MEETING NOTICE
AND AGENDA

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

Thursday, January 23, 2014
11:30 a.m. to 1 p.m.

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

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

AGENDA HIGHLIGHTS

• LOCAL GOVERNMENT PARTNERSHIPS IN THE SAN DIEGO REGION

• REGIONAL ENERGY NETWORKS

• SAN DIEGO FORWARD: THE REGIONAL PLAN: EMERGING TECHNOLOGIES WHITE PAPER

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WELCOME AND INTRODUCTIONS

APPROVAL OF MEETING SUMMARY

The Regional Energy Working Group (EWG) is asked to approve the November 21, 2013, meeting summary.

PUBLIC COMMENTS/MEMBER COMMENTS

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. Public speakers are limited to three minutes or less per person. EWG members also may provide information and announcements under this agenda item.

CONSENT

ENERGY WORKING GROUP 2014 MEETING SCHEDULE AND UPDATED CHARTER

Attached are the calendar year 2014 meeting dates for the EWG. At its December 6, 2013, meeting, the Regional Planning Committee approved minor updates to the EWG Charter to include references to San Diego Forward: The Regional Plan.

REPORTS (5 through 7)

LOCAL GOVERNMENT PARTNERSHIPS IN THE SAN DIEGO REGION

As a follow up to the discussion at the November EWG meeting, a representative from each local government partnership in the San Diego region will present a brief overview of its energy efficiency programs as information for the EWG.

REGIONAL ENERGY NETWORKS

The EWG will continue its discussion of Regional Energy Networks (RENS). Staff will provide an overview of activities performed by existing RENs in the Bay Area and Southern California. The EWG is asked to discuss opportunities for the San Diego region.

SAN DIEGO FORWARD: THE REGIONAL PLAN: EMERGING TECHNOLOGIES WHITE PAPER

Staff is preparing a white paper on emerging technologies for use in the development of San Diego Forward: The Regional Plan. James Dreisbach-Towle will present the white paper outline for feedback from EWG members.

UPCOMING MEETINGS

The next meeting of the EWG is scheduled from 11:30 a.m. to 1 p.m. on Thursday, February 27, 2014.
ACTION REQUESTED: APPROVE

NOVEMBER 21, 2013, MEETING SUMMARY

ITEM #1: WELCOME AND INTRODUCTIONS

Chair Carrie Downey and Vice Chair Scott Anders, University of San Diego Energy Policy Initiatives Center, were not present at the start of the Regional Energy Working Group (EWG) meeting. Pamela Bensoussan, City of Chula Vista, nominated Mike Evans, San Diego Regional Chamber of Commerce, as the temporary chair for the meeting, and Don Mosier, City of Del Mar, seconded the motion. Motion passed without opposition.

Mr. Evans called the meeting to order at 11:40 a.m.

ITEM #2: APPROVAL OF MEETING SUMMARIES

Michelle White, Unified Port District of San Diego, motioned to approve the meeting summary from September 25, 2013, and Dr. Mosier seconded the motion. The motion carried without opposition.

Dr. Mosier motioned to approve the meeting summary from October 24, 2013, and Ms. Bensoussan seconded the motion. The motion carried without opposition.

ITEM #3: PUBLIC COMMENTS/MEMBER COMMENTS

Allison Wood, SANDAG, announced that the California Energy Commission (Commission) released a program opportunity notice for electric vehicle charging infrastructure. There was a pre-application workshop held on November 22, 2013. The opportunity is unique in that it includes funding for public agencies, and she encouraged EWG members to review the funding opportunity. She added that the Commission is focusing on destination, corridor, and workplace charging as well as chargers for multi-unit dwellings.

Ms. Wood also shared that the Climate Leadership Conference will be held in San Diego at the Hyatt in Mission Bay from February 24-26, 2014. She informed that she will send an email to the EWG attendees with the details. The scheduled conference speakers are from private industries as well as government. The Environmental Protection Agency’s (EPA) Climate Leadership Awards are held at the conference. December 12, 2013, is the last day for early registration.

