MEETING NOTICE
AND AGENDA

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

Thursday, May 26, 2011
11:30 a.m. to 1:00 p.m.

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

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

AGENDA HIGHLIGHTS

- ASSEMBLY BILL 631 (MA) ELECTRIC VEHICLE CHARGING STATIONS
- DRAFT 2050 REGIONAL TRANSPORTATION PLAN: OVERVIEW, UPCOMING OUTREACH, AND ADOPTION PROCESS
- ENERGY TECHNOLOGY ASSISTANCE PROGRAM

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REGIONAL ENERGY WORKING GROUP  
Thursday, May 26, 2011  

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<thead>
<tr>
<th>ITEM #</th>
<th>RECOMMENDATION</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>WELCOME AND INTRODUCTIONS</td>
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<tr>
<td>2.</td>
<td>APPROVAL OF MEETING SUMMARY   APPROVE</td>
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<td>The Regional Energy Working Group (EWG) is asked to approve the April 28, 2011, meeting summary.</td>
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<td>3.</td>
<td>PUBLIC COMMENTS/COMMUNICATIONS/MEMBER COMMENTS</td>
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<tr>
<td></td>
<td>Members of the public shall have the opportunity to address the EWG on any issue within the jurisdiction of SANDAG that is not on this agenda. Anyone desiring to speak shall reserve time by completing a “Request to Speak” form and giving it to the EWG coordinator prior to speaking. Public speakers should notify the EWG coordinator if they have a handout for distribution to EWG members. Public speakers are limited to three minutes or less per person. EWG members also may provide information and announcements under this agenda item.</td>
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<td>4.</td>
<td>ASSEMBLY BILL 631 (MA) ELECTRIC VEHICLE CHARGING STATIONS  RECOMMEND</td>
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<td>Assembly Bill (AB) 631 (Ma), Electric Vehicle Charging Stations, intends to streamline the deployment and use of plug-in electric vehicles (PEV) and the installation of charging stations. This bill would put into law a decision by the California Public Utilities Commission to not regulate electric vehicle charging stations as public utilities. The EWG is asked to review and discuss the attached information and make a recommendation of support on AB 631 to the Regional Planning Committee.</td>
</tr>
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<td>5.</td>
<td>DRAFT 2050 REGIONAL TRANSPORTATION PLAN: OVERVIEW, UPCOMING OUTREACH, AND ADOPTION PROCESS (Heather Adamson)  INFORMATION</td>
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<td>The EWG will receive an overview of the Draft 2050 Regional Transportation Plan (RTP), the blueprint for keeping pace with the mobility and sustainability challenges in a growing region. The SANDAG Board of Directors released the Draft 2050 Regional Transportation Plan (RTP) and its Sustainable Communities Strategy (SCS) for public review and comment on April 22, 2011. The close of the public comment period is June 30, 2011. The Draft Environmental Impact Report is anticipated to be released in early June 2011. Workshops and public hearings will be held during the public comment period. The Board is anticipated to adopt the 2050 RTP in fall 2011.</td>
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<td>6.</td>
<td>CABRILLO CIRCULATOR SHUTTLE OVERVIEW  DISCUSSION</td>
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<td>Eric Munoz, designated Shuttle Project Manager, will provide an overview of the Cabrillo Circulator Shuttle, which will connect the San Diego bayfront with Cabrillo National Monument. The EWG is asked to provide comments.</td>
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</table>
+7. ENERGY TECHNOLOGY ASSISTANCE PROGRAM INFORMATION

The EWG will receive an overview of the Energy Technology Assistance Program (ETAP), a short-term, Federal Stimulus-funded program that provides rebates and technical assistance to public agencies and public colleges and universities for three types of energy efficiency retrofit projects. This item is provided for information.

8. PLUG-IN ELECTRIC VEHICLE GRANT OPPORTUNITIES INFORMATION

The U.S. Department of Energy and the California Energy Commission have announced grant opportunities to promote regional planning for plug-in electric vehicle (PEV) charging stations. Staff will provide the EWG with an overview of the grants, and outline expected next steps based on efforts by local jurisdictions, San Diego Clean Fuels Coalition, and SANDAG.

9. SCHEDULING AGENDA ITEMS FOR FUTURE MEETINGS INFORMATION

Members of the EWG are invited to suggest topics for future meetings.

+ next to an agenda item indicates an attachment
ITEM #1: WELCOME AND INTRODUCTIONS

Chair Carrie Downey, City of Coronado, called the meeting to order at 11:33 a.m.

ITEM #2: MARCH 24, 2011, MEETING SUMMARY

The March 24, 2011, meeting summary was unanimously approved. Laura Hunter, Environmental Health Coalition, abstained from the vote due to her absence at the March 24, 2011, meeting.

ITEM #3: PUBLIC COMMENTS/MEMBER COMMENTS

Susan Freedman, SANDAG, announced that the U.S. Department of Energy and the Clean Cities Coalition have developed a funding opportunity for focused planning and policy implementation for the regional deployment of plug-in electric vehicles (PEV). She announced that SANDAG, in partnership with the City of San Diego and SDG&E, is considering submitting a proposal to streamline the permit, installation, and inspection processes for residential PEV charging equipment that could be used by all 19 jurisdictions in the region. In the pilot project concept being discussed at this early stage, the City of San Diego would test the online permitting template developed by National Renewable Energy Lab. During the project period, the pilot would be refined and offered to all local jurisdictions in the region. Funding awards would range from $250,000-$500,000, and proposals are due in the middle of June 2011. Ms. Freedman made this announcement as information.

Chair Downey asked if the pilot program could be conducted in both large and small cities at the same time. Ms. Freedman responded that the idea is to start out with a city where the most permits will be issued, and following the pilot project, facilitate implementation for all interested cities.

Siobhan Foley, California Center for Sustainable Energy, asked about the involvement of the local Clean Cities Coalition and other organizations. Ms. Freedman responded that applicants for these grant funds would need supplemental letters of support from the San Diego Regional Clean Fuels Coalition (the local Clean Cities Coalition), but the San Diego Regional Clean Fuels Coalition would not be seeking funds under a potential proposal.
Heather Honea, San Diego State University, asked how activities funded under this grant opportunity would differ from those funded by the Electric Vehicle (EV) Project. Ms. Freedman clarified that EV Project funds support the hardware and infrastructure for PEVs, while this opportunity would fund policy and planning implementation.

**ITEM #4: PLUG-IN ELECTRIC VEHICLE RULEMAKING**

Ms. Freedman provided an update on the proposed decision in the plug-in electric vehicle (PEV) proceeding at the California Public Utilities Commission (CPUC). The CPUC issued the Alternative-Fueled Vehicle Rulemaking (R.09-08-009) in order to prepare for the large-scale rollout of PEVs across the state and to support California’s greenhouse gas emissions reduction goals. SANDAG staff has been monitoring the proceeding and its implications for implementation of the EV Project in the San Diego region.

On March 15, 2011, Commissioner Peevey released a proposed decision that included measures that could potentially inhibit the EV Project, and many parties to the proceeding have expressed concern. Two components relate to SDG&E’s role in PEV education and the PEV market. The proposed decision states that utilities “have no role in actively and broadly promoting plug-in hybrid and electric vehicle adoption or the societal or environmental benefits of plug-in hybrid and electric vehicle adoption.” Many concerns have been raised about restricting the educational role that utilities can play in helping the public understand and embrace PEVs.

The proposed decision also restricts utility ownership of PEV chargers, also known as electric vehicle supply equipment (EVSE). Concerns have been raised about limiting market participants at this early stage in market development of vehicles and charging equipment. SDG&E recommended that the CPUC examine the specific merits of utility proposals of EVSE ownership in determining whether utility ownership of EVSE is in the public interest. In addition to SDG&E’s filing, others in the proceeding recommended that the CPUC remain flexible on EVSE ownership in this nascent market.

SDG&E has asked if there is interest in writing a letter to disagree with the CPUC’s proposed decision that would restrict utility ownership of PEV charging equipment and restrict the educational role of utilities in providing education about PEV benefits. If passed, this bill could significantly hinder EV Project implementation in the San Diego region.

Chair Downey asked why the CPUC is discouraging education and outreach. Ms. Freedman responded that she believed that the CPUC does not currently realize the importance of active involvement and used language in the proposed decision of ratepayer benefits instead of GHG emissions and promoting efficiency. Ms. Freedman also noted that the findings, facts, comments, and conclusions of the proposed decision were included in the agenda and asked if the EWG would like to send a letter of support or opposition to the CPUC.

**ITEM #5: STATE LEGISLATIVE STATUS REPORT**

Genevieve Morelos provided an update on Assembly Bill (AB) 631 (Ma), Electric Vehicle Charging Stations, which is currently pending before the California Legislature. The EWG was asked to recommend that the Regional Planning Committee recommend that the Executive Committee support AB 631. Ms. Morelos explained that AB 631 was introduced to codify the Phase 1 decision of the CPUC Alternative-Fueled Vehicle (AFV) Rulemaking, which states that the ownership or
operation of a facility that sells electricity at retail or to the public for use only as a motor vehicle fuel does not make the corporation or person a “public utility” within the meaning of the Public Utilities Code. AB 631 provides that a facility that supplies electricity to charge PEVs is not a public utility regulated by the CPUC.

ECOtality asked SANDAG to consider taking a support position on AB 631. Ms. Morelos summarized support and opposition on the bill: proponents argue the bill will provide market certainty for PEVs, while opponents argue the bill is premature and that the CPUC is already addressing these issues.

