MEETING NOTICE
AND AGENDA

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

Thursday, June 22, 2017
11:30 a.m. to 1 p.m.
SANDAG, 7th Floor Conference Room
401 B Street, Suite 800
San Diego, CA 92101

Please take the elevator to the 8th floor to access the meeting room.

Staff Contact: Allison Wood
(619) 699-1973
allison.wood@sandag.org

AGENDA HIGHLIGHTS

• SENATE BILL 375 GREENHOUSE GAS TARGET-SETTING PROCESS

• PLUG-IN SAN DIEGO UPDATE

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请在会议前至少 72 小时打电话 (619) 699-1900 提出请求.
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>RECOMMENDATION</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>WELCOME AND INTRODUCTIONS</td>
</tr>
<tr>
<td>2.</td>
<td>APPROVAL OF MEETING MINUTES</td>
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<tr>
<td></td>
<td>The Regional Energy Working Group (EWG) is asked to review and approve the minutes from its May 25, 2017, meeting.</td>
</tr>
<tr>
<td>3.</td>
<td>PUBLIC COMMENTS/COMMUNICATIONS/MEMBER COMMENTS</td>
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<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 fewer per person. EWG members also may provide information and announcements under this agenda item.</td>
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<tr>
<td>4.</td>
<td>SAN DIEGO REGIONAL ELECTRIC VEHICLE STATISTICS</td>
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<td></td>
<td>The electric vehicle market in the San Diego region is rapidly growing. SANDAG has committed to provide the EWG with monthly updates on regional Clean Vehicle Rebate Project statistics.</td>
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<tr>
<td>5.</td>
<td>SENATE BILL 375 GREENHOUSE GAS TARGET-SETTING PROCESS</td>
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<tr>
<td></td>
<td>(Phil Trom)</td>
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<td></td>
<td>Under Senate Bill 375 (Steinberg, 2008) (SB 375), the Air Resources Board (ARB) sets regional targets for greenhouse gas emissions reduction from passenger vehicle use. ARB is in the process of updating the regional targets. Staff will provide an update on SB 375 targets for the San Diego region.</td>
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<tr>
<td>6.</td>
<td>PLUG-IN SAN DIEGO UPDATE (Allison Wood, Jeff Hoyos)</td>
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<td>In March 2017, the Board of Directors accepted a grant from the California Energy Commission to continue and expand upon the Plug-in San Diego program (Plug-in SD). Staff will summarize the results and successes of the first phase of Plug-in SD and goals and objectives of the second phase of Plug-in SD.</td>
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</tbody>
</table>
STATE ACTIVITIES ON ENERGY AND CLIMATE CHANGE

(Allison Wood)

Staff will provide an update on state activities as well as legislative bills that have been of interest to the EWG. Members are asked to review the bills and share legislation that would support implementation of the Regional Energy Strategy.

UPCOMING MEETINGS

The next meeting of the EWG is scheduled for Thursday, July 27, 2017, at 11:30 a.m.

+ next to an item indicates an attachment
MAY 25, 2017, MEETING MINUTES

1. WELCOME AND INTRODUCTIONS

The Regional Energy Working Group (EWG) meeting was called to order by Chair Chris Orlando, City of San Marcos, at 11:32 a.m.

3. PUBLIC COMMENTS/COMMUNICATIONS/MEMBER COMMENTS

This item was taken out of order.

John Wotzka, a member of the public, submitted written comments and spoke about energy-related news, which included nuclear power generation and associated issues; renewable energy; traditional fossil fuel and power plant issues; alternative fuels and shale gas; climate change impacts and greenhouse gas (GHG) emissions; the regional energy strategy; and renewable and energy financial matters.

2. APPROVAL OF MEETING MINUTES (APPROVE)

Action: Upon a motion by Brendan Reed (San Diego County Regional Airport Authority) and a second by Vice Chair Scott Anders (Energy Policy Initiatives Center, University of San Diego [USD] School of Law), the EWG approved the minutes from the February 23, 2017, meeting.

Yes – Chair Orlando, Vice Chair Anders, Councilmember Carrie Downey (City of Coronado), Councilmember Amanda Rigby (City of Vista), Mayor Pro Tem Jennifer Mendoza (City of Lemon Grove), Mr. Reed, Jack Clark (City of San Diego), Kendall Helm (San Diego Gas & Electric), Renée Yarmy (San Diego Unified Port District), Dave Weil (University of California, San Diego), Sharon Cooney (Metropolitan Transit System), and Alyssa Gutner-Davis (Cleantech San Diego).


CONSENT

4. SAN DIEGO REGIONAL ELECTRIC VEHICLE STATISTICS (INFORMATION)

The electric vehicle market in the San Diego region is rapidly growing. Updates from the Clean Vehicle Rebate Project on regional vehicle growth were provided.

Action: This item was presented for information.
5. UNIVERSITY OF SAN DIEGO CLIMATE ACTION PLAN (INFORMATION)

Michael Catanzaro, USD Director of Sustainability, presented an overview of the Climate Action Plan (CAP) that was adopted by USD in November 2016. The USD CAP is a framework to reduce USD’s GHG emissions. More information on the CAP is available at sandiego.edu/climate-action-plan.

Action: This item was presented for discussion.

6. SAN DIEGO COUNTY WATER AUTHORITY ENERGY PROJECTS (INFORMATION)

Kelly Rodgers, San Diego County Water Authority (Water Authority) Energy Program Manager, presented on projects and programs the Water Authority is working on to help them better anticipate and adapt to the impacts of climate change. The Water Authority has been promoting energy and water conservation, developing renewable energy sources, and reducing the environmental impact of Water Authority operations for many years.

Action: This item was presented for information.

7. STATE ACTIVITIES ON ENERGY AND CLIMATE CHANGE (DISCUSSION)

Allison Wood, Active Transportation Planner, provided an update on state activities as well as legislative bills that have been of interest to the EWG. Members were asked to review the bills and share legislation that would support implementation of the Regional Energy Strategy. Topics suggested for discussion at future EWG meetings included community choice aggregation, Cleantech San Diego initiatives, renewable compressed natural gas and other alternative fuels, and state funding for alternative fuels.

Action: This item was presented for discussion.

8. UPCOMING MEETINGS (INFORMATION)

The next meeting of the EWG is scheduled for Thursday, June 22, 2017, at 11:30 a.m.

Chair Orlando adjourned the meeting at 1 p.m.
<table>
<thead>
<tr>
<th>REPRESENTATION</th>
<th>JURISDICTION/ORGANIZATION</th>
<th>NAME</th>
<th>MEMBER/ALTERNATE</th>
<th>ATTENDING</th>
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<tbody>
<tr>
<td>North County Inland Subregion</td>
<td>City of San Marcos</td>
<td>Hon. Chris Orlando, Chair</td>
<td>Member</td>
<td>Yes</td>
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<td></td>
<td>City of Vista</td>
<td>Hon. Amanda Rigby</td>
<td>Alternate</td>
<td>Yes</td>
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<td>North County Coastal Subregion</td>
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<td>Vacant</td>
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<tr>
<td>South County Subregion</td>
<td>City of Coronado</td>
<td>Hon. Carrie Downey</td>
<td>Member</td>
<td>Yes</td>
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<td></td>
<td>Vacant</td>
<td>Vacant</td>
<td>Alternate</td>
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<tr>
<td>East County Subregion</td>
<td>City of Santee</td>
<td>Hon. Rob McNelis</td>
<td>Member</td>
<td>No</td>
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<td></td>
<td>City of Lemon Grove</td>
<td>Mayor Pro Tem Jennifer Mendoza</td>
<td>Alternate</td>
<td>Yes</td>
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<tr>
<td>City of San Diego Subregion</td>
<td>City of San Diego</td>
<td>Vacant</td>
<td>Member</td>
<td>No</td>
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<td></td>
<td></td>
<td>Hon. David Alvarez</td>
<td>Alternate</td>
<td>No</td>
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<td></td>
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<td>Jack Clark</td>
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<tr>
<td>County of San Diego Subregion</td>
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<td>Vacant</td>
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<td></td>
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<td>Charles Marchesano</td>
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<td>No</td>
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<td></td>
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<td>Susan Freed</td>
<td>Alternate</td>
<td>No</td>
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<tr>
<td>Public Transit Operators</td>
<td>Metropolitan Transit System</td>
<td>Sharon Cooney</td>
<td>Member</td>
<td>Yes</td>
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<td></td>
<td>North County Transit District</td>
<td>Vacant</td>
<td>Alternate</td>
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<tr>
<td>Other Public Agencies</td>
<td>San Diego County Regional Airport Authority</td>
<td>Brendan Reed</td>
<td>Member</td>
<td>Yes</td>
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<td></td>
<td></td>
<td>Brett Caldwell</td>
<td>Alternate</td>
<td>No</td>
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<td></td>
<td>Unified Port District of San Diego</td>
<td>Renée Yarmy</td>
<td>Member</td>
<td>Yes</td>
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<td></td>
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<td>Rachel Stern</td>
<td>Alternate</td>
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<td>Universities</td>
<td>University of California, San Diego</td>
<td>Dave Weil</td>
<td>Member</td>
<td>Yes</td>
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<td></td>
<td>San Diego State University</td>
<td>Dr. Heather Honea</td>
<td>Alternate</td>
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<tr>
<td>Energy Utility</td>
<td>San Diego Gas &amp; Electric</td>
<td>Kendall Helm</td>
<td>Member</td>
<td>Yes</td>
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<td></td>
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<td>Cameron Durckel</td>
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<td>Organization</td>
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<td>Role</td>
<td>Status</td>
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<tr>
<td>Energy Non-Profits</td>
<td>Center for Sustainable Energy</td>
<td>Len Hering</td>
<td>Member</td>
<td>No</td>
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<td></td>
<td></td>
<td>Hanna Grene</td>
<td>Alternate</td>
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<td></td>
<td>Energy Policy Initiatives Center, University of San Diego School of Law</td>
<td>Scott Anders, Vice Chair</td>
<td>Member</td>
<td>Yes</td>
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<td></td>
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<td>Nilmini Silva-Send</td>
<td>Alternate</td>
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<td>Transportation Fuels</td>
<td>San Diego Regional Clean Cities Coalition</td>
<td>Debra Kelley</td>
<td>Member</td>
<td>No</td>
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<td></td>
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<td>Jennifer Case</td>
<td>Alternate</td>
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<td>Environment/Social Justice</td>
<td>Environmental Health Coalition</td>
<td>Vacant</td>
<td>Member</td>
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<td></td>
<td>Sierra Club</td>
<td>Paul Webb</td>
<td>Member</td>
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<td>Dave Grubb</td>
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<tr>
<td>Business</td>
<td>San Diego Regional Chamber of Commerce</td>
<td>Mike Evans</td>
<td>Member</td>
<td>No</td>
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<td></td>
<td></td>
<td>Lisa Kay</td>
<td>Alternate</td>
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<tr>
<td>Economic Development</td>
<td>North County Economic Development Council</td>
<td>Vacant</td>
<td>Member</td>
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<tr>
<td></td>
<td>South County Economic Development Council</td>
<td>John Moot</td>
<td>Alternate</td>
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<td></td>
<td>Cleantech San Diego</td>
<td>Jason Anderson</td>
<td>Member</td>
<td>No</td>
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<td></td>
<td>Alyssa Gutner-Davis</td>
<td>Alternate</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**OTHER ATTENDEES**