Mike Evans shared that the EPA is holding a listening session across the country for its new source performance standards for limiting carbon dioxide (CO2) from existing power plants. The rules would require coal plants to transition to a fuel blend or natural gas.
John Wotzka, member of the public, discussed energy-related news and provided written comments that are summarized here: San Diego Gas and Electric (SDG&E) wants to collect $808 million for its investment in San Onofre Nuclear Generating Station (SONGS); the Nuclear Regulatory Industry cited Southern California Edison and Mitsubishi Heavy Industries with a “notice of non-conformance” for the faltered generators that were installed at SONGS in 2010 and 2011 due to its faulted design modeling software; a public briefing is scheduled for the SONGS decommissioning; Energy Solutions out of Salt Lake City, Utah are devising speedier decommissioning solutions for SONGS; General Atomics has a new design for a nuclear reactor; at Russia’s annual ATOM-EXPO, Rosatom offered a service to build, operate, and clean up plants for countries contracting their services; radionuclides in the Pacific Ocean’s currents from the Fukushima Daiichi nuclear plant are expected to reach San Diego by 2016; French semiconductor maker Soitec will provide solar modules from its San Diego factory to build a demonstration-scale power plant for the U.S. military at Fort Irwin in the Mojave Desert; there was an Environmental Protection Agency emissions ruling that set the emissions limits for large natural-gas fired turbines, small-natural gas fired turbines, and coal-fired plants; Governor Brown signed legislation regulating fracking in California; investors put $15 million to work to build hydrogen fueling stations; researchers at the University of Hawaii ran thirty-nine different computer models to develop a new climate change study; the budget for mapping California’s fault lines decreased from $9.1 million in 2001 to $2.9 million in 2013; Chinese government will limit the number of motor vehicles to 6 million in 2017, compared to the 5.18 million vehicles currently on the road; and Singapore released its latest version of the Green Building Master Plan for sustainable development.

**ITEM #4: REPORTS ON MEETINGS AND EVENTS ATTENDED ON BEHALF OF SANDAG REGIONAL ENERGY WORKING GROUP**

There were no updates from the Chair at this meeting.

**ITEM #5: UPDATE ON SAN DIEGO FORWARD: THE REGIONAL PLAN**

Phil Trom, SANDAG, provided a brief update on San Diego Forward: The Regional Plan (Plan) and shared the process and timeline for the plan with the EWG, which is to be completed in 2015. He explained that the Board adopted the vision and goals for the Plan in May, and that policy objectives were developed to implement the goals. Next, Mr. Trom described the alternative land use and transportation scenario work underway to identify ways to further reduce greenhouse gas (GHG) emissions. Then, Mr. Trom gave a brief overview of the transportation network development and explained that SANDAG staff is currently evaluating the unconstrained network by looking at all of the projects (including transit, bus, heavy rail, light rail, airport facilities, and bicycle and pedestrian facilities) that are necessary in the region out to 2050. The next step will be for staff to analyze the revenues available and then come up with a series of revenue-constrained networks.

EWG Members had the following questions and comments for Mr. Trom:

- Mr. Evans asked about the criteria used in evaluating the projects and if a greenhouse gas (GHG) component in included. Mr. Trom answered that the evaluation criteria is used to rank individual projects, and the performance measures are used to evaluate transportation networks. The evaluation criteria were approved by the board in October. Mr. Trom explained that GHG analysis is conducted in both evaluation criteria and performance measures.
• Ms. Wood encouraged EWG members to inform her of any other topics of interest related to the Plan for future agenda topics.

• Jason Anderson, CleanTECH, and Mr. Evans asked about the status of the white papers in development. Mr. Trom answered that the white papers are at various stages, but they are all being developed now; the public health white paper is nearing completion and staff is working on the outline right now for the emerging technologies white paper.

• Ms. Bensoussan shared that there was a healthy discussion about the evaluation criteria at the Regional Planning Committee (RPC) meeting and asked if any of the evaluation criteria was changed after the RPC meeting and before Board adoption. Mr. Trom answered that there were no changes.

ITEM #6: SAN DIEGO FORWARD: THE REGIONAL PLAN: CLIMATE CHANGE MITIGATION AND ADAPTATION WHITE PAPER OUTLINE

Ms. Wood presented an update for the climate change mitigation and adaptation white paper and highlighted a few key objectives to for the white paper:

• Consider climate change broadly
• Capture existing climate change activities in the region
• Connect to other policy areas
• Look for opportunities for regional coordination and consistency
• Evaluate the gaps and provide direction for the next steps

Ms. Wood discussed the timeline for the white paper, summarized feedback from SANDAG working groups and the public, and presented the draft outline. Next, Ms. Wood asked if there were any key topics missing from the outline that should be addressed and input on ways to integrate climate change planning into existing plans and programs.