Ed Gallo, City of Escondido, asked for clarification on how the bill would affect utility ownership of PEV charging infrastructure. Ms. Freedman stated that potential restrictions on utility ownership of PEVs are the subject of the proposed decision in Phase 2 of the rulemaking as discussed in the previous agenda item, while AB 631 addresses Phase 1 of the rulemaking and would provide that ownership or operation of a facility that sells electricity at retail or to the public for use only as a motor vehicle fuel does not make the corporation or person a “public utility” within the meaning of the Public Utilities Code.

Additional comments, questions, and discussion are summarized below:

- Chair Downey stated that this bill addresses a major issue facing entities such as cities and schools considering the installation of PEV charging stations that do not want to be regulated as public utilities. She advised the EWG to make a recommendation that SANDAG take a position on this bill, either in support or against.
- Ms. Hunter asked about SDG&E’s position on AB 631. Matt Burkhart, SDG&E, responded that SDG&E is a member of the California Electric Transportation Coalition, which is opposed to the bill. SDG&E has not formally supported or opposed the bill at this time.
- Chair Downey asked about the possibility of forwarding a recommendation from the EWG to the Executive Committee (EC) if there were time constraints. Ms. Morelos explained the SANDAG process for a working group recommendation. For the EWG, a recommendation would go before the Regional Planning Committee (RPC) and then to the EC for possible action.
- In response to a question from Mr. Gallo, Ms. Morelos responded that if the EWG makes a recommendation on the bill by June, the recommendation would reach the EC while the bill is expected to be before the California Senate. Mr. Gallo stated his support for AB 631.
- Ms. Morelos recommended that it was best to take action today, but the EWG could wait until the May meeting to make a recommendation and also have the item on the June agenda for the EC.
- Mr. Gallo asked if the EWG was interested in taking a position on AB 631. Ms. Foley asked if members were prepared to further discuss this bill today.
- Dr. Honea suggested that the group could discuss the bill at this meeting, and defer on making a recommendation until the May meeting.
- Paul Manasjan, San Diego County Regional Airport Authority, and Don Mosier, City of Del Mar, both raised the point that recommending a position of support for AB 631 would send a message that the San Diego region supports PEVs.
- Chair Downey requested that in order for the EWG to have the opportunity to weigh in on issues and bills like this, in the future the process to forward recommendations from the EWG should be streamlined. Additionally, she suggested a standing item be added to future RPC and EC agendas for EWG legislative recommendations.
There were additional comments and concerns that AB 631 does not fully address other issues related to PEVs such as electricity rates for PEVs, impacts to the electricity grid, and regulation of local governments and other public agencies. EWG members requested that for the May meeting staff provide additional information on AB 631 and the CPUC AFV rulemaking. The EWG intends to vote on a recommendation at the May meeting.

ITEM #6: CLEAN VEHICLE REBATE PROJECT

David Almeida, CCSE, provided an overview of the Clean Vehicle Rebate Project (CVRP), which provides rebates to promote the production and use of zero-emission vehicles including electric, plug-in hybrid electric, and fuel cell vehicles in California.

Vehicles eligible for the CVRP include zero emission vehicles (ZEV), neighborhood electric vehicles (NEV), zero emission motorcycles (ZEM), and will soon include plug-in hybrid EVs (PHEV). The rebate amounts range from $1,000-$5,000 and are issued on a first-come, first-served basis. Currently there is approximately $4.8 million in funding remaining from the California Air Resources Board (CARB) and an additional $2 million from the California Energy Commission. Eligibility criteria for the CVRP includes being an individual, business, nonprofit, or government entity based in California or a California-based affiliate, purchasing or leasing a new eligible vehicle, and owning or leasing the vehicle for minimum of 36 consecutive months in California. At present, 633 rebates for ZEVs totaling about $3.6 million have been issued and reserved in California. The San Diego region accounts of 97 of these rebates totaling about $500,000.

Mr. Almeida also provided information on federal tax credits for electric vehicles that range from $2,500 to $7,500 based on vehicle battery capacity. Residential and commercial EV infrastructure tax credits also are available for equipment installed January 1, 2011, through December 31, 2011. Mr. Almeida noted that over 60 percent of CVRP applicants are either current solar owners or are interested in using solar PV systems to charge their vehicles.

ITEM #7: PROPOSED TULE WIND PROJECT

Harley McDonald, Business Developer for Iberdrola Renewables, provided an overview of their proposal to construct, operate, and maintain a wind energy project with up to 200 megawatts (MW) of generating capacity in southeastern San Diego County. She explained that the project would be located in southeastern San Diego County, approximately 70 miles east of downtown San Diego and north of Interstate 8, in the McCain Valley near the unincorporated communities of Jacumba and Boulevard. The project would include the following major components:

- Up to 134 wind turbines, ranging in size between 1.5-megawatt (MW) (328 feet in height) and 3.0 MW (492 feet in height),
- A 34.5-kv overhead and underground collector cable system linking the wind turbines to the collector substation,
- A five-acre collector substation site and a five-acre operations and maintenance (O&M) building site,
- Two permanent meteorological towers and one sonic detecting and ranging (SODAR) unit,
- A 138-kV overhead transmission line running south from the collector substation to be interconnected with the rebuilt SDG&E Boulevard Substation.
Ms. McDonald noted that the project would generate 200 MW of electricity and would connect to the proposed Boulevard Substation rebuild component of SDG&E’s ECO Substation Project where the electricity generated would feed into the existing Southwest Powerlink 500-kV transmission line. The project would be constructed on approximately 15,500 acres, comprised of lands administered by the Bureau of Land Management (BLM) as well as private lands under jurisdiction of the County of San Diego, the California State Lands Commission, and lands within the Ewiaapaayp Indian Reservation. The project falls under the jurisdiction of these four entities as follows:

- **Ewiaapaayp Band of Kumeyaay Indians:** 17 wind turbines on 20.2 acres,
- **County of San Diego:** 13 wind turbines on 49 acres and a 138-kV transmission line for 1.96 miles,
- **Bureau of Land Management:** 97 wind turbines on 280 acres, collector substation on five acres, operating and maintenance facility on five acres, meteorological towers on 0.062 acres, and a 138-kV transmission line for 7.42 miles, and
- **California State Lands Commission:** seven wind turbines on 37.5 acres.

Ms. McDonald explained that because this project would be the first of its kind in the County located partially on private land, Iberdrola conducted extensive community outreach. Community concerns included the safety and noise levels of wind turbines. She noted that according to the American Wind Energy Association, wind turbines are no louder than kitchen refrigerators at a distance of 750 to 1,000 feet.

A specific safety concern cited by the community was the potential for wildfires started by wind turbines. Ms. McDonald noted that over the last four years in California, three out of 11,000 total operational wind turbines caught on fire. Despite the low statistical probability that fires would occur, Iberdrola has made agreements and implemented preventative measures for the Tule Wind Project. These include equipping all turbines with stand-alone fire suppression systems, improving road systems for better access and evacuation routes, and monitoring at all times from a local operations building as well as from their National Control Center in Portland, Oregon.

Additionally, the project avoids all archaeological sites except for sites already impacted. Environmental studies have been completed showing low risk of impacts to protected and endangered species.

The public comment period for the Draft EIR/EIS was completed in March 2011. Next steps for the project include preparation of the Final EIR/EIS in mid-2011, a Record of Decision from the Bureau of Land Management in mid-2011, and action by the County of San Diego Board of Supervisors in late 2011. Construction would begin following project approval by all agencies. The project is expected to be online in 2012.

Comments, questions, and discussion were as follows:

- Mr. Gallo inquired if different colors have been tested to help make the appearance of turbine blades more agreeable. Ms. McDonald responded that different colors and stripes were tested on wind farms in Europe, but results found that people did not find these changes visually pleasing.
• Mr. Gallo asked if the turbines would be combined with solar panels. Ms. McDonald replied that such co-location would not be feasible due to the surrounding topography of the project site.

• In response to a question from Chair Downey, Ms. McDonald explained that the turbines proposed for the Tule Wind Project would be similar to the modern turbines located on the north side of Interstate-10 in Palm Desert. They are 400-feet-tall.

• Ms. Hunter added that the Unified Port of San Diego is currently looking at implementing a pilot project at Harbor Island to test small-scale wind energy technology featuring turbines that are 35-feet-tall by 8-feet-wide. She suggested that more information on this project be brought to the EWG. Ms. White stated that the technology being investigated by the Port is newer and currently being used in low wind environments in places like Europe and Japan to minimize bird strikes.

• Chair Downey requested that information on the Port’s project be placed on the EWG agenda at a future meeting.