- Jon Gardner, Arriba Energy
- Mike Grim, City of Carlsbad
- Jeff Wyner, City of Escondido
- Christine Pawlik, City of Poway
- John Wotzka, member of the public
- Cesar Rios, Rios Solutions
- Risa Baron, San Diego County Water Authority
- Kelly Rodgers, San Diego County Water Authority
- Katie Wilson, TRC Solutions
- Michael Catanzaro, University of San Diego

**SANDAG STAFF MEMBERS LISTED BELOW**

- Katie Hentrich
- Jeff Hoyos
- Anna Lowe
- Allison Wood
- Robyn Wapner
Number of Rebates

Income criteria

Criteria modified

Data is updated monthly. Last updated: June 01, 2017

The Board of Directors is asked to:
(1) approve the 2035 per capita greenhouse gas (GHG) emission reduction target recommendation for the San Diego region of 18 percent; and (2) authorize the Executive Director to submit the proposed target to the California Air Resources Board pursuant to Senate Bill 375 for its use in the GHG emissions reduction target setting process.

Introduction

The next update of the Regional Plan will include the third Sustainable Communities Strategy (SCS) subject to the provisions of Senate Bill 375 (Steinberg, 2008) (SB 375). SB 375 requires that the Regional Plan include an SCS that demonstrates how development patterns and the transportation network, policies, and programs can work together to achieve per capita greenhouse gas (GHG) emission reduction targets for cars and light trucks (SB 375 targets) for the years 2020 and 2035 from a 2005 baseline as established by the California Air Resources Board (ARB).

Pursuant to SB 375, ARB is required to update the SB 375 targets by 2018. Before updating these targets, ARB is required to exchange technical information with SANDAG and other Metropolitan Planning Organizations (MPOs) as well as other agencies, and engage in a consultative process with public and private stakeholders. Toward that end, ARB has requested that SANDAG and other MPOs provide recommendations for the updated 2035 targets, along with technical analysis and documentation to support the recommendations. ARB will consider this information in establishing the updated SANDAG target, which will apply to the next update of the SANDAG Regional Plan, anticipated for adoption in 2019.

At the March 23, 2017, ARB Board meeting, ARB staff presented an informational update on the SB 375 Target Update process. Executive Directors of the four largest MPOs from the Sacramento Area Council of Governments (SACOG), Bay Area Metropolitan Transportation Commission (MTC), Southern California Association of Governments (SCAG), and SANDAG made a joint presentation at this meeting and summarized findings from the technical analyses presented to their respective boards.
Discussion

**Existing SB 375 Targets for the San Diego Region**

Established by ARB in 2010, the existing SB 375 targets for the San Diego region are to reduce GHG emissions from cars and light trucks by 7 percent, per capita, by 2020, and by 13 percent, per capita, by 2035, compared with a 2005 baseline. Table 1 shows that the Regional Plan adopted in 2015 would exceed the San Diego region’s SB 375 targets for 2020 and 2035.¹

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2035</th>
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<tbody>
<tr>
<td>Existing SB 375 Targets</td>
<td>7 percent</td>
<td>13 percent</td>
</tr>
<tr>
<td>San Diego Forward: The Regional Plan GHG Reductions (2015)</td>
<td>15 percent</td>
<td>21 percent</td>
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</table>

Note: Average weekday per capita carbon dioxide reductions for cars and light trucks from 2005.

Figure 1 identifies the contributions made by specific components of the Regional Plan’s SCS toward SB 375 per capita GHG reductions from passenger vehicles in 2050. The chart shows that about half of the reductions are due to the Regional Plan’s investments in transportation capital projects, operations improvements, and Transportation Demand Management (TDM) measures that support teleworking (i.e., working from home or telecommuting). About one quarter of the reductions are due to changing land use and population characteristics, and another quarter are due to increases in auto operating costs.

¹ While the SB 375 analysis focuses on per capita GHG reductions from passenger vehicles, an analysis of total GHG emissions was included in the Regional Plan Environmental Impact Report (EIR) (Section 4.8). The EIR analysis showed that total GHG emissions in 2050 are projected to be 26 Million Metric Tons CO2e (Carbon Dioxide Equivalent), or 25.9 percent lower than GHG emissions in 2012 (Table 4.8-8).
On March 10, 2017, staff presented the Board of Directors with results of the technical “stress tests” that were conducted to inform the target update process (Attachment 1). The purpose of the stress tests was to evaluate the potential effectiveness of various transportation and land use strategies, pricing, technology innovations, and other variables that would help the state achieve its GHG reduction goals.

Source: Final EIR for San Diego Forward: The Regional Plan, Appendix K-1 Responses to Comments on the Draft EIR, Figure 4-1
The findings of this analysis indicate that the 2015 Regional Plan GHG reductions, shown in Table 1, represent an ambitious performance. The 2015 Regional Plan reflects the land use transformation that has taken place in the past 15 years due to updates of local jurisdiction land use plans, robust transit investments, the Regional Bike Plan Early Action Program mobility hubs, and transportation demand and system management strategies.2

In the 2019 update of the Regional Plan, future revenue assumptions may differ from the 2015 Regional Plan. They will depend in part on whether the next Regional Plan assumes a new local transportation funding source, and on future state funding initiatives, such as transportation bond measures and mileage-based user fees.

In addition to challenges represented by funding constraints, there are new challenges that the region will face during the update of the Regional Plan. New targets must account for progress that the state is making in other climate programs, such as zero-emission vehicle market penetration and increases in overall fleet efficiency from the Advanced Clean Cars (ACC) program. As shared with the Board of Directors in March, the ACC program has some unintended consequences; that is, by increasing passenger vehicle fuel efficiency, the cost of driving is decreasing, which leads to projections that people will drive more and GHG will increase. This is known as the Vehicle Miles Traveled (VMT) “rebound effect” and has the impact of limiting the ability of agencies like SANDAG to reduce GHG emissions from passenger vehicles through regional transportation and land use planning.

The technical stress tests presented at the March 10, 2017, SANDAG Board meeting evaluated strategies that are aspirational and fiscally unconstrained, and may not be feasible under existing circumstances. The findings of the stress tests indicate that only limited additional GHG reductions are achieved from aggressive land use changes and transit investment assumptions. Additionally, the stress tests showed that the best options to further reduce passenger vehicle GHG emissions are to increase the cost of driving and increase the amount of zero-emission miles that are driven on the region’s roadways—two factors that are outside the direct control of SANDAG and outside the framework of what MPOs can take credit for under SB 375.

Based on these factors, and through coordination with the other large MPOs (described further below), SANDAG staff believes an 18 percent per capita GHG reduction in 2035 is ambitious and achievable in the 2019 update to the Regional Plan, subject to the state successfully developing some combination of the following actions, which are consistent with current state sustainability policies:

(1) The state to lead the development of pricing mechanisms that reverse the VMT rebound effect caused by the lower cost of driving due to increased vehicle fuel efficiency and lower fuel prices. Pricing mechanisms should include equity considerations. The California Road Charge Pilot Program is an example of a pricing program under evaluation by the state.

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2 SANDAG regularly collaborates with ARB on the review of its modeling assumptions, and SANDAG makes its transportation model source code available online (https://github.com/SANDAG/ABM). Additionally, MPOs across the state have collaborated to standardize the core assumptions used in the travel models (e.g., auto operating costs) and SANDAG uses those standardized assumptions.
Given that the funding contained in the recent transportation legislation largely is focused on maintaining and rehabilitating the existing transportation system, the state also should recognize the lasting impacts of the elimination of redevelopment funding and provide additional funding to support implementation of Regional Transportation Plans/Sustainable Communities Strategies.

ARB to address any impacts from updates to the Emission Factor emissions model used to calculate target achievement.

Figure 2 illustrates the current targets that were set by ARB in 2010 and a recommended target of an 18 percent reduction for 2035. This would represent an increase of 5 percentage points over the current target (13 percent).

