energy targets.
- Promote quality jobs for workers employed in the energy sector through training programs related to local renewable energy industries.
- Support cost-effective transmission access from areas rich in renewable resources to the San Diego region.
- Monitor the Renewable Energy Transmission Initiative (RETI) and consider its recommendations in future regional planning.

**THE ELECTRICITY GRID**

**Goal:** Modernize and expand the transmission and distribution grid to maintain required reliability, provide better access to renewable resources, provide competitively priced electricity, and implement a smart grid in the San Diego region.

The transmission grid provides for a number of functions, including providing access to out of region power, improving fuel diversity (in particular, renewable resources), providing access to broader supplies in the market that help lower and stabilize electric prices, improving system stability and reliability, and creating opportunities for local generation to sell to markets outside San Diego. These benefits need to be balanced with the fact that siting issues for new transmission lines are often contentious and difficult to achieve due to the large number of parties that are affected by such projects (e.g. visual impacts, potential impacts on property values, habitat impacts).

California state law requires the utilities to follow a specific “Loading Order” when developing their resource plans. Under this law, utilities should seek new energy resources first from energy efficiency, demand response, renewable energy, and distributed generation before seeking resources from new transmission and fossil-fuel based generation. The state also identifies the lack of transmission access from areas rich in renewable resources to load centers as a major obstacle to meeting the RPS targets.

Transmission is an integral component of a balanced electricity strategy. Additional transmission capacity will enable the San Diego region to gain access to areas rich in...
renewable resources, significantly increase electricity supply from renewable energy, and assist the region in meeting its renewable energy target of 33 percent by 2020.

The San Diego Smart Grid Study was released by EPIC in 2006 and included extensive analysis of the technologies, utility and societal costs and benefits, scenarios for implementing a smart grid in the San Diego region.

<table>
<thead>
<tr>
<th>Summary of San Diego Smart Grid Study Cost-Benefit Analysis Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Annual Benefits</td>
</tr>
<tr>
<td>System Benefits (20-years)</td>
</tr>
<tr>
<td>Societal (Consumer-side) Benefits (20-years)</td>
</tr>
<tr>
<td>Total Capital Cost</td>
</tr>
<tr>
<td>Annual O&amp;M Cost</td>
</tr>
</tbody>
</table>

Source: EPIC, 2006

<table>
<thead>
<tr>
<th>Smart Grid Benefits for the San Diego Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit Type</td>
</tr>
<tr>
<td>Reduction in congestion cost</td>
</tr>
<tr>
<td>Reduced blackout probability</td>
</tr>
<tr>
<td>Reduction in forced outages/interruptions</td>
</tr>
<tr>
<td>Reduction in restoration time and reduced operations and management due to predictive analytics and self healing attribute of the grid</td>
</tr>
<tr>
<td>Reduction in peak demand</td>
</tr>
<tr>
<td>Other benefits due to self diagnosing and self healing attribute of the grid</td>
</tr>
<tr>
<td>Increased integration of distributed generation resources and higher capacity utilization</td>
</tr>
<tr>
<td>Increased security and tolerance to attacks/natural disasters</td>
</tr>
<tr>
<td>Power quality, reliability, and system availability and capacity improvement due to improved power flow</td>
</tr>
<tr>
<td>Regional job creation and increased GDP</td>
</tr>
<tr>
<td>Increased capital investment efficiency due to tighter design limits and optimized use of grid assets</td>
</tr>
<tr>
<td>Tax benefits from asset depreciation, tax credits, and other</td>
</tr>
<tr>
<td>Environmental benefits gained by increased asset utilization</td>
</tr>
</tbody>
</table>

Subtotals $69.7M $71.8M

Total $141.5M

Source: EPIC, 2006

**Policies:**
- Secure funding to conduct a feasibility study on the potential for establishing infrastructure corridors that could include pipelines, transmission lines, roadways, and cable.
- Support the adoption and deployment of smart-grid technologies.
- Support regional entities like SDG&E and Energy Policy Initiatives Center at University of San Diego in acquiring state and federal funds to implement smart grid for San Diego.
- Support cost-effective transmission access from areas rich in renewable resources to the San Diego region.
- Monitor the RETI and consider its recommendations in future regional planning.