Ms. Wood opened it up for questions and discussion:

• Mr. Evans asked the GHG inventory will be calculated, whether it would be the sum of all the local government inventories or a separate regional analysis. Ms. Wood informed that staff it is working with Scott Anders from the Energy Policy Initiatives Center at University of San Diego, who works with several cities in the region with their GHG inventories. She shared that certain categories of emissions that make sense to consider on a regional scale such as wildfires, airplane traffic, and water-borne navigation. On the other hand, there are categories of emissions that can be considered on a local scale, then added up to receive a regional number. That is something that will be explored more in the white paper to make sure that the some of the parts equal the whole. On the transportation side, SANDAG energy staff is working with their modeling team to have vehicle-miles traveled data that is consistent for local governments to use.

• Ms. Bensoussan suggested that the white paper include a discussion of cross-border climate change collaborations and possibilities for working with the Mexican government and the federal government. Ms. Wood shared that SANDAG staff will be presenting the outline to the Borders Committee in January and will receive feedback from them.
• Pete Hasapopoulos, Sierra Club, asked how refined the mitigation strategies would be, particularly on renewable energy. Ms. Wood responded that the white paper would refer to the SANDAG Regional Energy Strategy, which has more detail on the energy-related mitigation measures.

• Mr. Anderson asked about the connection between the Climate Change White Paper and the County of San Diego Comprehensive Renewable Energy Plan (CREP) and encouraged SANDAG staff to coordinate with the County on these efforts. Jennifer Domeier, County of San Diego, explained that the County plans to form a stakeholder group to offer input to the development of the CREP, which could include a member of SANDAG staff. Ms. Wood added that SANDAG staff has talked to the County staff about giving a presentation on the CREP early next year.

• Mr. Anderson asked if the private sector actions to reduce GHG emissions would be incorporated into the plan. Chair Downey responded that there are a lot of the efforts happening outside of the government and suggested that the white paper reference those efforts.

• Mr. Evans suggested that the white paper discuss natural gas and how it can reduce GHG emissions.

• Chair Downey also added that the white paper should discuss hydrogen as a fuel source as well. Ms. Wood informed that SANDAG staff is working on the California Energy Commission’s opportunity for alternative fuel readiness plans, which would also help to look at natural gas and hydrogen fuel use.

ITEM #7: LOCAL GOVERNMENT PARTNERSHIPS AND REGIONAL ENERGY NETWORKS UPDATE

Anna Lowe, SANDAG, presented an update on local government partnerships (LGP) and regional energy networks (REN). Ms. Lowe described the difference between the two programs, the two RENs currently approved by the California Public Utilities Commission (CPUC), and the funding associated with the LGP and REN budgets. Next, Ms. Lowe explained the process and timeline laid out in the Order Instituting Rulemaking filed by the CPUC Concerning Energy Efficiency Rolling Portfolios, Policies, Programs, Evaluation, and Related Issues.

EWG Members followed with questions and discussion:

• Chair Downey asked how the energy-water nexus issues could be addressed through the Energy Roadmap program. Ms. Lowe answered that SANDAG may have a role in supporting the San Diego County Water Authority (SDCWA) programs and providing information on energy and water saving programs through Energy Roadmaps.

• Ms. Bensoussan asked if there is a window of opportunity for the RENs and voiced interest in hearing updates on the pilot programs in Los Angeles and the Bay Area. Chair Downey suggested adding an item for the January agenda with an update on the pilot RENs and more information on the process for a region to start a REN. Mr. Anderson suggested a presentation on the current LGPs at the next meeting as well.
Ms. White added that EWG members could brainstorm what they want to accomplish and the best way to accomplish that the goals with involvement from the partners.

Mr. Evans commented that SANDAG would be in a good position to coordinate with the cities to put together a collaborative. He added that since SANDAG is a regional entity it would also be in a good position to work with the SDCWA on the energy-water nexus. With San Diego being so distant for imported water, it would seem that the economic benefits of the water conservation programs or devices would have a greater payback for San Diego than other regions in the state.

Gary Bousquet, SDCWA, shared that the Water Authority Board is updated on the Bay Delta Conservation Plan (BDCP) regularly. The latest draft of the BDCP is planned to be released in December 2013, and then the 120-day review period will begin.

Mr. Evans commented that SDG&E territory represents about twenty-percent of the state’s electric load and encouraged staff to make sure the San Diego region is getting its fair share of funding through either LGP or a REN.

**ITEM #8: UPCOMING MEETINGS**

Please Note: The EWG meeting scheduled for December 19, 2013, has been cancelled. The next meeting of the EWG is scheduled from 11:30 a.m. to 1 p.m. on Thursday, January 23, 2014.