**Figure 2:**
**Target Comparison – Current and Recommended Targets**

![Target Comparison Chart](chart.png)

**MPO Coordination on Target Recommendations**

The four largest MPOs in the state (SACOG, MTC, SCAG, and SANDAG) along with the California Association of Councils of Governments (CALCOG) have been collaborating in the target setting process using a consistent technical methodology. Each of the MPOs are anticipated to request approval from their respective boards in April for an 18 percent 2035 GHG reduction target. Therefore, it is possible that the recommendations from the four major MPOs could align and result in a uniform target being recommended to ARB.
**Next Steps**

SANDAG will continue to participate in the SB 375 GHG target setting process with ARB, other MPOs, and CALCOG to advocate for targets that are both ambitious and achievable. The following schedule outlines the anticipated steps toward approval of the final targets by the ARB Board.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
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<tbody>
<tr>
<td>SANDAG submits target recommendation and target-setting analysis to ARB</td>
<td>April 2017</td>
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<tr>
<td>ARB releases draft target setting staff report</td>
<td>Late Spring/early Summer 2017</td>
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<td>ARB workshop</td>
<td>Summer 2017</td>
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<tr>
<td>SANDAG provides comments on draft targets (as needed)</td>
<td>Summer 2017</td>
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<tr>
<td>ARB releases final staff report and ARB Board adopts targets</td>
<td>Fall 2017</td>
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</table>

GARY L. GALLEGOS
Executive Director

Attachment: 1. March 10, 2017, Board of Directors Agenda Item No. 17-03-2

Key Staff Contacts: Phil Trom, (619) 699-7330, phil.trom@sandag.org
                  Elisa Arias, (619) 699-1936, elisa.arias@sandag.org
GREENHOUSE GAS REDUCTION TARGET SETTING PROCESS

Introduction

SANDAG will initiate the update of San Diego Forward: The Regional Plan (Regional Plan) in 2017. This Regional Plan will include the third Sustainable Communities Strategy (SCS) subject to the provisions of Senate Bill 375 (Steinberg, 2008) (SB 375). SB 375 requires that the Regional Plan include an SCS that demonstrates how development patterns and the transportation network, policies, and programs can work together to achieve per capita greenhouse gas (GHG) emission reduction targets for cars and light trucks (SB 375 targets) for the years 2020 and 2035 from a 2005 baseline as established by the California Air Resources Board (ARB). The Board of Directors has adopted two Regional Plans (in 2011 and 2015) since ARB first established SB 375 targets for the San Diego region in 2010. Both Regional Plans have demonstrated that SANDAG would meet or exceed its SB 375 targets for 2020 and 2035.

Pursuant to SB 375, ARB is required to update the SB 375 targets by 2018. Before updating these targets, ARB is required to exchange technical information with SANDAG and other Metropolitan Planning Organizations (MPOs) as well as other agencies, and engage in a consultative process with public and private stakeholders. Toward that end, ARB has requested that SANDAG and other MPOs provide recommendations for the updated targets, along with technical analysis and documentation to support the recommendations. Once established, the updated targets will apply to the next update of the SANDAG Regional Plan, which is due in 2019. Because the updated targets also will apply to California MPOs with SCS’s due after 2020, ARB is not expected to update the 2020 targets and instead will focus its efforts on the 2035 target setting.

This report discusses the scenario framework developed by ARB to update the targets, share the technical information and results, and provide information for future action by the Board of Directors on target recommendations to ARB.

Discussion

Statewide Planning for Greenhouse Gas Reductions

The SB 375 GHG reduction targets for cars and light trucks is one of several programs that California has put in place to reduce GHG emissions from various sources throughout the state. The overall framework for reducing GHG emissions in California is established in the Climate Change Scoping Plan (Scoping Plan) prepared by ARB. As required by Assembly Bill 32 (Nunez, 2006) (AB 32), the Scoping Plan (first adopted in 2008 and updated in 2014) shows the various programs the state has put in place to achieve the AB 32 goal of returning statewide GHG emissions to 1990 levels by 2020.
With the adoption of a statewide goal for 2030 included as part of Senate Bill 32 (Pavley, 2016) (SB 32), ARB now is working on a new Scoping Plan Update to show how California will achieve a 40 percent GHG reduction to 1990 levels by 2030. ARB published a draft of its 2017 Climate Change Scoping Plan Update (Draft Scoping Plan) on January 20, 2017, and is expected to consider adoption of a final Scoping Plan at its June 2017 meeting. Separately, while a 2005 Governor's Executive Order (S-3-05) calls for an 80 percent statewide GHG reduction from 1990 levels by 2050, the State Legislature has not adopted a 2050 statewide goal.

The Draft Scoping Plan’s Proposed Scenario includes the following major elements by 2030:

- 50 percent of electricity from renewable sources
- Doubling of energy efficiency savings
- Cleaner transportation fuels
- More than 4 million zero-emission vehicles
- More than 100,000 zero-emission trucks
- Continuation of the cap-and-trade program\(^1\) with declining caps
- 20 percent reduction in GHG emissions from the refinery sector
- “Increased stringency” of SB 375 targets for 2035

### The Role of SB 375 Targets in Statewide Planning for GHG Reductions

The Draft Scoping Plan does not quantify how much SB 375 targets might be increased, or quantify the contribution of GHG reductions from the SB 375 targets to the statewide 2030 goal.\(^2\) However, it does state that “most of the GHG reductions from the transportation sector in this (draft) Plan will come from technologies and low carbon fuels,” and adds that, “a reduction in the growth of VMT (vehicle miles traveled) is also needed” to achieve the statewide 2030 goal. The Draft Scoping Plan further explains ARB’s position that, “(s)tronger SB 375 GHG reduction targets will enable the state to make significant progress toward this goal” of reducing the growth in VMT, but the SB 375 targets “alone will not provide all of the VMT growth reductions that will be needed.” The Draft Scoping Plan also acknowledges that, “(t)here is a gap between what SB 375 can provide and what is needed to meet the state’s 2030 and 2050 goals.” Furthermore, ARB recognizes that the burden for reducing VMT growth does not fall solely on MPOs like SANDAG, acknowledging that the state government also needs to take action “in parallel to SB 375” if the state’s GHG goals are to be achieved.

### Existing SB 375 Targets for the San Diego Region

Established by ARB in 2010, the existing SB 375 targets for the San Diego region are to reduce GHG emissions from cars and light trucks by 7 percent, per capita, by 2020, and by 13 percent, per capita, by 2035, compared with a 2005 baseline. Table 1 shows that the two Regional Plans (the 2050 Regional Transportation Plan [RTP]/SCS in 2011 and San Diego Forward: The Regional Plan in 2015) adopted since ARB first established SB 375 targets would meet or exceed the San Diego region’s SB 375 targets for 2020 and 2035.

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1. According to ARB, “The Cap-and-Trade Program is a key element of California’s climate plan. It sets a statewide limit on sources responsible for 85 percent of California’s greenhouse gas emissions, and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy.”

2. The currently adopted Scoping Plan (2014) shows that statewide implementation of SB 375 (not just SANDAG, but all California regions) provides just under four percent of the GHG reductions needed to meet the statewide 2020 goal. https://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf
There are several reasons for the difference between the 2011 and 2015 Regional Plan’s GHG emissions in terms of meeting the 2035 targets. These include a reduction in low-density development in the rural unincorporated areas of the county, more compact land use pattern in the 2015 Regional Plan, advancement of transit investments, changes in auto operating cost assumptions, reductions in projected household income, and new information from the most recent travel studies about short walking and bike trips.

Table 1:
**SB 375 Greenhouse Gas Reduction Targets and Regional Plan Greenhouse Gas Emissions Reductions Results**

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2035</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing SB 375 Targets</strong></td>
<td>7 percent</td>
<td>13 percent</td>
</tr>
<tr>
<td><strong>Our Region, Our Future 2050 RTP/SCS (2011)</strong></td>
<td>14 percent</td>
<td>13 percent</td>
</tr>
<tr>
<td><strong>San Diego Forward: The Regional Plan GHG Reductions (2015)</strong></td>
<td>15 percent</td>
<td>21 percent</td>
</tr>
</tbody>
</table>

Note: Average weekday per capita carbon dioxide reductions for cars and light trucks from 2005.

**Technical Work to Inform the Target Setting Update**

As part of the collaborative process for updating the targets set forth in SB 375, SANDAG, other MPOs, and the California Association of Councils of Governments (CALCOG) have been working with ARB staff to conduct technical “stress tests” to inform the target setting update process. MPOs developed individual stress tests that all evaluated the potential effectiveness of various transportation and land use strategies, pricing, technology innovations, and other social and economic variables in helping the state meet its GHG reduction goals. These stress test scenarios include the Regional Plan adopted in 2015, along with six alternative scenarios consisting of strategies that are aspirational and fiscally unconstrained (e.g., they are not based on available funding), and may not be feasible under existing circumstances. Some scenario elements previously were studied in the Environmental Impact Report (EIR) for the 2015 Regional Plan.

The findings of the stress tests indicate that only limited additional GHG reductions are achieved from aggressive land use changes and transit investment assumptions. Additionally, the stress tests clearly show that the best options to further reduce passenger vehicle GHG emissions are to increase the cost of driving and increase the amount of zero emission miles that are driven on the region’s roadways — two factors that are outside the direct control of SANDAG and outside the framework of what MPOs can take credit for under SB 375. The effectiveness of these policies is confirmed by ARB’s own Scoping Plan.
**Stress Test Scenarios**

Strategies evaluated in the stress tests include (a) drastic changes in local land use patterns; (b) accelerated completion of transit capital projects and more frequent services; (c) a VMT user fee; (d) aggressive implementation of technology solutions (e.g., electric vehicles, autonomous vehicles); and (e) changes to other factors outside the control of SANDAG and other MPOs (e.g., increasing the cost of driving). Each of the stress test scenarios evaluated by SANDAG as part of this process is shown below and the descriptions and results are described in more detail in Attachment 1.