ITEM #8: ADJOURNMENT AND AGENDA ITEMS FOR FUTURE MEETINGS

The meeting was adjourned at 12:59 p.m. The next meeting is scheduled for May 26, 2011 from 11:30 a.m. to 1:00 p.m.
# REGIONAL ENERGY WORKING GROUP MEETING ATTENDANCE

**April 28, 2011**

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<th>JURISDICTION / ORGANIZATION</th>
<th>NAME</th>
<th>MEMBER / ALTERNATE</th>
<th>ATTENDING</th>
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<tbody>
<tr>
<td>South County Subregion</td>
<td>City of Coronado</td>
<td>Hon. Carrie Downey, Chair</td>
<td>Member</td>
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<td>City of Chula Vista</td>
<td>Hon. Pamela Bensoussan</td>
<td>Alternate</td>
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<td>North County Coastal Subregion</td>
<td>City of Del Mar</td>
<td>Hon. Don Mosier</td>
<td>Member</td>
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<td>City of Solana Beach</td>
<td>Hon. Lesa Heebner</td>
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<td>City of Santee</td>
<td>Hon. Rob Mc Nelis</td>
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<td>East County Subregion</td>
<td>City of Santee</td>
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<td>City of San Diego</td>
<td>Hon. Sherri Lightner</td>
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<td>County of San Diego</td>
<td>Hon. David Alvarez</td>
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<td>Public Transit Operators</td>
<td>Metropolitan Transit System (MTS)</td>
<td>Sharon Cooney</td>
<td>Member</td>
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<td>North County Transit District (NCTD)</td>
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<td>Other Public Agencies</td>
<td>San Diego County Regional Airport Authority</td>
<td>Paul Manasjan</td>
<td>Member</td>
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<td>Brett Caldwell</td>
<td>Alternate</td>
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<td>Unified Port of San Diego</td>
<td>Michelle White</td>
<td>Member</td>
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<td>Cody Hooven</td>
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<td>Universities</td>
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<td>Dr. Heather Honea</td>
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<td>University of California, San Diego</td>
<td>Dave Weil</td>
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<td>Energy Utility</td>
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<td>Matt Burkhart</td>
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<td>Claudia Valenzuela</td>
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<td>Energy Non-Profit</td>
<td>California Center for Sustainable Energy</td>
<td>Andrew McAllister</td>
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<td>Irene M. Stillings</td>
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<td>Transportation Fuels</td>
<td>San Diego Clean Fuels Coalition</td>
<td>Greg Newhouse</td>
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<td>Energy Academics and</td>
<td>Energy Policy Initiatives Center, University of San Diego School of Law</td>
<td>Scott Anders, Vice Chair</td>
<td>Member</td>
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<td>Environmental Health Coalition</td>
<td>Laura Hunter</td>
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<td>Nicole Capretz</td>
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<td>Sierra Club</td>
<td>Bill Powers</td>
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<td>Carolyn Chase</td>
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<tr>
<td>Business</td>
<td>San Diego Regional Chamber of Commerce</td>
<td>Mike Evans</td>
<td>Member</td>
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<td>Mike Nagy</td>
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<tr>
<td>Economic Development</td>
<td>North County Economic Development Council</td>
<td>David Lloyd</td>
<td>Member</td>
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<td>South County Economic Development Council</td>
<td>Pamela Bensoussan</td>
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</table>
OTHER ATTENDEES:
David Almeida, CCSE
Dean Kinports, SDG&E
Harley McDonald, Iberdrola Renewables
Dwayne Reyes, Professional Utility Consultants
Deanna Spehn, Policy Director for Senator Kehoe
Susan Freedman, SANDAG
Katie Levy, SANDAG
Andrew Martin, SANDAG
Genevieve Morelos, SANDAG
Rob Rundle, SANDAG
May 26, 2011

San Diego Association of Governments
REGIONAL ENERGY WORKING GROUP

AGENDA ITEM NO.: 4

Action Requested: RECOMMEND

ASSEMBLY BILL 631 (MA) ELECTRIC VEHICLE CHARGING STATIONS

File Number 3200300

Introduction

Since 2009, SANDAG has been partnering with ECOtality on the Electric Vehicle (EV) Project, which seeks to install about 2,500 plug-in electric vehicle (PEV) charging units in the San Diego region by December 2012. ECOtality recently approached staff to request that SANDAG consider a support position on Assembly Bill (AB) 631 (Ma), Electric Vehicle Charging Stations, which intends to streamline the deployment and use of PEVs and the installation of charging stations for passenger vehicles. This bill would put into law a recent decision by the California Public Utilities Commission (CPUC) to not regulate electric vehicle charging stations as public utilities. The text of the bill and the Assembly Floor Bill Analysis are provided as Attachments 1 and 2, respectively. At its April 28, 2011, meeting, the Regional Energy Working Group (EWG) discussed a variety of issues related to AB 631 and requested additional information from staff before considering a recommendation on the bill, including details on the Alternative-Fueled Vehicle (AFV) Rulemaking (R.09-08-009) at the California Public Utilities Commission (CPUC).

This report provides background information on AB 631, the AFV Rulemaking, and the EV Project. A CPUC fact sheet on the rulemaking and the Phase 1 Decision of the rulemaking are provided as Attachments 3 and 4, respectively. The EWG is asked to review this report and its attachments and recommend that the Regional Planning Committee recommend that the Executive Committee support AB 631. This recommendation would be consistent with Goal 13B of the SANDAG 2011 Legislative Program, which supports energy-related legislation, programs, and policies that are consistent with the SANDAG Regional Energy Strategy (RES). The RES identifies support for electric vehicle charging infrastructure planning as a priority early action.

Recommendation

The Regional Energy Working Group is asked to recommend that the Regional Planning Committee recommend that the Executive Committee support AB 631 (Ma) Electric Vehicle Charging Stations.

Discussion

Assembly Bill 631 (Ma) Electric Vehicle Charging Stations

Introduced by Assemblymember Fiona Ma (D-San Francisco) on February 16, 2011, AB 631 would codify the unanimous CPUC decision on Phase 1 of its AFV Rulemaking stating that providers of electric charging stations for use as a transportation fuel are not electrical corporations and public...
utilities regulated by the CPUC. The bill passed out of the Assembly Utilities and Commerce committee by a vote of 12-1, and is expected to be voted on by the full Assembly before June 2, 2011.

AB 631 is intended to remove barriers to widespread deployment and use of PEVs by providing statutory surety to homeowners, residential and commercial landlords, condominium associations and other entities that they would not be regulated as public utilities if they install and use electric vehicle charging services. The Phase 1 Decision of the AFV Rulemaking notes that legislative codification of the summary conclusion that providers of electric vehicle charging services should not be regulated as public utilities would remove additional barriers to widespread deployment and use of PEVs by providing statutory surety. Moreover, the “Findings of Fact” within the Phase 1 Decision state that, “Legislative codification of this decision may save valuable stakeholder resources.”

Support/Opposition

AB 631 is supported by the following organizations: Alliance for Automobile Manufacturers, Better Place, California Apartment Association, California Business Properties Association, California Manufacturers and Technology Association, California Retailers Association, Coulomb Technologies, ECOTality, Environmental Defense Fund, Plug-In America, and Western States Petroleum Association. The bill is opposed by California Electric Transportation Coalition, Pacific Gas and Electric, and Southern California Edison.

Proponents argue that AB 631 will give market certainty to ensure consumer and fleet adoption of PEVs in California. According to the author, “without this bill, the needed charging stations won’t exist. Apartment complexes, parking garages, and commercial buildings will not want to install these stations if they are regulated as a public utility. They don’t want to assume the regulatory burden of hiring lawyers in order to invest in expanding (electric vehicle charging) infrastructure.”

Opponents argue that the bill is premature because the PEV market is in its infancy and that the CPUC is already addressing these early market concerns. The California Electric Transportation Coalition, members of which include Southern California Edison, Pacific Gas & Electric, San Diego Gas & Electric, Los Angeles Department of Water & Power, Sacramento Municipal Utility District, and Nissan, claims that “the issues surrounding the decision by the CPUC, codified by AB 631, are directly related to the issue of how the entities identified in AB 631 will be regulated and by whom. Without the benefit of the completion of the CPUC proceeding and an understanding of customer and ratepayer protection as determined by the proceeding, this bill is premature.”

Alternative-Fueled Vehicle Rulemaking Process

The purposes of the Alternative-Fueled Vehicle Rulemaking (R.09-08-009) are to prepare for the large-scale rollout of PEVs across the state, support California’s greenhouse gas emissions reduction goals, and comply with Senate Bill 626 (Kehoe, 2009). SB 626 requires the CPUC, in consultation with the California Energy Commission, the Air Resources Board, electrical corporations, and the motor vehicle industry, to evaluate policies to develop infrastructure sufficient to overcome any barriers to the widespread deployment and use of alternative-fueled vehicles including Plug-In Hybrid Electric Vehicles (PHEV), Battery Electric Vehicles (BEV), and Compressed Natural Gas (CNG) vehicles. SB 626 requires the CPUC to adopt rules by July 1, 2011.
The intent of the rulemaking has been to develop consistent statewide policies and standards to guide and encourage development of PEV metering, residential PEV charging infrastructure, tariff schedules, in addition to the topics bulleted below. The CPUC opened this proceeding in August 2009, issued a Phase 1 decision in July 2010, and released a Phase 2 draft decision in March 2011. The CPUC plans to close this proceeding upon adoption of its Phase 2 decision, likely in summer 2011.

Phase 1 addressed whether a corporation or person that sells electric vehicle charging services to the public is a public utility. This decision is the basis of AB 631. Phase 2 establishes policies to overcome barriers to electric vehicle deployment and complying with Public Utilities Code Section 740.2. The Phase 2 policies include:

- Utility notification of PEV locations
- Residential PEV rates and PEV rates at non-residential customer premises
- PEV rate schedules and other considerations
- Rate schedule for non-residential “quick charging”
- Future review of rates
- PEV metering options and PEV metering policy goals
- Metering options for residential locations, multi-dwelling units and non-residential locations
- Metering and photovoltaics
- Ownership of PEV single meters, separate meters and sub-meters
- Ownership of electric vehicle supply equipment (EVSE)
- PEV sub-meter protocol
- Cost recovery policy for electric infrastructure upgrades
- PEV-related cost tracking and load research
- Education and outreach
- PEV smart charging programs and allowing for demand response
- Issues identified in scoping memo for Phase 3 or subsequent rulemaking

More information on the AFV Rulemaking is available at: www.cpuc.ca.gov/AFV.