**TRANSPORTATION ENERGY**

**Goal:** Reduce petroleum dependence by accelerating the deployment and availability of cost-competitive alternative fuel vehicles in the San Diego region.

Transportation was not addressed in the 2003 RES except to call for further study. Refueling stations and other infrastructure that can accommodate alternative fuel vehicles must be in place to provide members of the public and fleet managers with a level of certainty that they can purchase alternative fuel vehicles without concern over finding a fueling station or maintenance facility. The state has enacted several laws to reduce reliance on petroleum-based transportation fuels. Increasing the use of alternative fuels will help mitigate energy security concerns, provide a buffer from oil price volatility and emit fewer GHG emissions than petroleum-based fuels. Improved vehicle fuel efficiency required by state and federal standards also will help the region address these concerns.

The choice of which alternative fuel will vary based on vehicle class and customer needs. The region will utilize alternative fuels that meet the state’s low carbon fuel standard (LCFS), which is determined by a full fuel cycle analysis ("well to wheels"). Fuels with lower carbon intensities than conventional gasoline and diesel qualify for the LCFS and are eligible for state aid to increase their deployment. Both the state and federal government have significant financial and technical resources available for increasing alternative fuels, vehicles and infrastructure.

**Policies:**
- Identify and secure state and/or federal funding to increase the deployment of alternative fuel vehicles and infrastructure for the region.
- Assist local and regional government fleets to purchase alternative fuel vehicles and use alternative fuels.
- Through public and private partnerships, increase the availability of alternative fuel vehicles and infrastructure in the San Diego region.
- Support local alternative fuel companies that can provide supply to the region.
- In a consistent regional manner, support the Identification and removal of permitting or other barriers to siting refueling/recharging stations and state-approved home refueling options.
- Identify regional transportation investment projects that could be augmented with an alternative transportation component.
• Coordinate with vanpool and carpool programs to replace fleet vehicles with more efficient models.
• Coordinate with regional transit agencies to identify and fund energy reduction technologies for the trolley and light rail.

ENERGY CONSIDERATIONS FOR LAND USE AND TRANSPORTATION PLANNING

Goal: Reduce the energy intensity of the built environment.

This is a new area of focus by the state, although SANDAG’s 1994 energy plan did recognize the need to consider maximizing mobility in community design and building structures with energy efficiency in mind. A proposed target for the RES Update is to increase the number of designated “Potential Smart Growth Areas” (PSGAs) that become part of adopted local plans. Since there are currently 111 PSGAs, attention should begin with areas already served by transit. To achieve this target, methods to address associated energy, water, transportation or other necessary infrastructure improvements must be considered.

Community design is strongly related to energy consumption. The energy intensity of a community is in large part determined by the design and layout of individual buildings and their spatial relation to each other and supporting transportation infrastructure. Local governments influence community design through their land use planning authority and local infrastructure decisions. Local governments provide the blueprint for future land use development and community design in their communities through the General Plan. SANDAG conducts transportation planning for the region and provides land use planning guidance to local governments through the Regional Comprehensive Plan (RCP). In the San Diego region, a major objective of local land use and regional transportation planning is to identify the land and infrastructure needed to accommodate projected population, housing and job growth while maintaining and enhancing quality of life. The San Diego region is forecast to grow by another million residents by 2030, about 30 percent more people than today (2009).

Over the long term, the land use and transportation planning decisions made to accommodate future growth will have a large impact on the spatial distribution of buildings and places and how people travel among them. As a result, energy must be a primary consideration in land use and transportation planning.

Policies:
• Assist local governments in a regionally-consistent manner with incorporating energy-saving measures into general plans and development codes.
• Encourage and help local governments to incorporate Potential Smart Growth Opportunity Areas into their adopted land use plans.
• Support adoption of a resolution calling for zero net energy homes by 2020 and zero net energy commercial buildings by 2030.
• In a regionally consistent manner, promote the integration of efficient energy supply, distribution and use, and petroleum reduction measures into all facets of land-use planning and development.
- Assist local governments with policies and standards that emphasize pedestrians, bicycles, and public transit.
- Support funding and incentives for transportation demand management (TDM) programs like iCommute, carpools, vanpools and telecommuting.
- Support making walking, bicycling and public transportation practical choices for travel.