1. Revenue Constrained Regional Plan SCS (San Diego Forward)
2. San Diego Forward + Multiple Dense Cores Land Use
3. San Diego Forward EIR Alternative 2 (Advancing Transit)
4. San Diego Forward EIR Alternative 2 + Multiple Dense Cores
5. San Diego Forward 2035 Revenue Constrained SCS + 18-cent VMT User Fee
6. San Diego Forward EIR Alternative 2 + Multiple Dense Cores + 15-cent VMT User Fee
7. San Diego Forward Revenue Constrained SCS + additional 25 percent penetration of non-carbon VMT beyond Advanced Clean Cars\(^1\) standard

**Focus on Revenue Constrained Planning**

While SANDAG evaluated the seven scenarios as part of the stress tests, it is important to focus on Scenario 1, which reflects the adopted land use plans and revenue constraints of the 2015 Regional Plan. A focus on Scenario 1 is necessary (rather than on the aspirational or implausible nature of the other scenarios), because Regional Plans are required to include a financial element that is fiscally constrained. Setting higher targets not grounded in fiscal constraint and achievability will not automatically yield greater performance and may undermine the ability of the region to focus on the mandated revenue constrained planning required by federal law.

Complicating matters further, new targets set by ARB also must account for progress that the state is making in other climate programs, such as zero-emission vehicle market penetration and increases in overall fleet efficiency from the Advanced Clean Cars (ACC) program. The ACC program has some unintended consequences; that is, by increasing passenger vehicle fuel efficiency, the cost of driving is decreasing, which leads to projections that people will drive more and GHG will increase.\(^4\) This is known as the VMT “rebound effect” and has the impact of limiting the ability of agencies like SANDAG to reduce GHG emissions from passenger vehicles through regional transportation and land use planning. As a result, the focus on developing targets that are grounded in available

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\(^1\) The Advanced Clean Cars (ACC) Program is part of California’s requirements to reduce the state’s impact on climate change and improve ambient air quality. The components of the ACC program are the Low-Emission Vehicle regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulations, which require manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with additional provisions to produce plug-in hybrid electric vehicles in the 2018 through 2025 model years.

\(^4\) As a simple example, if gas costs $3 per gallon and you own a car that gets 20 miles to the gallon, your cost per mile to drive is $0.15 / mile. However, if you have a car that is twice as efficient and get 40 miles to the gallon, your cost of driving is cut in half to $0.075 / mile. SANDAG modeling and independent academic studies all conclude that reducing the cost of driving leads to more driving. This is the “rebound effect” of the ACC; SANDAG expects the impact of the ACC could lead to a 1 percent increase in regional VMT, albeit with much cleaner vehicles.
funding and other real-world constraints (i.e., ambitious and achievable) takes on greater importance.

**Scenario 1 Analysis**

Since the Board of Directors adopted the Regional Plan in 2015, SANDAG has updated its transportation model data and procedures. These model updates combined with changing revenue and income projections and the VMT rebound effect could lower GHG reduction results by as much as 3 percent in 2035. The next update of the Regional Plan will include an updated growth forecast based on changes to local land use plans and other updated economic and demographic assumptions. Furthermore, future revenue assumptions may differ from the 2015 Regional Plan and will depend in part on whether the next Regional Plan assumes voter approval of a new local transportation funding measure. Based on the analysis of all of these factors, SANDAG staff believes a reasonable range between 18 percent and 21 percent reduction in 2035 is achievable in the update to the Regional Plan.

**Additional Stress Test Results**

The results of the other six stress tests (Scenarios 2 through 7) help to provide some data around the evaluation of select variables that are outside the direct control of SANDAG and the other MPOs. Scenarios 2 through 4 focus on achieving passenger vehicle GHG reductions through major changes to local jurisdiction land use plans. Local land use plans have been updated over the past 14 years to concentrate growth within the urbanized areas of the region and closer to existing and planned transportation infrastructure. The planned land use changes between the late 1990s and 2015 resulted in an estimated per capita GHG reduction of between 25 and 30 percent. As shown by the stress tests, additional land use concentration within the San Diego region would do little to achieve additional passenger vehicle GHG reductions since so much progress already has been made. The stress test assumption that focuses forecasted housing and employment growth into four existing urban cores around high-quality transit stops (Multiple Dense Cores) (see map in Attachment 1) reveals an additional 2 percent passenger vehicle GHG reduction relative to Scenario 1.

The results of Scenarios 5 and 6 focus on the addition of pricing strategies in the form of a “Vehicle Miles Traveled user fee.” For purposes of the stress test, a per-mile fee of 15 to 18 cents is charged for every mile driven. This would effectively add $150 to $180 to the cost of every 1,000 miles driven. The VMT user fee is being explored actively by the State of California through a pilot study, but such a fee structure currently is not allowed at the regional or municipal level. It would require either state implementation or changes to existing state law to allow for such a regional VMT fee to be collected. The VMT fee analysis revealed that a six to seven percent reduction could be achieved over Scenario 1 from these pricing assumptions.

Finally, the evaluation of additional penetration of zero-emissions travel beyond ARB’s aggressive ACC standard was the focus of the Scenario 7 analysis. This scenario revealed that an additional 20 percent GHG reduction could be achieved over Scenario 1 by assuming that an additional 25 percent of miles traveled are on zero-emission vehicles beyond what ARB is assuming in the ACC standard. This much larger reduction points to ARB’s own conclusion that most of the GHG reductions from the transportation sector (as stated in the draft Scoping Plan) will come from technologies and low carbon fuels. As stated previously, ARB acknowledges that the state
government needs to take action “in parallel to SB 375” if the state’s GHG goals are to be achieved, and there are other factors not controlled by regional agencies that go well beyond the SB 375 targets and contribute far more to the achievement of the GHG goals.

**Regional Targets or Uniform Targets**

Rather than setting unique targets for each region, as was done in 2010, ARB has the option of setting a single statewide uniform target. ARB could set a uniform target for the four largest MPOs in the state (Sacramento Area Council of Governments, Bay Area Metropolitan Transportation Commission, Southern California Association of Governments, and SANDAG). SANDAG is working actively with those MPOs on the development of a single and uniform target.

**Next Steps**

Over the next several weeks SANDAG staff will continue to participate in the SB 375 GHG target setting process with ARB, other MPOs, and CALCOG. Additionally, ARB has scheduled three workshops on the target updates between March 7 and March 14, 2017. Staff will provide an update on the target setting process and expects to propose a recommended 2035 per capita GHG reduction target for Board action in the March/April timeframe. It is anticipated that the recommended target pursuant to SB 375 would be submitted to ARB for use in its target setting process in April 2017.

GARY L. GALLEGOS  
Executive Director

Attachment: 1. Stress Test Scenario Summaries

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Stress Test Scenario Summaries

The following are descriptions of each stress test scenario, and a summary of results is included as Table 1.

**Scenario 1: Revenue Constrained Regional Plan Sustainable Communities Strategy (“San Diego Forward”)**

This scenario is consistent with the phased transportation investments and revenue constrained financial estimates of San Diego Forward: The Regional Plan (Regional Plan) and land uses consistent with local General Plans.

**Scenario 2: San Diego Forward + Multiple Dense Cores Land Use**

The Multiple Dense Cores (MDC) scenario focuses all forecasted housing and employment growth into four existing urban cores around high-quality transit fixed-route stops. In this alternative, approximately 70 percent of the future housing growth is located within the Dense Cores, with the remaining 30 percent being mostly located in the surrounding Transit Priority Areas. Under this scenario, land development is prohibited in the remainder of the region. The Multiple Dense Cores land use assumption differs greatly from adopted local general plans. A map showing the Multiple Dense Cores is included as Figure 1.

**Scenario 3: San Diego Forward Environmental Impact Report Alternative 2 (Advancing Transit)**

Environmental Impact Report (EIR) Alternative 2 includes the following transportation investments:

- Complete all public transit capital projects and public transit operations improvements in the adopted plan by 2025 (the plan horizon year is 2050)
- Complete managed lanes (MLs) and ML connectors in the proposed Plan that support *Rapid* routes by 2025
- Implement ten-minute all-day frequencies for Urban Core local bus routes by 2025
- Complete all active transportation projects in the adopted plan by 2025

Significant new funding would be required to implement and operate the accelerated capital program of EIR Alternative 2, which is estimated at approximately $34 billion by 2025. This would require approximately $30 billion in new capital funds within a ten-year period. The cost to operate the transit facilities would expand from approximately $350 million annually in FY 2015, to nearly $1.1 billion annually in FY 2025. Total operating costs over the 35-year period (by 2050) would be nearly $49 billion.

**Scenario 4: San Diego Forward EIR Alternative 2 + Multiple Dense Cores**

This scenario represents the combination of the EIR Alternative 2 along with the Multiple Dense Cores land use from Scenarios 2 and 3. A map showing the Multiple Dense Cores is included as Figure 1.

**Scenario 5: San Diego Forward 2035 Revenue Constrained Sustainable Communities Strategy + 18-cent Vehicle-Miles-Traveled User Fee**

Scenario 5 includes the Regional Plan assumptions along with an 18-cent Vehicle-Miles-Traveled (VMT) fee. For this scenario, SANDAG analyzed how different VMT user fees could—in combination with the adopted Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS)—potentially achieve VMT reductions comparable to those assumed in the California Air Resources Board (ARB) Draft Scoping Plan (i.e., a 7.5 percent reduction in total light-duty VMT in 2035, relative
to 2035 levels under adopted RTP/SCS’s). The VMT fees used in this scenario increase auto operating costs by 67 percent beyond the baseline cost agreed to by the four large Metropolitan Planning Organizations (MPOs) for Round 2 SCS development.