The EV Project in the San Diego Region

In August 2009, ECOtality was awarded a $99.8 million grant from the U.S. Department of Energy to embark on the EV Project. The EV Project will deploy nearly 15,000 electric vehicle charging units in 16 major population areas located in six states, including California. In the San Diego region, 1,000 owners of Nissan LEAFs will be able to participate in the project while Nissan estimates an additional 1,000 LEAF vehicles will be purchased during the first model year. As part of the EV Project, approximately 2,500 electric vehicle charging units are expected to be installed in the San Diego region by December 2012.
The EV Project will collect and analyze data to characterize vehicle use in diverse topographic and climatic conditions, evaluate the effectiveness of charge infrastructure, and conduct trials of various revenue systems for commercial and public charge infrastructure. The ultimate goal is to streamline future EV deployment by learning from the project. Through the EV Project, several local policy and planning issues have been discussed and charger installations are moving ahead with the best data available.

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Attachments:  1. Assembly Bill 631 (Ma)
2. Assembly Bill 631 (Ma) Assembly Floor Bill Analysis
3. CPUC Alternative-fueled Vehicle Proceeding Fact Sheet
4. CPUC Phase 1 Decision “Findings of Fact, Conclusions of Law, and Orders”
Introduced by Assembly Member Ma

February 16, 2011

An act to amend Section 216 of the Public Utilities Code, relating to public utilities.

LEGISLATIVE COUNSEL’S DIGEST

AB 631, as introduced, Ma. Public utilities: electric vehicle charging stations.

Under existing law, the Public Utilities Commission has regulatory authority over public utilities, as defined. The existing Public Utilities Act requires every public utility to furnish and maintain adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.

This bill would provide that the ownership, control, operation, or management of a facility that supplies electricity to the public only for use to charge light duty plug-in electric vehicles, as defined, does not make the corporation or person a public utility for purposes of the act.


The people of the State of California do enact as follows:

1. SECTION 1. Section 216 of the Public Utilities Code is amended to read:

   216. (a) “Public utility” includes every common carrier, toll bridge corporation, pipeline corporation, gas corporation, electrical...
corporation, telephone corporation, telegraph corporation, water
corporation, sewer system corporation, and heat corporation, where
the service is performed for, or the commodity is delivered to, the
public or any portion thereof.
(b) Whenever any common carrier, toll bridge corporation,
pipeline corporation, gas corporation, electrical corporation,
telephone corporation, telegraph corporation, water corporation,
sewer system corporation, or heat corporation performs a service
for, or delivers a commodity to, the public or any portion thereof
for which any compensation or payment whatsoever is received,
that common carrier, toll bridge corporation, pipeline corporation,
gas corporation, electrical corporation, telephone corporation,
telegraph corporation, water corporation, sewer system corporation,
or heat corporation, is a public utility subject to the jurisdiction,
control, and regulation of the commission and the provisions of
this part.
(c) When any person or corporation performs any service for,
or delivers any commodity to, any person, private corporation,
municipality, or other political subdivision of the state, that in turn
either directly or indirectly, mediately or immediately, performs
that service for, or delivers that commodity to, the public or any
portion thereof, that person or corporation is a public utility subject
to the jurisdiction, control, and regulation of the commission and
the provisions of this part.
(d) Ownership or operation of a facility that employs
cogeneration technology or produces power from other than a
conventional power source or the ownership or operation of a
facility which employs landfill gas technology does not make a
person or corporation a public utility within the meaning of this
section solely because of the ownership or operation of that facility.
(e) Any corporation or person engaged directly or indirectly in
developing, producing, transmitting, distributing, delivering, or
selling any form of heat derived from geothermal or solar resources
or from cogeneration technology to any privately owned or publicly
owned public utility, or to the public or any portion thereof, is not
a public utility within the meaning of this section solely by reason
of engaging in any of those activities.
(f) The ownership or operation of a facility that sells compressed
natural gas at retail to the public for use only as a motor vehicle
fuel, and the selling of compressed natural gas at retail from that
facility to the public for use only as a motor vehicle fuel, does not make the corporation or person a public utility within the meaning of this section solely because of that ownership, operation, or sale.

(g) Ownership or operation of a facility that is an exempt wholesale generator, as defined in the Public Utility Holding Company Act of 2005 (42 U.S.C. Sec. 16451(6)), does not make a corporation or person a public utility within the meaning of this section, solely due to the ownership or operation of that facility.

(h) The ownership, control, operation, or management of an electric plant used for direct transactions or participation directly or indirectly in direct transactions, as permitted by subdivision (b) of Section 365, sales into a market established and operated by the Independent System Operator or any other wholesale electricity market, or the use or sale as permitted under subdivisions (b) to (d), inclusive, of Section 218, shall not make a corporation or person a public utility within the meaning of this section solely because of that ownership, participation, or sale.

(i) The ownership, control, operation, or management of a facility that supplies electricity to the public only for use to charge light duty plug-in electric vehicles does not make the corporation or person a public utility within the meaning of this section solely because of that ownership, control, operation, or management. For purposes of this subdivision, “light duty plug-in electric vehicles” includes light duty battery electric and plug-in hybrid electric vehicles.
SUMMARY: States that a facility that supplies electricity to charge electric vehicles is not a California Public Utilities Commission (PUC)-regulated "public utility."

FISCAL EFFECT: Unknown.

COMMENTS: The author introduced this bill to put into law a recent decision by the PUC to not regulate electric vehicle charging stations as utilities. According to the author,"absent this bill, the needed charging stations won't exist. Apartment complexes, parking garages, and commercial buildings will not want to install these stations if they are regulated as a public utility. They don't want to assume the regulatory burden of hiring lawyers in order to invest in expanding infrastructure."

PUC rulemaking: The PUC has taken the first step in encouraging solutions for electric vehicles (EVs). In 2009, the PUC opened a rulemaking (R-09-08-009) to consider infrastructure, rates, and policies to support EVs. The rulemaking also addressed the requirements of SB 626 (Kehoe) Chapter 355, Statutes of 2009, which requires the PUC, in consultation with the California Energy Commission, the Air Resources Board, electrical corporations, and the motor vehicle industry, to evaluate policies to develop infrastructure sufficient to overcome any barriers to the widespread deployment and use of plug-in hybrid electric vehicles. SB 626 (Kehoe) requires the PUC to adopt rules by July 1, 2011.

On July 29, 2010, the PUC issued a decision on Phase I of the rulemaking. The PUC ruled that the ownership or operation of a facility that sells electricity at retail to the public for use only as a motor vehicle fuel does not make the corporation or person a "public utility" within the meaning of the Public Utilities Code.

Phase II of the rulemaking will consider the appropriate utility role: 1) in the provision of electric vehicle charging services to the public; 2) with respect to charging equipment on the customer's side of the meter; and, 3) in cost allocation, including a consideration of the circumstances in which the costs of any distribution system upgrades should be borne by an individual customer or be recoverable from all customers, in addition to other related issues. The Phase II decision is expected to be released soon.
Putting the cart before the horse: Several parties have expressed concerns with the bill. Pacific Gas and Electric claims this bill "undermines legislative and PUC efforts to minimize electric grid impacts, reduce greenhouse gas emissions and the need for new generating capacity and foster the integration of renewable energy." Southern California Edison (SCE) argues that the bill is premature because the market for EV's is still in its infancy and it is too soon to prejudge the best regulatory construct. Moreover, SCE states that PUC is already addressing these early market issues in its EV proceeding and has proposed to establish a working group to bring together federal and state agencies, as well as other stakeholders to discuss appropriate regulation. The California Electric Transportation Coalition claim "the issues surrounding the decision by PUC, that would be codified in AB 631, are directly related to the issue of how the entities identified in AB 631 will be regulated and by whom. Without the benefit of the completion of PUC proceeding and an understanding of customer and ratepayer protection as determined by the proceeding, this bill is premature."

Analysis Prepared by: DaVina Flemings / U. & C. / (916) 319-2083
FN: 0000262
CPUC Alternative-fueled Vehicle Proceeding

The California Public Utilities Commission (CPUC) regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies. The CPUC serves the public interest by protecting consumers and ensuring the provision of safe, reliable utility service and infrastructure at reasonable rates, with a commitment to environmental enhancement and a healthy California economy.

In response to Senate Bill 626 (Senator Christine Kehoe, 2009), and to make sure the electric utilities the CPUC regulates are prepared for the projected statewide market growth of plug-in electric vehicles (PEVs), the CPUC initiated an Alternative-fueled vehicle rulemaking in August 2009.

- In July 2010, after reviewing legal briefings on the matter in an open regulatory process, the CPUC concluded in a Phase 1 Decision that providers of electric vehicle charging services should not be regulated as public utilities. The CPUC also identified sources of broad regulatory authority (such as the authority to set rates) to address the potential impacts of PEVs on the grid, and to ensure the state meets its greenhouse gas emission reduction goals.

- The July 2010 Decision notes that legislative codification of the summary conclusion, namely that providers of electric vehicle charging services should not be regulated as public utilities, would remove additional barriers to widespread deployment and use of PEVs by providing statutory surety.

- On March 15, 2011, the CPUC issued a Proposed Decision of President Michael R. Peevey addressing “Phase 2” issues in the proceeding, establishing policies to overcome barriers to PEV deployment, and complying with SB 626. The earliest the CPUC can vote on the proposed decision is April 14, 2011.

- The Proposed Decision addresses:
  - PEV Rates, including cost allocation issues
  - PEV Metering Arrangements
  - Utility Notification Policies
  - Utility Customer Education and Outreach programs
  - Utility Demand Response Programs for PEVs.