**NATURAL GAS**

**Goal**: Through energy efficiency measures and fuel diversification, reduce per capita natural gas consumption in the region.

Natural gas is the least polluting fossil fuel and the only fossil fuel that California allows to fuel in-state power plants. It is used for space conditioning and water heating and as a growing transportation fuel for some buses, heavy duty vehicles and passenger vehicles. It is less polluting and more energy efficient than diesel or gasoline.

[Placeholder for energy intensity of various types of natural gas (CNG, LNG, NG) and availability]

Regional natural gas consumption is expected to grow to 590 million therms (MMTh) in 2010, 660 MMT in 2020 and 730 MMTh in 2030. As demand for natural gas continues to grow in the region, and with the passage of AB 32, priority must be made to utilizing natural gas in the most energy efficient manner and where applicable and cost-effective, replace it with a renewable fuel. Draft targets for the RES Update are to reduce per capita natural gas consumption by 10 percent in 2020 and 15 percent in 2030.

Significant opportunities exist to reduce the use of natural gas in the region, including the dismantling or repowering of aged power plants with more efficient combined cycle gas turbines, expanding the use of solar for hot water and solar pool heating, and reducing demand and peak demand by other energy efficiency measures. The passage of AB 1368 in 2006, placed a GHG emissions standard on power purchases of California utilities that will effectively prevent any high-emission baseload plants from being contracted within the state.

**Policies:**
- Monitor the availability and cost of natural gas supplies in light of increased regulatory and environmental restrictions on fossil fuels.
- Support policies that will provide more stable natural gas prices and reduce consumer exposure to market volatility.
- Increase use of solar water heating in residential, pool and commercial uses to offset natural gas demand.
- Promote the use of high efficiency distributed generation technologies like combined heat and power.
- Promote the weatherization and insulation of un-insulated homes built before the development of building energy codes.
- Increase and promote demand-side energy efficiency programs to reduce residential, commercial and industrial gas usage.
- Encourage the re-powering or replacement of older power plants in the county with high efficiency combined cycle gas turbines or a more efficient technology or fuel.

At the EWG Meeting, the EWG will receive a handout with a draft water-energy goal and draft cross-border energy goal for their consideration.

**Placeholder for WATER - ENERGY CONNECTION GOAL**

**Placeholder for CROSS-BORDER ENERGY COORDINATION GOAL**

**Placeholder for CLEAN ENERGY SECTOR**
Regional Energy Strategy Update:

Priority Action Items for Distributed Generation Penetration in the San Diego Region

To realize the environmental, economic, security and reliability benefits of DG, the region should support quantified goals for DG technology penetration. The levels presented here build on several California policymaker-enacted mandates and recommendations. Based on the Fisher-Pry model for each relevant technology application and a forecasted peak demand calculated at 6218MW, DG has the potential to constitute 11 percent of overall peak demand. The following three figures illustrate market model projections.

Figure 1: CHP Market Penetration Trend, Actual and CEC-Recommended

This graph depicts the percentage of market potential that the region is achieving (red) compared to the projection for CHP penetration based on the Fisher-Pry model (green). From this graph, we can conclude that by continuing on a business-as-usual pattern for CHP, we will arrive at full market penetration well before the target date of 2030. According to the model, the region is on course for meeting established goals for CHP.
This graph shows that the San Diego (red) region is following closely behind the CEC statewide projections (green), but the actual solar trend line diverges from the market projection trend line. Likely, the diverging trend line is a byproduct of the slow start solar had in San Diego compared within PG&E and SCE territories due to the adverse affects of utility tariff design. However, since the adoption of SDG&E's DG-R tariff, we have seen a significant increase in the economic feasibility of solar projects under 1MW. We can conclude that continuation of current incentives for solar and a favorable tariff structure bolstered by other incentives will aid the region in reaching the goals of the CEC model.
This graph of biofuel potential shows that the San Diego (red) region will meet and in fact slightly surpass the CEC projection for market potential (green) by 2030. The increased level of bio-fuels adoption may be directly related to the accelerated penetration of CHP technologies in our territory. The conclusion from this graph is that biofuels will continue on a path to meet reasonable goals within the study period.