**Scenario 6: San Diego Forward EIR Alternative 2 + Multiple Dense Cores + 15-cent VMT User Fee**

This scenario combines Scenario 4 with a 15-cent VMT fee. A map showing the Multiple Dense Cores is included as Figure 1. For this scenario, SANDAG analyzed how different VMT user fees could—in combination with aggressive land use and transportation investment assumptions described above—potentially achieve VMT reductions comparable to those assumed in the ARB Draft Scoping Plan (i.e., a 7.5 percent reduction in total light-duty VMT in 2035, relative to 2035 levels under adopted RTP/SCS’s). The VMT fees used in this scenario increase auto operating costs by 56 percent beyond the baseline cost agreed to by the four large MPOs for Round 2 SCS development.

**Scenario 7: San Diego Forward Revenue Constrained SCS + additional 25 percent penetration of non-carbon VMT beyond Advanced Clean Car standard**

This scenario combines the Regional Plan with an additional 25 percent penetration of non-carbon emitting VMT beyond the current Advanced Clean Car (ACC) standard set by ARB.

<table>
<thead>
<tr>
<th>Table 1:</th>
<th>SB 375 GHG Stress Test Scenario Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario</td>
<td>2035 GHG Reduction (per capita)</td>
</tr>
<tr>
<td>1.</td>
<td>Revenue Constrained Regional Plan SCS</td>
</tr>
<tr>
<td>2.</td>
<td>San Diego Forward + Multiple Dense Cores Land Use</td>
</tr>
<tr>
<td>3.</td>
<td>San Diego Forward EIR Alternative 2 (Advancing Transit)</td>
</tr>
<tr>
<td>4.</td>
<td>San Diego Forward EIR Alternative 2 + Multiple Dense Cores</td>
</tr>
<tr>
<td>5.</td>
<td>San Diego Forward 2035 Revenue Constrained SCS + 18-cent VMT User Fee</td>
</tr>
<tr>
<td>6.</td>
<td>San Diego Forward EIR Alternative 2 + Multiple Dense Cores + 15-cent VMT User Fee</td>
</tr>
<tr>
<td>7.</td>
<td>San Diego Forward Revenue Constrained SCS + additional 25 percent penetration of non-carbon VMT beyond ACC(^2) standard</td>
</tr>
</tbody>
</table>

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1 EIR Alternative 2 has minimal impacts in 2035 because the scenario is similar to the base SCS scenario. Alternative 2 accelerates deployment of transit to 2025 that would have occurred later in the plan.

2 The ACC Program is part of California’s requirements to reduce the State’s impact on climate change and improve ambient air quality. The components of the ACC program are the Low-Emission Vehicle regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with additional provisions to produce plug-in hybrid electric vehicles in the 2018 through 2025 model years.
Figure 1: Multiple Dense Cores
Introduction

On January 24, 2014, the Board of Directors accepted the San Diego Regional Plug-in Electric Vehicle Readiness Plan (Readiness Plan) as a guide for use by local governments, public agencies, and others to support plug-in electric vehicle (PEV) adoption and electric vehicle charging station (EVCS) deployment throughout the region. In July 2015, SANDAG and the Center for Sustainable Energy (CSE) launched the Plug-in San Diego program (Plug-in SD) to implement recommendations from the Readiness Plan through a combination of resource development, training, technical assistance, and outreach. On March 24, 2017, the Board of Directors accepted a grant award from the California Energy Commission (CEC) to continue and expand upon Plug-in SD through June 2019. This report summarizes the results and successes of first phase of Plug-in SD and goals and objectives of the second phase of Plug-in SD.

Plug-in San Diego Phase 1

During the first phase of Plug-in SD (July 2015 through June 2017), SANDAG and CSE worked to implement the following activities:

- Training and technical assistance for local government staff to improve the permitting and inspection process for EVCS
- Best practice resources on EVCS installations for local government staff, contractors, and other stakeholders
- Electric Vehicle (EV) Expert technical assistance for siting EVCS at multiunit dwellings (MUDs)
- PEV awareness activities at dealerships and workplaces

Results

The resources developed and technical assistance provided through Plug-in SD were well received by local governments, property owners, and other EV stakeholders. The results and successes of Plug-in SD are summarized in the following sections.

Support for Local Jurisdictions

Plug-in SD staff conducted five subregional local government trainings with approximately 70 attendees in total. Attendees included building officials, building inspectors, engineers, planners, development technicians, plans examiners, and transportation managers. The trainings provided local government staff guidance on improving the permitting and inspection process to ensure EVCS installers, contractors, and end users can receive timely and accurate approvals for EVCS installations. Plug-in SD resources aligned with new requirements from Assembly Bill 1236 (Chiu, 2015) for jurisdictions to adopt a streamlined permitting process for EVCS.
Electric Vehicle Expert Technical Assistance

Through the development of an EV Expert, SANDAG and CSE provided direct technical assistance on EVCS permitting and inspection, installation, and siting to local government staff, contractors, potential EVCS hosts, and other stakeholders. From September 2015 through April 2017, the EV Expert provided 85 responses to EV Expert inquiries. The chart below summarizes the number of inquiries by month.

<table>
<thead>
<tr>
<th>Type of Inquiry</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUD</td>
<td>20</td>
</tr>
<tr>
<td>Local Governments</td>
<td>9</td>
</tr>
<tr>
<td>Public Agency</td>
<td>7</td>
</tr>
<tr>
<td>Single Family (SF)</td>
<td>11</td>
</tr>
<tr>
<td>Work Place (WP) and SF</td>
<td>2</td>
</tr>
<tr>
<td>WP</td>
<td>14</td>
</tr>
<tr>
<td>Commercial/Retail</td>
<td>14</td>
</tr>
<tr>
<td>WP/Commercial/Retail</td>
<td>6</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>85</strong></td>
</tr>
</tbody>
</table>

The majority of inquiries came from MUDs and workplaces followed by local governments and other public agencies. Typical questions covered best practices to support EVCS deployment, including siting and installation, pricing, and employee/resident use policies. Depending on the complexity of the inquiry, Plug-in SD was able to provide references to existing documents, draft custom reports, and conduct site walks. After receiving EV Expert technical support, each inquiring party was asked to fill out a survey about the assistance they received. Ninety-three percent of EV Expert survey respondents rated the quality of the technical assistance they received as excellent.
Dealership Outreach

Through informal surveying of EV dealerships in the San Diego region, dealership staff expressed that interactive training modules would be the most effective way to inform their employees on PEVs. Plug-in SD reached over 93 percent (58 out of 62) of dealerships selling PEVs in the San Diego region, representing 13 different automakers, and provided information on PEV incentives and access to online training modules for salespersons.

In reaching those dealerships through Plug-in SD, staff was able to confirm or raise awareness of PEV incentives with each dealership, raise awareness of the importance of PEV incentives (financial and non-financial) with each dealership, and provide access to online training modules aimed at educating the least informed salespersons.

Workplace Engagement

Plug-in SD engaged over 300 individuals across 82 employers through seminars, events, and webinars focused on PEV benefits and workplace policies to supports PEVs and EVCS. Plug-in SD was able to leverage iCommute, the SANDAG transportation demand management program, to disseminate information to employers through the existing newsletter list and joint webinar.

Plug-in San Diego Phase 2

SANDAG has an agreement with the CEC for an additional two-year, $300,000 grant to continue and expand upon the existing Plug-in SD work. In conjunction with the current work being done, including technical assistance from the EV Expert and PEV awareness outreach and education, regional EVCS planning and analysis will be added to Plug-in SD. This includes regional mapping of EVCS infrastructure and needs based on regional travel patterns and gaps in the existing network, estimates of investments and/or incentive levels needed to encourage EVCS installation, and considerations for disadvantaged communities and equitable distribution of infrastructure.

Next Steps

Round two of Plug-in SD is scheduled to kick off in July 2017. EVCS planning and analysis will occur in the first year of the program along with implementing an outreach plan and holding freeway service patrol trainings. During the second year, an updated outreach plan will be implemented. Throughout both years, EV Expert services will be available. As the program progresses, SANDAG and CSE will provide updates to the Regional Energy Working Group on the successes and challenges Plug-in SD faces.

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STATE ACTIVITIES ON ENERGY AND CLIMATE CHANGE

Introduction

This report summarizes activities taking place at the state level related to energy and climate change, including regulatory proceedings, planning efforts, implementation of past legislation, and pending legislation. The Regional Energy Working Group (EWG) members are asked to provide input on topics of interest for future EWG meetings and discuss additional state activities and/or new legislation that help to implement the Regional Energy Strategy (RES) goals.

2017 State Legislation

The deadline for bills to pass out of their house of origin was June 2, 2017. The last day for policy committees to hear and report non-fiscal bills is July 21, 2017. Attachment 1 summarizes bills related to energy and climate change.

Energy and Climate Change Activities

While not an exhaustive list, the following sections summarize activities underway across several state agencies related to greenhouse gas (GHG) reduction, energy efficiency, renewable energy, alternative fuels and zero-emission vehicles (ZEVs), and climate adaptation. Staff monitor and/or participate in these activities as they relate to the implementation of the RES. SANDAG also is a member of groups that are active in statewide energy and climate change efforts, including the San Diego Regional Climate Collaborative, Local Government Sustainable Energy Coalition, Alliance of Regional Collaboratives for Climate Adaptation, and San Diego Regional Clean Cities Coalition.

Greenhouse Gas Reduction

Cap-and-Trade Programs

Governor Jerry Brown included $2.2 billion in the proposed FY 2017–2018 Budget for Cap-and-Trade expenditures. In addition, the Governor proposed trailer bill language that would make $1.3 billion of this funding contingent on a two-thirds urgency vote to confirm the Air Resources Board’s (ARB) authority to administer the Cap-and-Trade auctions beyond 2020.