For more information on the Alternative-fueled vehicle rulemaking, please visit [www.cpuc.ca.gov/AFV](http://www.cpuc.ca.gov/AFV) or contact the CPUC’s News and Public Information Office at 415-703-1366 or [news@cpuc.ca.gov](mailto:news@cpuc.ca.gov).
DECISION IN PHASE 1 ON WHETHER A CORPORATION OR PERSON THAT SELLS ELECTRIC VEHICLE CHARGING SERVICES TO THE PUBLIC IS A PUBLIC UTILITY

Findings of Fact

1. The Commission’s March 16, 2010 workshop was transcribed. The assigned Administrative Law Judge advised parties of her intention to enter the transcript into the record. No party objected.
2. If a homeowner charges his or her own vehicle in his or her own garage and does not offer charging services to others, the homeowner’s charging equipment is not dedicated to public use.
3. Residential and commercial landlords that provide electric vehicle charging as a service on the premises to tenants, condominium associations that provide electric vehicle charging on the premises as a service to the condominium owners, and employers that provide access to recharging facilities as a service to their employees have not dedicated their equipment to public use.
4. Section 740.2 requires the Commission to develop policies to overcome barriers to the widespread deployment and use of plug-in hybrid and electric vehicles
5. Section 740.2 directs the Commission to focus on the potential impacts of vehicle charging on electrical infrastructure and grid operations.
6. Section 740.3 directs the Commission to promote policies to facilitate the use of electric power to fuel low emission vehicles and requires that the Commission “ensure that utilities do not unfairly compete with nonutility enterprises.”
7. Sections 740.2 and 740.3 do not direct the Commission to regulate electric vehicle charging service providers as public utilities pursuant to §§ 216 and 218.
8. Legislative codification of this decision may save valuable stakeholder resources.
9. Our decision today is consistent with the state’s other policy goals set forth in the RPS [Renewable Portfolio Standard], RA [Resource Adequacy], EPS [Emissions Performance Standard], and the AB 32 programs.

Conclusions of Law

1. It is reasonable to enter the March 16, 2010 workshop transcript into the record of this proceeding.
2. If a homeowner charges his or her own vehicle in his or her own garage and does not offer charging services to others, the homeowner is not a public utility pursuant to §§ 216 and 218.
3. Residential and commercial landlords that provide electric vehicle charging as a service on the premises to tenants, condominium associations that provide electric vehicle charging on the premises as a service to the condominium owners, and employers that provide access to recharging facilities as a service to their employees that have not dedicated their equipment to public use are not public utilities pursuant to §§ 216 and 218.
4. It is reasonable to conclude, consistent with the underlying rationale of the Public Utilities Code and Sections 740.2 and 740.3, that the legislature did not intend that this Commission regulate providers of electric vehicle charging services as public utilities pursuant to §§ 216 and 218.

5. If a provider of electric vehicles charging services procures electricity on the wholesale market the Commission has jurisdiction to enforce procurement requirements and other laws and rules that apply to direct transactions including Pub. Util. Code § 365.1.

6. Pub. Util. Code § 740.2 grants the Commission specific authority to implement rules necessary to facilitate the widespread deployment of electric vehicles in California.

7. If an electric vehicle service provider receives electricity over a utility’s transmission and distribution system, the Commission has authority to dictate the terms under which the utility will provide service to the provider.

8. If an electric vehicle service provider is a bundled customer of an investor-owned utility, the Commission can set all components of the retail rate paid by the provider.

9. If an electric vehicle service provider is a customer of an electricity service provider or community choice aggregator, the Commission can set all components of the retail rate paid by the provider except for the generation component.

10. Pub. Util. Code § 8362(a) directs the Commission to adopt standards and protocols to ensure functionality and interoperability developed by public and private entities.

11. The sale of electricity by an investor-owned utility to an electric vehicle service provider is a retail sale of electricity, not a wholesale sale or a “sale for resale.”

Order

IT IS ORDERED that:

1. The March 16, 2010 workshop transcript is entered into the record of this proceeding.
2. Rulemaking 09-08-009 remains open for Phase 2.

This order is effective today.
Dated July 29, 2010, at San Francisco, California.

Available at CPUC Web site: http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/121450.htm
Help shape our region’s future.

Join SANDAG at a public workshop/public hearing to provide input into the $196 billion plan that will serve as the blueprint for the development of the San Diego region’s transportation system during the next 40 years. We invite you to comment on the Draft 2050 Regional Transportation Plan (RTP), its Sustainable Communities Strategy (SCS), the Draft Regional Housing Needs Assessment (RHNA), and the Draft Environmental Impact Report.

The Draft 2050 RTP is designed to maximize transit enhancements, provide express lanes, integrate biking and walking, and promote programs to manage demand and increase efficiency. The SCS seeks to guide how we use land, develop housing, and plan transportation. The RHNA considers housing needs for the fifth housing element cycle for a range of income segments.

For more information, visit www.sandag.org/2050rtp, e-mail 2050rtp@sandag.org, or call toll-free 1-877-277-5736.

All Public Workshops & Public Hearings are from 4 to 7 p.m.
Public Workshops held 4 to 6 p.m.; Public Hearings begin at 6 p.m.

Tue, June 7    Encinitas Community & Senior Center
               1140 Oakcrest Park Dr., Encinitas, 92024

Wed, June 8    The Joe & Vi Jacobs Center
               404 Euclid Ave., San Diego, 92114

Thu, June 9    Sonrise Community Church
               8805 North Magnolia Ave., Santee, 92071

Mon, June 13   Martin Luther King Jr. Center
               140 East 12th St., National City, 91950

Thu, June 16   San Marcos City Council Chambers
               1 Civic Center Dr., San Marcos, 92069

Public Hearings
Public hearings will be held as part of these regularly scheduled meetings:

Fri, June 10    SANDAG Board of Directors Meeting
               10 a.m.
               401 B St., San Diego, 92101

Tue, June 21   Regional Planning Stakeholders Working Group (SWG) Meeting
               4 to 6 p.m.
               Caltrans, 4050 Taylor St., San Diego, 92110

In compliance with the Americans with Disabilities Act (ADA), SANDAG will accommodate persons who require assistance in order to participate in the Public Workshops/ Hearings listed above. If such assistance is required, please contact SANDAG at (619) 699-1900 at least 72 hours in advance of the meeting. To request the materials in an alternate format, please call (619) 699-1900, (619) 699-1904 (TTY), or fax (619) 699-1905.
¡Lo invitamos!
Ayude a darle forma al futuro de nuestra región.

Únase a SANDAG en los talleres públicos/audiencias públicas para ofrecer retroalimentación al plan de $196 mil millones que sirve como un plan de ruta para el desarrollo del sistema de transporte de la región en los próximos 40 años. Le invitamos a hacer comentarios al Borrador del Plan Regional de Transporte 2050 (RTP, por sus siglas en inglés), su Estrategia de Comunidades Sustentables (SCS, por sus siglas en inglés), el Borrador de la Evaluación de Necesidades Regionales de Vivienda (RHNA, por sus siglas en inglés), y el Borrador del Reporte de Impacto Ambiental.

El Borrador del RTP 2050 está diseñado para maximizar mejoras al transporte público, ofrecer carriles exprés, integrar el ciclismo y caminar, y promover programas para administrar la demanda e incrementar la eficiencia. La estrategia SCS busca guiar cómo usamos el suelo, desarrollamos vivienda y planeamos el transporte. RHNA considera las necesidades de vivienda para el quinto ciclo del elemento de vivienda para una variedad de segmentos de ingresos.

Para más información, visite www.sandag.org/2050rtp, correo electrónico 2050rtp@sandag.org, o llame gratis al 1-877-277-5736.

Los talleres se llevarán a cabo en un formato de diálogo abierto (open house) en donde los participantes que asistan al taller en cualquier momento, podrán ver las presentaciones e información sobre el RTP 2050 y su estrategia SCS, hacer preguntas al personal, llenar tarjetas de comentarios o hablar con un transcriptor bilingüe inglés/español para que sus comentarios queden registrados. Las Audiencias Públicas serán presididas por uno o más miembros de la Mesa Directiva de SANDAG, o sus designados, y se preparará una transcripción, la cual será presentada a la Mesa Directiva de SANDAG y los Comités Asesores de Políticas, así como al público en general.

Todos los Talleres Públicos y Audiencias Públicas son de 4 a 7 p.m.
Los Talleres Públicos son de 4 a 6 p.m.; las Audiencias Públicas comienzan a las 6 p.m.

Mar., Junio 7  Encinitas Community & Senior Center
1140 Oakcrest Park Dr., Encinitas, 92024

Miér., Junio 8  The Joe & Vi Jacobs Center
404 Euclid Ave., San Diego, 92114

Jue., Junio 9  Sunrise Community Church
8805 North Magnolia Ave., Santee, 92071

Lun., Junio 13  Martin Luther King Jr. Center
140 East 12th St., National City, 91950

Jue., Junio 16  San Marcos City Council Chambers
1 Civic Center Dr., San Marcos, 92069

Audiencias Públicas
Las audiencias públicas se llevarán a cabo como parte de estas reuniones programadas regularmente:

Vie., Junio 10  SANDAG Board of Directors Meeting
10 a.m. 401 B St., San Diego, 92101

Mar., Junio 21  Reunión del Grupo de Trabajo de Partes Interesadas en Planeación Regional (SWG, por sus siglas en inglés)
4 a 6 p.m. Caltrans, 4050 Taylor St., San Diego, 92110

En cumplimiento de la ley Americans with Disabilities Act (ADA), SANDAG asistirá a las personas que requieren ayuda para participar en los Talleres Públicos/Audiencias Públicas enlistados arriba. Si requiere tal asistencia, por favor comuníquese con SANDAG al (619) 699-1900 con al menos 72 horas de anticipación de la reunión. Para solicitar los materiales en un formato alterno, por favor llame al (619) 699-1900, (619) 699-1904 (TTY), o fax (619) 699-1905.
DRAFT 2050 REGIONAL TRANSPORTATION PLAN

Introduction

The Draft 2050 Regional Transportation Plan (2050 RTP or Plan) is the blueprint for a regional transportation system that further enhances our quality of life, promotes sustainability, and offers more mobility options for people and goods. The Plan is built on an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system so it meets the diverse needs of our changing region through 2050.