The preceding chart demonstrates the multiple goal scenarios that build on the contributions of each DG sector. Again using the Fisher-Pry model used by Itron to develop CEC market
potential projections, we developed the following aggressive yet attainable goal proposals, by technology.

The next section focuses on the four priority actions the region can, LGs in particular, to meet the market potential for San Diego. *

A. Offer Property Tax-Secured Low- or No-Cost Financing Options for DG
B. Provide and Market “Value-Pricing” for Environmental Attributes
C. Support Continuation of Incentives for DG
D. Perform Detailed Market Penetration Analysis—“potential for DG” study

*This section will be expanded for EWG discussion at the April EWG meeting. To provide comments on this document prior to the April EWG meeting, please contact Andrew McAllister at the California Center for Sustainable Energy at 858-244-7282.
San Diego Association of Governments

ENERGY WORKING GROUP

April 23, 2009

AGENDA ITEM NO.: 9

Action Requested: RECOMMEND

REGIONAL CLIMATE ACTION PLAN (RCAP) GUIDING PRINCIPLES

File Number 3003000

Introduction

The Energy Working Group (EWG) has vetted the guiding principles for the Regional Climate Action Plan (RCAP) over multiple meetings. The guiding principles also were reviewed and discussed by the Regional Planning Technical Working Group (TWG). At its April 3 meeting, the Regional Planning Committee (RPC) provided input and comments on the development of the RCAP, including the draft guiding principles. Staff has revised the guiding principles based on the input received from the RPC and will present them to the EWG. Members are asked to review the guiding principles and recommend them for use in the RCAP (Attachment 1).

Potential greenhouse gas (GHG) emission reduction policies for the RCAP also have been discussed and reviewed at several previous EWG meetings. A set of these policies are being tested in the SANDAG travel demand model and California Air Resources Board (CARB) EMFAC model to determine their potential to reduce GHG emissions. Preliminary modeling results will be shared at the meeting.

As discussed at previous EWG meetings, several available policy options to reduce transportation-related GHG emissions cannot be tested in the SANDAG model at this time. Staff is requesting EWG input on alternative methods of calculating the GHG emission reductions associated with the policies.

Discussion

The guiding principles identify a series of priorities and standards that serve as a framework for regional and local planning decisions related to climate change. They are intended to ensure that decision-making leads to achievement of short- and long-term GHG emissions reductions and prepares the region for the impacts of climate change. They emphasize the need to improve community design, improve mobility, support the transition to alternative transportation fuels, and others.

Staff previously proposed to conduct a qualitative analysis of the GHG reduction policies that cannot be run in the SANDAG model. Staff has since been directed to calculate the potential GHG emission reductions of all policies, using alternative methods when use of the SANDAG model is infeasible.
Quantifying the GHG reduction potential of all policies will help inform SANDAG’s recommendations to the state’s Regional Targets Advisory Committee, which is charged with recommending a methodology for CARB to use in the establishment of regional GHG reduction targets required by Senate Bill (SB) 375. This analysis also will support the efforts to develop a Sustainable Community Strategy in the next Regional Transportation Plan update. Preliminary modeling results and methods to quantify additional GHG emission reduction policies will be discussed under agenda item 10, RCAP Policy Update.

Attachment: 1. Recommended Guiding Principles for the Regional Climate Action Plan

Key Staff Contact: Andrew Martin, (619) 699-7319, ama@sandag.org
Recommended Guiding Principles for the Regional Climate Action Plan

Take Immediate Action
Climate change is as an urgent global challenge to public health, the environment, and the economy requiring all levels of government, including SANDAG and its member agencies, to engage in immediate and sustained actions to reduce greenhouse gas (GHG) emissions and prepare for the impacts of a changing climate.