Over the past year, Cap-and-Trade auctions have experienced significant volatility. One of the factors that may have contributed to this revenue volatility is the perceived legal uncertainty about Cap-and-Trade beyond 2020. The administration continues to make the extension of the Cap-and-Trade Program a priority, and there are various legislative proposals related to this effort. However, as an agreement has not yet been reached, the legislature did not include Cap-and-Trade expenditures in the FY 2017–2018 Budget, passed on June 15, 2017.
Renewable Energy

Power Charge Indifference Adjustment and Portfolio Allocation Methodology

The Power Charge Indifference Adjustment (PCIA) is a charge assessed by investor-owned utilities (IOUs) on departing-load customers to recover costs associated with long-term power purchases made on their behalf prior to exit from bundled service. Both community choice aggregators (CCAs) and IOUs have expressed issues with the PCIA. On April 25, 2017, Southern California Edison, Pacific Gas and Electric Company, and San Diego Gas & Electric (SDG&E) submitted a Joint Application to the California Public Utilities Commission (CPUC) (A. 17-04-018) for approval of the Portfolio Allocation Methodology, a new methodology to replace the PCIA. The California Community Choice Association (CalCCA), which represents operational and planned CCAs, filed a motion to dismiss the Joint Application on May 30, 2017, and requested that the CPUC open a new rulemaking proceeding to address PCIA reform and related issues. The Joint Application is available on the CPUC website at docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M184/K627/184627482.PDF, and the CalCCA motion is available at docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M188/K975/188975690.PDF.

Zero-Emission Vehicles and Alternative Fuels

Volkswagen Settlement — California Zero-Emission Vehicle Investments

As required by Appendix C to the 2.0-Liter Partial Consent Decree entered by the U.S. District Court for the Northern District of California on October 25, 2016, Volkswagen Group of America (VW) is investing $800 million over the next ten years in ZEV infrastructure, education, and access activities to support increased adoption of ZEV technology in California. VW has created a wholly-owned subsidiary called Electrify America that will be focused on fulfilling the ZEV investment commitments under the Appendix C. In January 2017, VW solicited proposals and recommendations to inform the first 30-month investment plan. The City of San Diego submitted a proposal with eight projects in collaboration with the following partners: University of California, San Diego; San Diego International Airport; Port of San Diego; and SANDAG. In March 2017, VW submitted the California ZEV Investment Plan: Cycle 1 to ARB for review. On May 24, 2017, ARB submitted a letter to VW requesting that Electrify America submit a ZEV Investment Plan Supplement that addresses specific shortcomings and provides additional information, analysis, and detail. More information is available on the ARB website at arb.ca.gov/msprog/vw_info/vsi/vw-zevinvest/vw-zevinvest.htm and at electrifyamerica.com.

Senate Bill 350 Transportation Electrification

The CPUC is collaborating with ARB and the CEC to implement requirements from Senate Bill (SB) 350 (De León, 2015), which orders the CPUC to direct the six IOUs to file applications for programs that accelerate widespread transportation electrification. In January 2017, the three large IOUs filed applications containing proposed transportation electrification projects totaling an investment of $1 billion. SDG&E’s application includes a proposed investment of $18 million across six priority review projects: Airport Ground Support Equipment, Electrify Local Highways, Medium Duty/Heavy Duty and Forklift Port Electrification, Fleet Delivery Services, Green Taxi/Shuttle/Rideshare, and Dealership Incentives; and $225 million for a standard review project that would install 90,000 residential Level 2 electric vehicle charging stations. The proposed standard review projects of the IOUs will be discussed at a workshop on July 11, 2017. More information is available at cpuc.ca.gov/sb350te.
Climate Adaptation and Resiliency

Integrated Climate Adaptation and Resiliency Program

SB 246 (Wieckowski, 2015) directs the Office of Planning and Research (OPR) to establish the Integrated Climate Adaptation and Resiliency Program (ICARP) to coordinate state, regional, and local activities. ICARP is responsible for coordinating and maintaining the State Adaptation Clearinghouse, which serves as a centralized source of information for climate-adaptation-related resources (e.g., case studies, policy and guidance, science and projections). These resources can assist in guiding decision makers at the state, regional, and local levels when planning for and implementing climate adaptation projects. More information is available at opr.ca.gov/s_icarpclearinghouse.php. ICARP also is responsible for organizing a Technical Advisory Council (TAC), which facilitates the development of strategies to increase California's resilience to climate change. The most recent TAC meeting was on June 16, 2017, and discussed SB 1 (Steinberg, 2012) adaptation planning grant funding to be made available in the fall of this year. This funding would be administered by Caltrans and would focus on adaptation as it relates to transportation and the Sustainable Communities Strategy. More information on the June 16 meeting can be found at opr.ca.gov/s_tacmm061617.php.

Rising Seas in California: An Update on Sea Level Rise Science

The California Ocean Protection Council (OPC) and the California Natural Resources Agency (CNRA), in collaboration with the OPR, CEC, and California Ocean Science Trust, are updating statewide guidance to reflect recent advances in ice loss science and projections of sea level rise. The updated guidance will focus on the needs of state agencies and local governments and will help cities and counties as they comply with a new law that requires them to incorporate climate change into their planning efforts. The updated guidance also will assist state agencies as they prepare for and adapt to climate change, as directed by Executive Order B-30-15. A public draft will be made available by October 2017, with a final document adopted in early 2018. More information is available at opc.ca.gov/climate-change/updating-californias-sea-level-rise-guidance.

Safeguarding California Plan: 2017 Update

Assembly Bill (AB) 1482 (Gordon, 2015) directs the CNRA to update Safeguarding California, California's Climate Adaptation Strategy, by July 2017 and every three years thereafter. The 2017 update builds on eight years of action by various state departments and shows progress since the release of the first California Climate Adaptation Strategy in 2009. This 2017 update provides recommendations and next steps to advance adaptation in ten sectors that include water, agriculture, public health, and biodiversity. Public comment on the draft plan closes on June 23. The draft plan and more information are available at resources.ca.gov/climate/safeguarding.

Next Steps

Staff will continue to provide updates to the EWG on relevant state legislation and activities.


Key Staff Contact: Allison Wood, (619) 699-1973, allison.wood@sandag.org
AB 33 (Quirk D) **Transportation electrification: electric vehicle service equipment: electrical corporations: rates**

**Status:** 6/1/2017-In Senate. Read first time. To Committee on Rules for assignment.

**Summary:** Would require the California Public Utilities Commission (CPUC), by March 30, 2018, in consultation with the State Air Resources Board (ARB) and the Energy Commission, to authorize electrical corporations to offer programs and investments in electric vehicle service equipment, as defined, installed in residential garages of customers who purchase a used electric vehicle. The bill would require that the programs and investments be designed to accelerate widespread transportation electrification, achieve ratepayer benefits, reduce dependence on petroleum, meet air quality standards, and reduce emissions of greenhouse gases.

AB 79 (Levine D) **Electrical generation: hourly greenhouse gas emissions: electricity from unspecified sources**

**Status:** 6/1/2017-In Senate. Read first time. To Committee on Rules for assignment.

**Summary:** Would require, by January 1, 2019, ARB, in consultation with the Independent System Operator (ISO), to update its methodology for the calculation of emissions of greenhouse gases associated with electricity from unspecified sources, a term defined in existing law but revised for this purpose, purchased within California balancing authority areas, as defined, and, distinctly, associated with electricity from unspecified sources imported into California from different subregions of the Western Electricity Coordinating Council.

AB 419 (Salas D) **Zero net energy residential buildings: report**

**Status:** 5/24/2017-Referred to Committee on Rules for assignment.

**Summary:** Current law requires the Energy Commission to develop and implement a comprehensive program to achieve greater energy savings in current residential and nonresidential building stock. This bill would require the commission, no later than July 1, 2019, to report to the appropriate fiscal and policy committees of the Legislature on the commission’s progress in implementing the New Residential Zero Net Energy Action Plan 2015-2020, as specified.

AB 523 (Reyes D) **Electric Program Investment Charge: allocation**

**Status:** 6/13/2017-From committee chair, with author’s amendments: Amend, and re-refer to committee. Read second time, amended, and re-referred to Committee on Energy, Utilities and Communications.

**Summary:** Would require the Energy Commission to allocate at least 25% of the moneys in the Electric Program Investment Charge Fund for technology demonstration and deployment at sites located in, or benefiting, disadvantaged communities, as defined. The bill would require the Energy Commission to allocate at least 10% of the moneys in the fund for technology demonstration and deployment at sites located in, or benefiting, low-income communities, as defined. The bill would require the Energy Commission to give preference for funding to clean energy projects under the EPIC program that benefit residents of low-income or disadvantaged communities. This bill contains other existing laws.
AB 546 (Chiu D) Land use: local ordinances: energy systems
Status: 6/1/2017-In Senate. Read first time. To Committee on Rules for assignment.
Summary: Would, on or before September 30, 2018, for a city, county, or city and county with a population of 200,000 or more residents, or January 31, 2019, for a city, county, or city and county with a population of less than 200,000 residents, require the city, county, or city and county to make all documentation and forms associated with the permitting of advanced energy storage, as defined, available on a publicly accessible Internet Web site, as specified.

AB 630 (Cooper D) Vehicles: retirement and replacement
Status: 6/1/2017-In Senate. Read first time. To Committee on Rules for assignment.
Summary: Would establish the Plus Up Program to be administered by ARB to focus on achieving reductions in the emissions of greenhouse gases, improvements in air quality, and benefits to low-income state residents through the replacement of high-polluting motor vehicles, as specified. The bill also would require the state board, no later than July 1, 2018, to update the guidelines for the enhanced fleet modernization program, as specified.