The 2050 RTP contains a robust transportation network, with a diversity of projects that will provide residents and visitors with a variety of travel choices. The regional transportation network, in conjunction with how local jurisdictions develop land, will provide additional opportunities for walking, biking, getting to work, going to school, shopping, and playing. This Plan, more than previous ones, improves our region’s network for public transit. It provides more transit choices for today’s and tomorrow’s riders, by improving the existing system and by introducing new access to other areas.

Passed in 2008, Senate Bill 375 (SB 375) encourages planning practices that create sustainable communities. SB 375 also charged the California Air Resources Board (CARB) with setting regional targets for reducing greenhouse gas emissions by 2020 and by 2035. SANDAG also must prepare a Sustainable Communities Strategy (SCS). The SCS must show how the region will meet its goals for reducing greenhouse gas emissions from automobiles and light trucks. The 2050 RTP and its SCS show that our region will meet or exceed these targets by using land in ways that make developments more compact, conserving open space, and investing in a transportation network that gives residents alternatives to driving alone.

Discussion

The following sections present a brief overview of the Draft 2050 RTP. The 2050 RTP and SCS Adoption Process section describes the process to obtain public input on the Draft Plan and major milestones leading to the anticipated adoption of the 2050 RTP in fall 2011.
A Vision for Mid-Century

The vision for the 2050 RTP describes a transportation system that:

- Supports a prosperous economy, promotes a healthy and safe environment, including climate change protection, and provides a higher quality of life for all San Diego County residents.
- Better links jobs, homes, and major activity centers by enabling more people to use transit and to walk and bike; efficiently transports goods; and provides fast, convenient, and effective transportation choices for all people.

A Strategy for More Sustainable Communities

The 2050 RTP and its SCS seek to guide the San Diego region toward a more sustainable future by integrating how we use land, develop housing, and plan transportation. The goal is to create communities that are more sustainable, walkable, transit-oriented, and compact. The strategy for the San Diego region is to use existing and reasonably expected funding to achieve our region’s transportation and housing needs, while also respecting, and enhancing our natural resources.

The path toward living more sustainably is clear: focus housing and job growth in urbanized areas where there is existing transportation infrastructure, protect sensitive habitat and open space, invest in a transportation network that provides residents and workers with transportation options that reduce greenhouse gas emissions, and implement the Plan through incentives and collaboration.

The building blocks of the SCS have formed the foundation of transportation planning in the San Diego region for many years. This planning effort is now focused more sharply on promoting sustainability as our region strives to meet new requirements mandated by SB 375.

The building blocks of the SCS include:

- A land use pattern that accommodates our region’s future employment and housing needs, and protects sensitive habitats and resource areas.
- A transportation network of public transit, managed lanes and highways, local streets, bikeways, and walkways built and maintained with available funds.
- Managing demands on the transportation system (also known as Transportation Demand Management, or TDM) in ways that reduce or eliminate traffic congestion during peak periods of demand.
- Managing the transportation system (also known as Transportation System Management, or TSM) through measures that maximize the efficiency of the transportation network.
- Innovative pricing policies and other measures designed to reduce vehicle miles traveled and traffic congestion during peak periods of demand.

Ensuring Social Equity on the Road to Sustainability

Roads, freeways, public transit, and other transportation infrastructure can significantly influence the quality of life for a region’s residents by shaping access to housing, jobs, services, and recreational opportunities. Achieving social equity in the development of a comprehensive
transportation system is a major regional goal. It requires making investments that provide all residents – regardless of age, race, color, national origin, income, or physical ability with opportunities to work, shop, study, be healthy, and play.

Promoting social equity and environmental justice in transportation planning requires involvement from a wide variety of communities and stakeholders. To continue improving transportation planning, SANDAG conducted a significantly more robust, regionwide environmental justice analysis for the 2050 RTP. From the beginning, it engaged affected communities in the planning process. SANDAG incorporated their issues and concerns into the design and decision-making process, as well as in the definition of affected communities and the development of indicators to measure the performance of the transportation system. These efforts ensured that low income and minority communities will share in the benefits of transportation investments without bearing a disproportionate burden from the system. The 2050 RTP includes metrics and performance measures to assess how well the Plan’s improvements are distributed in these communities.

Paying for the Vision

The Plan is based on current and reasonably available financial resources projected out to 2050. These resources are applied to the estimated capital, operating, maintenance, and rehabilitation costs of the region's transportation system through 2050.

Total revenues estimated for the 2050 RTP are about $196.2 billion (escalated to the year that dollars are expended). Local funds make up 60 percent of the total revenue, with state and federal funds providing 22 percent and 18 percent, respectively. Revenues are phased in by decade. Projects that are listed in the initial years of the 2050 RTP are the same as those that are either already programmed in the five-year Regional Transportation Improvement Program (RTIP) through FY 2015, or are anticipated to be included in future near-term updates of the RTIP.

Offering More Travel Choices

During the past several decades our region has made substantial investments in Trolley, COASTER, SPRINT, and local bus networks, in addition to investing in our regional highway system. As our region continues to grow, the 2050 RTP considers new developments such as the requirement to reduce greenhouse gas emissions, our region’s aging population, increasing patterns of infill and redevelopment in the western third of the region, and the growing emphasis on walking, bicycling, and other forms of active transportation on public health.

The Plan envisions an ambitious and far-reaching transit network that significantly expands the role that transit plays in meeting our region’s needs for mobility. The goal is to create the kind of public transit infrastructure and services offered by “world-class” transit systems.

The Plan’s network for public transit is strengthened by reinforcing and upgrading existing transit services, and by pursuing new transit projects in the most urbanized areas of our region with a broad combination of transit modes.

In recent RTPs, the region’s vision for a flexible highway system has been refined. This system serves multiple purposes and accommodates different types of travel. It accommodates buses and other transit vehicles, automobiles, the movement of freight, and bicycles. Most of the highway improvements included in the 2050 RTP offer new express or managed lanes that support carpooling, vanpooling, and bus rapid transit services. The 2050 RTP also recognizes that the smooth flow of traffic on local streets and arterials is needed to improve mobility on highways and regional...
arterial networks. This is especially true where public transit and other alternatives are not as feasible as they are in our region’s urban areas.

Freight also is moved on the regional transportation network, and it requires good access and connectivity to local logistics centers and terminals to ensure the efficient movement of goods onto and off the network. In addition to roadways, the movement of goods in the San Diego region relies on air cargo, maritime, pipeline and rail systems, intermodal centers, and international border crossings.

The Plan also includes a multimodal strategy to improve airport access for cars, shuttles, trucks, and other surface transportation. The goal is to maximize the efficiency and effectiveness of existing and planned aviation facilities by using all of the transportation infrastructure available.

Making bicycling and walking viable options for everyday travel also can increase mobility, reduce greenhouse gases, and improve public health. Implementing the Regional Bicycle Plan and the bicycle and pedestrian master plans of local jurisdictions will help in this effort. The 2050 RTP also includes the Safe Routes to School Strategy, which supports communities and schools that promote walking and bicycling to school.

Planning in the San Diego region has traditionally been considered as bounded by San Diego County. Over the years, however, our perceived borders have expanded. San Diego County has increasingly close ties to its neighboring counties, and to the Republic of Mexico. This challenges us to think of our region as extending beyond our borders. We also are home to 17 tribal governments, each of which is a sovereign nation within our region. Our region’s distinct characteristics present a variety of opportunities and challenges for coordinating transportation planning along our interregional and binational borders.

**Making Better Use of What We Have**

Reducing traffic, travel times, and air pollution depend on effectively managing the region’s transportation system. Known as Transportation Systems Management, or TSM, the effort is a core component of the 2050 RTP and its SCS. Its goal is to smooth the flow of traffic on streets and highways, eliminate bottlenecks, and enhance public transit. TSM investments in the 2050 RTP are designed to enhance today’s transportation network and ensure that future improvements realize their full potential. Successful management of the transportation system depends on implementing several techniques and incorporating advanced technologies, such as signal coordination, pricing, and traveler information, that make both vehicles and transportation facilities perform more efficiently.

**Incentives for the Path Less Traveled**

In the past, steady population growth; the dispersion of homes, jobs, schools, and services; increased interregional commuting; and the expanded movement of goods all have led to mounting congestion on our roadways. These trends challenged our ability to keep pace with growing travel demands and to operate a reliable transportation system. Improvements to transportation infrastructure require many years and significant resources to complete. Managing the demand for various forms of transportation, also known as Transportation Demand Management, or TDM, can provide flexible and cost-effective solutions. Typical TDM programs include ridesharing initiatives such as carpooling, vanpooling, and buspooling; promoting alternative work schedules and teleworking; and promoting bicycling, walking, and the use of public transit.
A Public Plan, With Public Input

SANDAG implemented a comprehensive public outreach and involvement program to support the development of the 2050 RTP and its SCS. The 2050 RTP Public Involvement Program is based on the SANDAG Public Participation Plan, which was adopted by the SANDAG Board of Directors in 2009.