Lead By Example
SANDAG and its member agencies lead by example and increase public awareness of climate change: our actions to reduce GHG emissions from internal operations and prepare for the impacts of climate change encourage residents and the private sector to follow our lead.

Take a Broad Approach
The broad range of sectors comprising regional greenhouse gas emissions, impacts of climate change to the region, and major regional issues associated with climate change are addressed.

Promote Social Equity and Environmental Justice
Climate protection policies and actions promote the principles of opportunity, inclusion, and equal access for disadvantaged populations and ensure fair treatment and meaningful involvement for all people regardless of race, ethnicity, gender, income, national origin or geography.

Prepare for the Impacts of a Changing Regional Climate
The region will be prepared for projected impacts of climate change to San Diego, including increased threats to public health, higher sea level, warmer average temperature, more frequent and longer heat waves, increased peak demand for electricity, more vulnerable water supply, more frequent wildfires, and loss of native plant and animal species.

Design Communities to Maximize Mobility without a Vehicle
Regional transportation planning is integrated with improved community design to significantly lower demand for vehicle travel by making walking, bicycling, and public transportation practical choices for everyday travel.

Achieve Zero Net Energy Residential and Commercial Buildings
Aggressive strategies, including regulations and incentives, are employed to achieve zero net energy usage in new and existing residential and commercial buildings through deployment of energy efficiency and clean distributed generation.

Minimize Greenhouse Gas Emissions from Vehicle Trips
Programs to manage demand for vehicle trips, such as carpools, vanpools, and telecommuting, and improve their efficiency are an emphasis in regional transportation planning.

Fund the Regional Transit Network
Increasing and maintaining funding for public transportation planning and operations is recognized as critical to the success of the region’s efforts to reduce GHG emissions.

Increase Alternative Transportation Fuels and Vehicles
Infrastructure and policy promote the transition away from petroleum to vehicles and fuels with lower greenhouse gas emissions on a full fuel cycle basis.
**Price Transportation Modes to Reflect Their Climate Impacts**
Transportation pricing signals lead to travel behavior that supports regional GHG emissions reductions.

**Reduce GHG Emissions from Interregional and Binational Movement of People and Goods**
Infrastructure, policy, and technology are deployed as necessary to significantly lower GHG emissions associated with the interregional movement of people and goods.

**Minimize GHG Emissions from Electricity and Natural Gas Use**
Conservation, energy efficiency, renewable energy, and distributed resources are preferred over new utility-scale fossil-fuel generated resources.
<table>
<thead>
<tr>
<th>Policy</th>
<th>Description</th>
<th>Method to Determine GHG Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alternative Work Schedules</strong></td>
<td>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. A typical schedule involves employees working 10 hours per day, four days per week, or nine hours per day with one day off every two weeks.</td>
<td>Staff exploring alternative methods</td>
</tr>
<tr>
<td><strong>Commuter Financial Incentives</strong></td>
<td>Financial incentives can be used to encourage the use of alternative commute modes. These include parking cash out, travel allowances, transit and rideshare benefits, and company travel reimbursement policies. These incentives are often provided as an alternative to subsidized employee parking. Parking Cash Out: commuters offered subsidized parking are also offered the cash equivalent if they use alternative travel modes. Travel Allowances: financial payments provided to employees in lieu of parking subsidies. Commuters could use the travel allowance to pay for parking or for another travel mode. Transit and Rideshare Benefits: free or discounted transit fares provided to employees. Reduced Employee Parking Subsidies: commuters who drive would pay a portion or all of their parking costs.</td>
<td>Staff exploring alternative methods</td>
</tr>
<tr>
<td><strong>Driver Education</strong></td>
<td>This strategy would promote fuel-efficient driving practices, such as reduced idling and gentle accelerations. This strategy could be implemented as a new driver education program or added to existing ones.</td>
<td>Staff exploring alternative methods</td>
</tr>
<tr>
<td><strong>Emissions-based Vehicle Registration Fees</strong></td>
<td>Under this measure, a surcharge would be added to vehicle registration of license fees based on vehicle fuel economy.</td>
<td>Staff exploring alternative methods</td>
</tr>
<tr>
<td><strong>Enhanced Smart Growth Land Use</strong></td>
<td>Build-out of the 111 potential smart growth opportunity areas shown on the SANDAG Smart Growth Concept Map.</td>
<td>SANDAG Model/ EMFAC</td>
</tr>
<tr>
<td><strong>Enhanced Regional Transit Network</strong></td>
<td>Implementation of the Regional Transportation Plan (RTP) Unconstrained Revenue Transit network plus the following transit service improvements: circulator bus service with 10 minute frequency all day in the central City of San Diego communities of Mission Valley, North Park, and City Heights and 5 minute frequency all day in Downtown; 10 minute all day service for all bus-rapid-transit (BRT) and regional bus routes; 7 ½ minute</td>
<td>SANDAG Model/ EMFAC</td>
</tr>
</tbody>
</table>
### Attachment 1