AB 797 (Irwin D) Solar thermal systems
Status: 6/8/2017-Read second time and amended. Re-referred to Committee on Appropriations.
Summary: The Solar Water Heating and Efficiency Act of 2007, until August 1, 2018, requires the CPUC, if it determines that a solar water heating program is cost effective for ratepayers and in the public interest, to implement a program to promote the installation of 200,000 solar water heating systems. This bill would revise the program to, among other things, promote the installation of solar thermal systems throughout the state, reserve 50% of the total program budget for the installation of solar thermal systems in low-income residential housing or in buildings in disadvantaged communities, require an assessment of the cost-effectiveness of the entire program through July 31, 2019, to be completed by December 31, 2019, and extend operation of the program through July 31, 2020.

AB 1082 (Burke D) Transportation electrification: electric vehicle charging infrastructure: schools
Status: 6/1/2017-In Senate. Read first time. To Committee on Rules for assignment.
Summary: Would require a large electrical corporation, defined as an electrical corporation with 100,000 or more service connections in California, to file with the CPUC, by July 30, 2018, a program proposal for the installation of vehicle charging stations at school facilities, giving priority to schools located in disadvantaged communities, as defined. The bill would require the PUC to review and approve, or modify and approve, the program proposal filed by the large electrical corporation by December 31, 2018.

AB 1083 (Burke D) Transportation electrification: electric vehicle charging infrastructure: state parks and beaches
Status: 6/1/2017-In Senate. Read first time. To Committee on Rules for assignment.
Summary: Would require each large electrical corporation, defined as an electrical corporation with 100,000 or more service connections in California, in consultation with the CPUC, Energy Commission, and ARB, to develop a plan to create a robust charging network at all state parks and beaches within its service territory by July 31, 2018. The bill would require a large electrical corporation to file with the PUC, by September 30, 2018, a program proposal for the installation of electric vehicle charging stations at state parks and beaches.
**AB 1088 (Eggman D) Multifamily residential housing: energy programs**

**Status:** 6/1/2017-In Senate. Read first time. To Committee on Rules for assignment.

**Summary:** Would require the Energy Commission, by January 1, 2020, and in consultation with relevant state agencies and the public, to establish nonbinding statewide goals for reducing energy consumption and emissions of greenhouse gases from multifamily residential properties by January 1, 2030, taking into consideration the state’s requirements for reducing emissions of greenhouse gases and the climate equity, doubling of energy efficiency, and increased use of renewable energy resources requirements set forth in the Clean Energy and Pollution Reduction Act of 2015.

**AB 1239 (Holden D) Building standards: electric vehicle charging infrastructure**

**Status:** 6/1/2017-In Senate. Read first time. To Committee on Rules for assignment.

**Summary:** The California Building Standards Law requires the Department of Housing and Community Development to propose mandatory building standards for the installation of future electric vehicle charging infrastructure for parking spaces in multifamily dwellings. That law also requires the department and the California Building Standards Commission to use specified provisions of the California Green Building Standards Code as a starting point for those mandatory building standards. This bill would require the department and the commission to research, propose, and adopt mandatory building standards regarding electric vehicle capable parking spaces for multifamily housing, commercial, and parking structure construction and renovation, as specified.

**AB 1405 (Mullin D) Electricity: net-load peak**

**Status:** 6/5/2017-In Senate. Read first time. To Committee on Rules for assignment.

**Summary:** Would require the CPUC and the governing boards of local publicly owned electric utilities, as a part of the integrated resource plan process, to establish policies and procedures to ensure that each load-serving entity or local publicly owned electric utility, as applicable, meets net-load peak energy needs and reliability needs while reducing the need for new electricity generation in achieving the state’s energy goals at the least cost to ratepayers. Because this bill would impose additional duties on local publicly owned electric utilities, this bill would impose a state-mandated local program.

**AB 1452 (Muratsuchi D) Parking: exclusive electric charging and parking on public streets**

**Status:** 6/13/2017-From committee: Do pass and re-refer to Committee on Appropriations. (Ayes 10. Noes 3.) (June 13). Re-referred to Committee on Appropriations.

**Summary:** Would authorize a local authority, by ordinance or resolution, to designate stalls or spaces on a public street within its jurisdiction for the exclusive purpose of charging and parking a vehicle that is connected for electric charging purposes. The bill would also authorize the removal of a vehicle from a designated stall or space on a public street if the vehicle is not connected for electric charging purposes, under specified conditions. By expanding the scope of a crime, the bill would impose a state-mandated local program.
**SB 71** (Wiener D) **Electricity: solar energy systems**
Status: 6/12/2017-Referred to Committees on Utilities and Energy and Housing and Community Development
Summary: Regulations on building standards adopted by the Energy Commission require certain residential and nonresidential buildings to have a solar zone, as defined, on the roof of the building that is designated and reserved for solar electric or solar thermal systems and that meets certain specifications relating to minimum area, orientation, and shading, among other things. This bill would require the Energy Commission to consider requiring, and would authorize the Energy Commission to update the building efficiency standards to require, a rooftop solar energy generation system, appropriately sized to be cost effective, to be installed in the solar zone of those buildings, during the construction of those buildings, by January 1, 2020, for residential buildings and by January 1, 2023, for nonresidential buildings.

**SB 100** (De Leon D) **California Renewables Portfolio Standard Program: emissions of greenhouse gases**
Status: 6/12/2017-Referred to Committees on Utilities and Energy and Natural Resources.
Summary: The Legislature has found and declared that its intent in implementing the California Renewables Portfolio Standard Program is to attain, among other targets for sale of eligible renewable resources, the target of 50% of total retail sales of electricity by December 31, 2030. This bill would revise the above-described legislative findings and declarations to state that the goal of the program is to achieve that 50% renewable resources target by December 31, 2026, to achieve a 60% target by December 31, 2030, and for all electricity sold at retail to be generated by eligible renewable energy resources by December 31, 2045.

**SB 242** (Skinner D) **Property Assessed Clean Energy (PACE) program: program administrator**
Status: 5/31/2017-In Assembly. Read first time. Held at Desk.
Summary: Would require a program administrator that administers a PACE program on behalf of a public agency to comply with certain requirements when approving an assessment contract for the installation of an eligible measure, as well as the administration of that contract, including requiring the contract to comply with specified criteria and requirements. The bill would require a program administrator to obtain a sworn declaration of income containing specified financial information from each property owner, and would provide that a declarant who willfully states as true a material fact on that declaration that he or she knows to be false be subject to a civil penalty of a specified amount.

**SB 338** (Skinner D) **Net-load peak energy**
Status: 6/8/2017-Referred to Committee on Utilities and Energy.
Summary: Current law requires the CPUC to adopt a process for each load-serving entity to file an integrated resource plan and a schedule for periodic updates to the plan to ensure that the load-serving entity meets, among other things, the state’s greenhouse gas emissions reduction targets and the requirement to procure at least 50% of its electricity from eligible renewable resources by December 31, 2030. This bill would require the commission and the governing boards of local publicly owned electric utilities to consider, as a part of the integrated resource plan process, establishing policies and procedures to ensure that each load-serving entity or local publicly owned electric utility, as applicable, meets net-load peak energy needs and reliability needs while reducing the need for new electricity generation and new transmission in achieving the state’s energy goals at the least cost to ratepayers.
SB 356 (Skinner D) Net-load peak energy
Status: 6/8/2017-Referred to Committee on Utilities and Energy.
Summary: Current law requires the Public Utilities Commission to adopt a process for each load-serving entity to file an integrated resource plan and a schedule for periodic updates to the plan to ensure that the load-serving entity meets, among other things, the state’s greenhouse gas emissions reduction targets and the requirement to procure at least 50% of its electricity from eligible renewable resources by December 31, 2030. This bill would require the commission and the governing boards of local publicly owned electric utilities to consider, as a part of the integrated resource plan process, establishing policies and procedures to ensure that each load-serving entity or local publicly owned electric utility, as applicable, meets net-load peak energy needs and reliability needs while reducing the need for new electricity generation and new transmission in achieving the state’s energy goals at the least cost to ratepayers.

SB 366 (Leyva D) Electrical corporations: Green Tariff Shared Renewables Program
Status: 6/12/2017-Referred to Committee on Utilities and Energy.
Summary: The Green Tariff Shared Renewables Program requires an electrical corporation with 100,000 or more customers in California to file with the CPUC an application requesting approval of a tariff to implement a program enabling ratepayers to participate directly in offsite electrical generation facilities that use eligible renewable energy resources, consistent with certain legislative findings and statements of intent. This bill would authorize the PUC to increase the 600-megawatt statewide limitation up to 800 megawatts, to the extent necessary to accommodate participation by low-income customers and projects located in disadvantaged communities, as specified.