The 2050 RTP Public Involvement Plan outlined specific activities for communicating with the public throughout the development of the RTP and the SCS. SANDAG prepared the Public Involvement Plan with input from the general public, the Regional Planning Stakeholders Working Group (SWG), the Policy Advisory Committees, and the Board of Directors. Parallel to this effort, a tribal consultation work plan was developed. To engage low income and minority communities early in the planning process, SANDAG established a mini-grant program to focus the SWG directly on its concerns in a timely and meaningful way, and to provide resources so community collaboratives could reach out to their constituents throughout the process. The public outreach process will continue through use of public hearings and requests for comments from the public on the Draft 2050 RTP as further described below.

2050 RTP and SCS Adoption Process

To obtain public input on the development of the 2050 RTP and SCS, a broad range of media and communication avenues are being utilized to provide information, solicit participation and input, and allow for ongoing feedback and updates. A major goal of this public involvement effort is to reach out to both nontraditional and traditional audiences, to include them in the transportation planning process. The closing date for public comments on the Draft 2050 RTP and its SCS is proposed to be June 30, 2011.

SANDAG will hold various subregional workshops and public hearings in June to allow for public comment on the RTP, SCS, and the Environmental Impact Report (EIR). The public hearings/workshops schedule and format will provide opportunities for questions and answers with technical staff, public comments to be submitted, and information to be shared. The public hearing/subregional workshop schedule will be coordinated to allow for Board and Policy Advisory Committee members to attend, SWG members to “co-host,” and at times and locations that will provide the best options for public participation.

Upon Board action, the Draft 2050 RTP and its SCS will be distributed to local jurisdictions, the Metropolitan Transit System, the North County Transit District, Caltrans, the SWG, and other interested parties, and will be available on the SANDAG Web site. The Draft EIR will be released as soon as it is available. Anticipated major milestones include:

- April 22, 2011: Release of the Draft 2050 RTP
- May 2011: Release of the Draft EIR
- June 2011: Public hearings and subregional workshops on Draft 2050 RTP/SCS/EIR
- June 30, 2011: Close of public comment period for Draft 2050 RTP and its SCS
- July 2011: Close of public comment period for Draft EIR (date to be determined based on release date of Draft EIR)
- September 2011: Transportation Committee review of RTP/EIR comments
- October 28, 2011: SANDAG Board certifies Final EIR, approves air quality conformity finding, and adopts Final 2050 RTP and its SCS
Note: Printed copies of the Draft 2050 RTP and its SCS have been mailed to Board Members, Board Alternates, and Advisory Board Members. The Draft 2050 RTP, including Appendices, Technical Appendices, and the Executive Summary in Spanish, may be obtained from the SANDAG Web site at www.sandag.org/2050rtp. DVDs of the entire document will be available free of charge by contacting the SANDAG Public Information Office at (619) 699-1950. Copies of the Draft 2050 RTP in printed format may be purchased for the cost of reproduction.

GARY L. GALLEGOS
Executive Director

Key Staff Contact: Heather Adamson, (619) 699-6967, had@sandag.org

Funds are budgeted in Work Element #3100500
Energy-efficiency rebates and free technical assistance for local government facilities.

Training and jobs for California's growing green workforce.
ETAP helps California’s public agencies implement smart, sustainable business practices.

- Energy-efficient technology
- Improved facilities
- Lower operating costs
- Green workforce development

The Energy Technology Assistance Program (ETAP) is a statewide program designed to accelerate the use of advanced energy efficient technologies in local government facilities. ETAP provides free technical and financial assistance to cities, counties, special districts, colleges, and universities throughout California. ETAP focuses on advanced, market-ready technologies that have demonstrated significant energy savings in public facilities:

- Parking lot and parking garage bi-level lighting
- Wireless lighting controls
- Wireless HVAC controls

ETAP also helps build California’s green workforce through the following activities:

- **Technical training for electricians and HVAC technicians** on installing wireless lighting and wireless HVAC controls
- **Technology seminars for local government staff** discussing program details, project financing, and best practices for operation and maintenance of ETAP technologies
- **Internships and on-the-job training** to help prepare students and recent graduates for careers in energy efficiency
Technical Services

ETAP staff works closely with participating agencies during each step of project implementation. Technical support may include facility screening, project identification and scoping, audits, technology performance modeling, and technical and economic feasibility analyses. ETAP staff can also assist agency staff with preparing documents required for Council or Board approvals, developing bid specifications, and reviewing contractor proposals. ETAP will conduct post-installation project inspections for quality control and energy savings verification.

Financing and Funding

ETAP incentives, in combination with other applicable utility incentives, often bring project payback periods down to five years or less. ETAP will assist program participants in identifying additional funding sources, which may include utility incentives, CEC low interest loans, ESCO Financing, and Qualified Energy Savings Bonds.

Eligibility

ETAP services will be offered through March 2012, subject to availability. Cities, counties, special districts, colleges, and universities throughout California are eligible to request participation in ETAP.

Eligible Technologies

Bi-Level Lighting for Parking Lots and Parking Garages

Efficient light fixtures with bi-level sensors and controls reduce the fixture’s power use during times of low or no occupancy. Eligible sites include parking lots and parking garages (and associated stairwells).

$ Incentive Levels

- LED $200/fixture
- T8/T5/Induction $100/fixture
- Lamp & ballast retrofit (garage only) $40/fixture

Wireless Lighting Controls

Wireless lighting controls allow two-way communication between individual fixtures and/or banks of lights, sensors, and a central processor, enabling scheduling, occupancy-based controls, daylight harvesting and/or individual control preferences.

$ Incentive Levels

- $0.18/kWh based on estimated project energy savings

Wireless HVAC Controls

Federspiel Controls’ DART™ technology approximates VAV operation in CAV systems at a much lower cost than a traditional VAV retrofit by utilizing a network of wireless sensors monitoring zone temperatures throughout a building.

Cypress Envirosystems’ Wireless Pneumatic Thermostat (WPT) technology replaces standard pneumatic thermostats and provides most of the energy benefits of a traditional DDC retrofit at a fraction of the cost.

Incentive Levels

- $0.18/kWh based on estimated project energy savings

Additional information about ETAP technologies, including sample project costs, savings, incentives and links to case studies, is available at www.energy-solution.com/etap.
To find out how your agency can benefit, contact:

**Forest Kaser**
510-482-4420 x217
fkaser@energy-solution.com
www.energy-solution.com/etap

The Energy Technology Assistance Program (ETAP) is administered by Energy Solutions as part of the California Energy Commission’s Energy Upgrade California™ initiative. Funding for the program is provided by the American Recovery and Reinvestment Act of 2009.
Saving Energy with Bi-level Lighting

Parking facilities are usually excellent candidates for an upgrade to bi-level lighting due to long periods of low to no occupancy. It is common for parking lots and garages to have lights on all day or all night, regardless of the lighting need. Bi-level fixture controls present an opportunity to save energy by dimming light levels when areas are unoccupied. Bi-level lighting controls can also turn off perimeter light fixtures for much of the day in areas that receive sufficient daylight to meet lighting needs.

In addition to the savings achieved with bi-level controls, significant energy and lifecycle cost savings can also be produced by replacing existing light fixtures with energy efficient, high performance fixtures including LED, induction, and fluorescent. Fixture replacements and bi-level controls can create both peak demand reductions (kW) and hourly energy use reductions (kWh).

Typical energy savings for parking lots and garages retrofitted with bi-level lighting are 20%-70% depending on previously existing and newly installed equipment.

Technologies and Operation

Bi-level fixtures operate at different levels of light output to meet the lighting need and are triggered by passive infrared (PIR) sensors, ultrasonic sensors, and photo-sensors. High performance linear fluorescent, LED, and induction fixture technologies are all eligible for ETAP incentives. ETAP maintains a pre-approved product list and products not on the list may be submitted for approval.

Other Benefits of a Bi-level Retrofit

Bi-level fixtures typically allow facility owners to save on maintenance costs by reducing the frequency of lamp burnouts. Bi-level lighting retrofits may also increase safety and security in several ways:

- Changes in lighting levels help to alert drivers and pedestrians to approaching traffic;
- Higher color temperatures may increase visual acuity; and
- Uniform light distribution may help to illuminate darker areas of a parking lot or garage.
ETAP Technical Support

ETAP provides no-cost consultation with expert professionals who are familiar with the newest, state-of-the-art technologies. Our technical experts will help you identify qualifying parking facilities, evaluate the technical and economic feasibility of implementing a bi-level retrofit project, help ensure that your agency captures the available savings, and prioritize your satisfaction and understanding.

Bi-Level Garage and Lot Incentive Levels

| LED | $200/fixture |
| T8/T5/Induction | $100/fixture |
| Lamp & ballast retrofit (garage only) | $40/fixture |

Example Bi-Level Parking Lot and Garage Project Financials

<table>
<thead>
<tr>
<th>Location Type</th>
<th>Existing Fixture</th>
<th>Existing kWh</th>
<th>Proposed Fixture</th>
<th>kWh Saving</th>
<th>Annual Energy Cost Savings</th>
<th>Total ETAP Incentive</th>
<th>Utility Incentive</th>
<th>Net Project Cost</th>
<th>Payback In Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Garage</td>
<td>150 Watt HPS</td>
<td>287,438</td>
<td>90 W LED, bi-level</td>
<td>120,724</td>
<td>166,714</td>
<td>$25,007</td>
<td>$35,000.00</td>
<td>$10,239</td>
<td>$93,011</td>
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<tr>
<td>Parking Garage</td>
<td>100 Watt HPS</td>
<td>211,554</td>
<td>New vapor tite w reflector, occ sensor and 2 F32T8s and a bi-level ballast</td>
<td>72,434</td>
<td>139,120</td>
<td>$20,868</td>
<td>$17,500</td>
<td>$8,544</td>
<td>$46,581</td>
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<tr>
<td>Parking Lot</td>
<td>400W Metal Halide</td>
<td>90,272</td>
<td>220 W LED</td>
<td>37,942</td>
<td>52,330</td>
<td>$7,850</td>
<td>$9,000</td>
<td>$2,617</td>
<td>$26,183</td>
</tr>
<tr>
<td>Parking Lot</td>
<td>250W HPS</td>
<td>58,145</td>
<td>150W Induction</td>
<td>27,766</td>
<td>30,378</td>
<td>$4,557</td>
<td>$4,500</td>
<td>$1,519</td>
<td>$19,406</td>
</tr>
</tbody>
</table>

Values listed above are provided as examples only and may not reflect your project's actual costs or savings.