**Draft Greenhouse Gas Reduction Policies for the Regional Climate Action Plan**

<table>
<thead>
<tr>
<th>Policy</th>
<th>Description</th>
<th>Method to Determine GHG Reduction</th>
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</thead>
<tbody>
<tr>
<td>High Occupancy Vehicle (HOV) Priority</td>
<td>Strategies to prioritize high occupancy vehicles (HOVs) – carpools, vanpools, and transit vehicles - on the road and for parking.</td>
<td>Staff exploring alternative methods</td>
</tr>
<tr>
<td>Motorist User Fee Increase</td>
<td>Increase in the per-mile cost of vehicle trips. Two price levels are being modeled: $0.012 per mile and $0.0472 per mile. Policies to increase the cost of vehicle trips could include road tolls, high occupancy toll lanes, congestion-pricing, cordon (area) tolls, fuel or carbon tax, and a per mile fee for vehicle travel.</td>
<td>SANDAG Model/ EMFAC</td>
</tr>
<tr>
<td>Nonmotorized Transportation Improvements</td>
<td>Measures that increase walking and bicycling as alternative modes of travel. There are many ways to increase nonmotorized transportation, such as improved sidewalks, paths, and bike lanes, pedestrian-oriented land use, building design, and streetscapes, increased connectivity, traffic calming, and safety improvements.</td>
<td>Staff exploring alternative methods</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>
<td>Staff exploring alternative methods</td>
</tr>
<tr>
<td>Ridesharing</td>
<td>New or expanded policies, programs, and incentives to promote carpooling and vanpooling.</td>
<td>Staff exploring alternative methods</td>
</tr>
<tr>
<td>Smart Growth Parking Fees</td>
<td>Parking zones are established in the existing/planned and potential smart growth opportunity areas (SGOAs). Parking fees are assessed according to level of density and land use mixture as described below. Parking is not charged at residential uses.</td>
<td></td>
</tr>
</tbody>
</table>
|                                       | • $3.00 per hour in the Metropolitan Center  
• $2.25 per hour in Urban Centers  
• $1.50 per hour in Town Centers and Special Use Centers  
• $1.00 per hour in Community Centers and Transit Corridors  
• No charge for Rural Communities                                                                 | SANDAG Model/ EMFAC                             |
| Speed Reductions                     | Maximum speed limit on the regional transportation network of 55 miles per hour.                                                                                                                          | SANDAG Model/ EMFAC                             |
| Telecommuting                         | Two scenarios are proposed: (1) 40 percent of all jobs suitable for telecommuting, or two days offsite per work week; (2) 20 percent of all jobs suitable for telecommuting, or one day offsite per work week. | SANDAG Model/ EMFAC                             |
### Attachment 1

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</tr>
</thead>
<tbody>
<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 AB 32 Climate Change Scoping Plan, the California Air Resources Board is evaluating the use of a feebate program as a complement to, or substitute for, the Pavley regulations.</td>
<td>Staff exploring alternative methods</td>
</tr>
<tr>
<td>Vehicle Retirement Buyback Programs</td>
<td>This strategy would offer financial incentives for removal of a vehicle from use.</td>
<td>Staff exploring alternative methods</td>
</tr>
</tbody>
</table>