SB 498 (Skinner D) Vehicle fleets: zero-emission vehicles
Status: 6/12/2017-Referred to Committees on Transportation and Accountability and Administrative Review.
Summary: Would require ARB, in consultation with stakeholders, to review all programs affecting the adoption of zero-emission vehicles in the state and report to the Legislature no later than January 1, 2019, policy recommendations for increasing the use of zero-emission vehicles in the state, as specified. This bill contains other related provisions and other existing laws.
SB 375 Greenhouse Gas Reduction Target Setting Process
Regional Energy Working Group — June 22, 2017

Background

• SB 375 requires CA Air Resources Board to consider new GHG reduction targets
• SANDAG technical stress tests
• SANDAG recommended 2035 target to ARB on April 28, 2017
Meeting California’s 2020 GHG Emissions Target

- Advanced Clean Cars: 4%
- Low Carbon Fuel Standard: 20%
- Statewide SB 375 Targets: 4%
- Tire Pressure Program: 1%
- Ship Electrification: 0%
- Heavy Duty Aerodynamics: 1%
- Energy Efficiency and Conservation: 16%
- Solar Hot Water: 0%
- Renewable Energy Standard (20-33%): 15%
- Million Solar Roofs: 1%
- High Global Warming Potential (GWP) Gases: 7%
- Waste: 2%
- Cap-and-Trade Reductions: 29%

Source: 2014 Scoping Plan (ARB)

Existing SB 375 Targets and Regional Plan Performance

SB 375 Greenhouse Gas Reduction Targets and Regional Plan Greenhouse Gas Emissions Reduction Results
Existing SB 375 Targets and Regional Plan Performance

SB 375 Greenhouse Gas Reduction Targets and Regional Plan
Greenhouse Gas Emissions Reduction Results

- Existing SB 375 Targets
- Our Region, Our Future 2050 RTP/SCS (2011)

Existing SB 375 Targets and Regional Plan Performance

SB 375 Greenhouse Gas Reduction Targets and Regional Plan
Greenhouse Gas Emissions Reduction Results

- Existing SB 375 Targets
- Our Region, Our Future 2050 RTP/SCS (2011)
- San Diego Forward: The Regional Plan GHG Reductions (2015)
Stress Tests: Adopted Land Use Plans

1999 Forecast

2013 Forecast

Technical Stress Tests

• Seven stress tests conducted
  – Regional Plan scenario
  – Alternatives
    • Land use and advanced transit phasing
      ➢ 0 to 2 percent additional per capita reduction
    • Pricing
      ➢ 6 to 7 percent additional per capita reduction
      ➢ Adds $150 to $180 per 1,000 miles of driving
    • Vehicle technologies
      ➢ Approximately 20 percent additional per capita reduction
      ➢ EV market penetration 4X faster than ARB estimates
Factors That Could Affect GHG Performance

**Could Improve Performance**
- Lower Income Estimates
- SB1 Fuel Cost Increases

**Could Diminish Performance**
- Higher Vehicle Fuel Efficiency
- Lower Cost of Fuel (Federal Estimate)
- Increasing Auto Ownership

Current Status

- SANDAG Board of Directors recommended an 18 percent target for 2035
- ARB released proposed MPO 2020 and 2035 targets for public comment (through July 28, 2017)
  - Includes 21 percent target for 2035 for SANDAG and SCAG
  - Recommendation is lower for the Bay Area and Sacramento regions
  - ARB: Achieving the 2030 SB 32 target requires more VMT reductions from SCSs and state level policies
Next Steps

• SANDAG provides comments on draft MPO targets – summer 2017
• ARB target approval – fall 2017
• Regional Plan development – 2017/2018
• Draft Regional Plan and EIR – spring 2019
• Final Regional Plan and EIR adoption – fall 2019
Plug-in San Diego Update
Regional Energy Working Group

June 22, 2017

Plug-in SD Phase I Objectives

- Streamline permitting and inspection processes
- Improve installations
- Workplace and Multi-Unit Dwelling siting
- Establish regional EV expert
- Improve PEV awareness

Services for Target Audiences

<table>
<thead>
<tr>
<th>Local Governments</th>
<th>Employers</th>
<th>Contractors</th>
<th>Multifamily Dwelling Building Owners</th>
<th>Electric Vehicle Dealerships</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Permitting and Inspection Best Practices</td>
<td>• Workplace Charging Workshops: &quot;PEV 101&quot;</td>
<td>• Permitting and Installation Standards</td>
<td>• EVCS Siting Assistance</td>
<td>• Consumer Info and Incentive Details</td>
</tr>
<tr>
<td>• EV Expert Consultations</td>
<td>• Incentives and Policies</td>
<td>• Market Development</td>
<td>• Connection Cost and Fee Info</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• EV Expert Consultations</td>
<td></td>
</tr>
</tbody>
</table>
Local Government Resources

Best Practices Reports

- Common barriers to EVCS installations
- Existing permit processes
- EVCS installation codes and considerations
- Best practices for permitting, inspection, and installation
Correction Sheets and Checklists

- Broken down by type: Residential, Non-Residential, MUD
- Plan review and inspection
- More consistent applications, plans and installations
- Developed with local ICC chapter

Sub-regional Workshops

- **Five** sub-regional workshops held in 2016
- 70 attendees total from 10 jurisdictions
- Presentation included:
  - AB 1236 Requirements
  - Regional Best Practices and Plug-in SD Resources
  - Technical Assistance and Installation Scenarios
- Met individually with cities unable to attend a workshop
Key Takeaways – Local Government Resources

• All 19 jurisdictions received training
• Staff need both trainings and individualized support
• More forums for inspectors to learn about EVCS requirements
• Correction sheets and checklists helpful in complying with AB 1236 and supporting goals for EV deployment
• Continued guidance on ADA requirements

Workplace and Multi-Unit Dwelling Engagement
Leveraging Existing Networks

• Coordination with others
  – iCommute
    • SANDAG transportation demand management team
    • Existing network of workplaces
    • Newsletters, staff resources, webinar
  – SDG&E Power Your Drive
    • Sharing ineligible workplaces/MUDs with Plug-in SD
Outreach Results

• Public Facing Outreach:
  – Solterra Street Fair
  – Electric Vehicle Day
  – San Diego Auto Show
  – Alexandria properties

• Lunch and Learn Presentations:
  – County of San Diego (40 employees)
  – Port of San Diego (20 tenants)

• Presentations to apartment associations and community groups

• Apartment owner magazine article

Key Takeaways – Workplace and MUD Engagement

• Reached 82 employers and over 300 individuals

• Hard to reach decision-makers at apartment and condo buildings, particularly 6-12 unit buildings

• General knowledge of PEVs/EVCS remains low

• Outreach can be improved by tailoring marketing to specific groups

• Cost remains greatest challenge to EVCS installations
EV Expert Technical Assistance

Technical Assistance: EV Expert

- Technical infrastructure questions
- Call/email or set up an in-person meeting
- EV Expert FAQ
  www.energycenter.org/pluginsd
  Email
  EVexpert@energycenter.org
  Phone (866) 967-5816
EV Expert Consultations

• Topics Covered
  – Code requirements
  – Charging station brands and networks
  – Siting
  – Incentives and funding
  – Pricing
  – Accessibility requirements

• Response documents provided
  – Customized by inquiry, referencing existing resources when appropriate

Types of EV Expert Inquiries

• Received inquiries from several types of potential EVCS hosts

<table>
<thead>
<tr>
<th>Type of Inquiry</th>
<th>Count</th>
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<tbody>
<tr>
<td>MUD</td>
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<tr>
<td>Workplace (WP)</td>
<td>14</td>
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<tr>
<td>Commercial/Retail</td>
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<tr>
<td>Single Family (SF)</td>
<td>11</td>
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<tr>
<td>Local Government (LG)</td>
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<tr>
<td>Other Public Agency</td>
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<tr>
<td>WP and SF</td>
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<tr>
<td>Other</td>
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<tr>
<td>Total</td>
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EV Expert Survey

• 14 out of 27 surveys returned

<table>
<thead>
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<th>Effectiveness Survey Respondents</th>
<th>Count</th>
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<td>Public agency</td>
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<tr>
<td>Workplace</td>
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<tr>
<td>Multifamily residential community</td>
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<tr>
<td>Commercial/retail</td>
<td>1</td>
</tr>
<tr>
<td>Other *</td>
<td>4</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

*Other includes: Yacht Club, Residential-townhouse, Single family residence

EV Expert Survey Results

• 93% of survey respondents (13 out of 14) rated the quality of the technical assistance they received as excellent.

<table>
<thead>
<tr>
<th>Additional Resources Survey Respondents Noted</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding (Rebates, grants, incentives)</td>
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<tr>
<td>Pricing policy</td>
<td>4</td>
</tr>
<tr>
<td>Vendor information</td>
<td>4</td>
</tr>
<tr>
<td>Recommendations on monitoring/service plans</td>
<td>1</td>
</tr>
<tr>
<td>Site walk to identify charger locations</td>
<td>2</td>
</tr>
<tr>
<td>Comparison table of various charging tools (consistent units of measurement such as defining amps)</td>
<td>1</td>
</tr>
</tbody>
</table>
Key Takeaways – EV Expert

- EV Expert service was well-received
- Complemented SDG&E Power Your Drive
- More can be done to advertise EV Expert service
- Barriers remain:
  - Expensive installations
  - Electrical Issues
  - Mobile Home Parks
  - Local planning and deployment goals

Dealership Engagement
Dealership Outreach

- Coordination with Clean Vehicle Rebate Project
- Based on input from dealerships, created interactive training module rather than brochure

Dealership Training Module

- Online training modules covered:
  - *EVs and the Power of Incentives*
    - Current PEV incentives
  - *Charging at Home and On-the-Go*
    - PEV charging characteristics
- Each module is 10 minutes, featuring animated slides and interactive quiz activities
- Aimed at educating the least informed salespersons
Dealership Engagement

Key Takeaways – Dealership Engagement

- Raised awareness of PEV incentives with each dealership
- Highlighted importance of PEV incentives (financial and non-financial)
- As of May 2017, there were 59 unique eLearning page visits
Plug-in SD Phase II

Phase I Lessons Learned

- Need continued engagement to follow through to adoption of PEVs/EVCS
- Plug-in SD complements SDG&E’s program with services for potential EVCS hosts
- High demand for EV Expert services as third party neutral source of information
Plug-in SD Phase II

• EV Expert
  – Develop factsheets for common challenges
  – Update FAQs
  – Track incentives

• PEV Awareness
  – Expand Outreach and Engagement
  – Freeway Service Patrol training

• Planning
  – Infrastructure mapping and needs assessment
  – Disadvantaged communities

Questions?

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