Assumptions:
1. 175 fixture quantity for garages, 45 fixture quantity for lots - 1 for 1 retrofits
2. Annual operating hours of 8,760 for garages, 4,380 for lots
3. Bi-level fixtures operate at 50% power, 25% of the time
4. $0.15/kWh energy rate
5. Standard utility rebate of $0.05/kWh, and $100/peak kW reduction
6. Includes estimated maintenance savings $25 per fixture for garages, $100 per fixture for lots

Case Studies

- UC Davis Bi-level Fluorescent Parking Garage Luminaire Demonstration
  http://cltc.ucdavis.edu/content/view/806/406/

- UC Davis Bi-level Smart LED Parking Garage Luminaire Demonstration
  http://cltc.ucdavis.edu/content/view/668/355/

More information

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The Energy Technology Assistance Program is administered by Energy Solutions as part of the California Energy Commission's Energy Upgrade California initiative.
Saving Energy with Wireless HVAC Controls

When looking for ways to save energy and reduce electricity costs, local government agencies often face the challenge of working with legacy constant air volume (CAV) air handlers and pneumatically-controlled HVAC systems. Energy-efficient variable air volume (VAV) technology and direct digital controls (DDC) may offer energy savings of between 25%-55%. Converting to VAV and DDC however, typically requires expensive hardware purchases, disruptive construction projects, and challenging asbestos abatement procedures.

New advances in wireless control technology provide many of the benefits of VAV and DDC operations at a fraction of the cost of traditional VAV or DDC retrofits, while minimizing disruption to building occupants and avoiding costly asbestos abatement. In addition to reducing the energy required to meet space conditioning needs, wireless HVAC controls also provide automated data collection to inform maintenance scheduling and retrocommissioning.

Technologies and Operation

ETAP supports Federspiel Controls’ DART™ technology. DART™ enables more efficient control of air supply and return fans. DART™ approximates VAV operation in CAV systems at a much lower cost than a traditional VAV retrofit.

DART™ utilizes a network of wireless sensors monitoring zone temperatures throughout a building. When climate control needs can be met with lower airflow, the DART™ network turns down the speed on the supply and return air fans. Lower fan speeds create electricity savings. Additional savings in heating and cooling energy are created because the low airflow reduces the volume of air circulating through the building. **Typical DART retrofit project savings are between 25%–55%**.

ETAP also supports Cypress Envirosystems’ Wireless Pneumatic Thermostat (WPT) technology. Retrofitting a building by replacing standard pneumatic thermostats with WPTs provides most of the energy benefits of a traditional DDC retrofit at a fraction of the cost.

WPTs replicate the functions provided by traditional pneumatic thermostats and also communicate zone-specific temperature and HVAC system information to a central hub. WPTs save energy by enabling remote temperature setpoint control and night and weekend temperature setbacks, with capability for override when staff is present outside regular hours. The zone information provided by WPTs can also facilitate static pressure setpoint resets, which can help optimize fan control. **Typical project savings from WPTs are between 10%-25%**.
ETAP Technical Support

ETAP provides no-cost consultation with expert professionals who will help you identify suitable applications for supported wireless HVAC control technologies, evaluate the technical and economic feasibility of implementing the project, help ensure that your agency captures the available savings, and prioritize your satisfaction.

Wireless HVAC Controls Incentive

$0.18/kWh based on estimated project energy savings

Example Wireless HVAC Controls

Project Financials

<table>
<thead>
<tr>
<th>Building Size (sqft)</th>
<th>Assumed # of Zones</th>
<th>Annual kWh Savings</th>
<th>Annual Therm Savings</th>
<th>Annual Energy Cost Savings</th>
<th>ETAP Incentive</th>
<th>Utility Incentive</th>
<th>Net Project Cost</th>
<th>Payback In Years</th>
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</thead>
<tbody>
<tr>
<td>DART</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200,000</td>
<td>230</td>
<td>520,000</td>
<td>70,000</td>
<td>$155,000</td>
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<td>$50,600</td>
<td>$108,800</td>
<td>0.7</td>
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<td>234,000</td>
<td>31,500</td>
<td>$69,750</td>
<td>$42,120</td>
<td>$35,190</td>
<td>$98,640</td>
<td>1.4</td>
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<tr>
<td>25,000</td>
<td>63</td>
<td>65,000</td>
<td>8,750</td>
<td>$19,375</td>
<td>$11,700</td>
<td>$14,600</td>
<td>$48,700</td>
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</table>

<table>
<thead>
<tr>
<th>Building Size (sqft)</th>
<th>Assumed # of Thermostats</th>
<th>Annual kWh Savings</th>
<th>Annual Therm Savings</th>
<th>Annual Energy Cost Savings</th>
<th>ETAP Incentive</th>
<th>Utility Incentive</th>
<th>Net Project Cost</th>
<th>Payback In Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPTs</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>200,000</td>
<td>200</td>
<td>420,000</td>
<td>2,100</td>
<td>$65,310</td>
<td>$50,100</td>
<td>$69,900</td>
<td>—</td>
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<tr>
<td>90,000</td>
<td>153</td>
<td>189,000</td>
<td>945</td>
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<td>25,000</td>
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<td>$14,363</td>
<td>$26,188</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Values listed above are provided as examples only and may not reflect your project’s actual costs or savings.

Assumptions:
1. $0.15/kWh and $1.10/therm energy rate
2. Includes standard utility rebate of $0.09/kWh and $1.00/therm
3. Includes standard utility rebate of $0.09/kWh, $1.00/therm, and $150/thermostat demand response incentive
4. ETAP incentive capped at 100% of project costs (after utility incentives)

Case Studies

- DART: PG&E DART Fact Sheet
  http://www.pge.com/includes/docs/pdfs/mybusiness/energysavingsrebates/rebatesincentives/DART_FS_Final.pdf

- WPTs: County of Santa Clara Wireless Thermostat Demonstration

More information

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Saving Energy with Wireless Lighting Controls

Lighting controls are an important tool for effective energy management, enabling the use of such strategies as daylight harvesting, automatic scheduling (e.g., nighttime sweeps), dimming, and occupancy sensing in parking garages, office buildings and other occupied facilities.

Despite their significant savings potential, wired lighting controls are often not installed due to the high initial cost. Where controls are installed, they are often disabled by occupants. Wireless controls address these barriers by providing similar or better functionality than wired controls at a lower cost and with easier installation. Wireless lighting controls provide unprecedented flexibility in design and commissioning while maintaining centralized, remote supervisory control. Wireless lighting controls also open the doors to ongoing demand response incentive opportunities.

Technologies and Operation

ETAP supports Adura Technology's Wireless Energy Management System. The Adura technology allows for the installation of controls components in pre-existing light fixtures as well as new fixtures installed during construction or a lighting retrofit. The system is very flexible and offers a large amount of programmability.

At the core of the system is the light controller. This light controller communicates wirelessly through radio frequency with system components such as occupancy sensors, photosensors and individual fixtures. The light controller integrates the inputs of individual components and modifies the lighting environment to achieve desired light levels in the most energy-efficient manner. Retrofitting a typical office with wireless lighting controls could reduce lighting energy use by as much as 50%.

Features and Benefits:

- Reduces installation costs because most system components are wireless
- Intelligent step-dimming is an option; multiple control scenarios are available
- Layer daylighting and occupancy controls to provide greatest energy savings
ETAP Technical Support

ETAP provides no-cost consultation with expert professionals who will help you identify suitable applications for supported wireless lighting control technology, evaluate the technical and economic feasibility of implementing the project, help ensure that your agency captures the available savings, and prioritize your satisfaction and understanding.

Wireless Lighting Controls Incentive

$0.18/kWh based on estimated project energy savings

Example Wireless Lighting Controls

Project Financials

<table>
<thead>
<tr>
<th>Building Size (sqft)</th>
<th>Annual Energy Cost Savings$1,2,3,4</th>
<th>ETAP Incentive</th>
<th>Utility Incentive5</th>
<th>Net Project Cost</th>
<th>Payback In Years</th>
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</thead>
<tbody>
<tr>
<td>25,000</td>
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<td>$37,923</td>
<td>$18,961</td>
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<td>150,000</td>
<td>$94,790</td>
<td>$113,748</td>
<td>$56,874</td>
<td>$276,113</td>
<td>2.9</td>
</tr>
</tbody>
</table>

Values listed above are provided as examples only and may not reflect your project’s actual costs or savings.

Assumptions:
1. $0.15/kWh energy rate
2. Approximate breakdown of space = 50% open office and 50% private office
3. Power at controlled points = 96W
4. Approximate blended savings from scheduling, daylight harvesting, presence detection and personal control = 50% for open office and 35% for private office space
5. Standard utility rebate of $0.09/kWh

Case Studies

- PEIR Wireless Lighting Controls

- Personal Controls Lighting Retrofit of an Open Plan Office Demonstration at Webcor Concrete Facility

- PIER Wireless Integrated Photosensor and Motion Sensor Demonstration at UC Davis

More information

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