Chair Downey adjourned the meeting at 12:57 p.m.
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<td>Carrie Downey</td>
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<td>City of Chula Vista</td>
<td>Hon. Pamela Bensoussan</td>
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<td>Hon. Ed Gallo</td>
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<td>Hon. Sherri Lightner</td>
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<td></td>
<td>County of San Diego</td>
<td>Rich Grudman</td>
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<td>Metropolitan Transit System (MTS)</td>
<td>Sharon Cooney</td>
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<td>San Diego County Regional Airport Authority</td>
<td>Paul Manasian</td>
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<td></td>
<td>Unified Port District of San Diego</td>
<td>Michelle White</td>
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<td>San Diego County Water Authority</td>
<td>Gary Bousquet</td>
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<td>Universities</td>
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<td></td>
<td>San Diego State University</td>
<td>Dr. Heather Honea</td>
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<td>Energy Utility</td>
<td>San Diego Gas &amp; Electric</td>
<td>Thomas Brill</td>
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<td>Julie Yunker</td>
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<td>Energy Non-Profits</td>
<td>California Center for Sustainable Energy</td>
<td>Len Hering</td>
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<td>Energy Policy Initiatives Center, University of San Diego School of Law</td>
<td>Charlie Buck</td>
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<td>Transportation Fuels</td>
<td>San Diego Clean Cities Coalition</td>
<td>Greg Newhouse</td>
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<td>Jennifer Case</td>
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<td>Environment/Social Justice</td>
<td>Environmental Health Coalition</td>
<td>Kayla Race</td>
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<td>Bill Powers</td>
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<td>Pete Hasapopoulos</td>
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<td>Business</td>
<td>San Diego Regional Chamber of Commerce</td>
<td>Mike Evans</td>
<td>Member</td>
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<td></td>
<td>Michael Nagy</td>
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<td>North County Economic Development Council</td>
<td>David Lloyd</td>
<td>Member</td>
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<td></td>
<td>CleanTECH San Diego</td>
<td>Jason Anderson</td>
<td>Member</td>
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<td></td>
<td>Marty Turock</td>
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**OTHER ATTENDEES:**
Josh Brock, SDG&E
Crystal Crawford, Ygrene Energy
Mike Grim, City of Carlsbad
Jeremy Hutman, Public
Sachiko Kohatsu, County of San Diego District 3
Mo Lahsaie, City of Oceanside
Eddie Price, Grid Alt
Brendan Reed, City of Chula Vista
Dustin Reilich, HERO
Joseph Smith, City of Del Mar
Dave Weil, City of San Diego
John Wotzka, member of public
Jeff Wyner, City of Escondido
Anna Lowe, SANDAG
Sarah McCutcheon, SANDAG
Rob Rundle, SANDAG
Allison Wood, SANDAG
ENERGY WORKING GROUP 2014 MEETING SCHEDULE
AND UPDATED CHARTER

Energy Working Group Meetings for 2014

Energy Working Group (EWG) meetings are generally held at SANDAG on the fourth Thursday of each month, from 11:30 a.m. to 1 p.m. in Conference Room 7. The EWG is scheduled to meet on the following days in 2014:

- January 23
- February 27
- March 27
- April 24
- May 22
- June 26
- July 24
- August 28
- September 25
- October 23
- November 20*
- December 18*

*One week early due to national holiday.

Updated EWG Charter

At its December 6, 2013, meeting, the Regional Planning Committee approved updated charters for various working groups that report to the Committee to reflect the merging of the Regional Comprehensive Plan and the 2050 Regional Transportation Plan and its Sustainable Communities Strategy into San Diego Forward: The Regional Plan. The updated EWG Charter is included as Attachment 1.


Key Staff Contact: Allison Wood, (619) 699-1973, allison.wood@sandag.org
WORKING GROUP CHARTER
Regional Energy Working Group

PURPOSE
The Regional Energy Working Group (EWG) provides input to the Regional Planning Committee (RPC) and the SANDAG Board of Directors on issues related to the coordination and implementation of the Regional Energy Strategy (RES), including measures to reduce energy consumption and greenhouse gas emissions related to electricity, natural gas, and transportation fuels. The EWG serves as a forum to discuss regional energy issues in order to build consensus among diverse stakeholders.

BACKGROUND
The EWG was formed based on the recommendations of the Energy Task Force, which had been established to advise the Board of Directors on the best way to implement the RES. The Energy Task Force recommended SANDAG as the most appropriate agency to implement the RES and recommended that an Energy Working Group, comprised of a diverse group of stakeholders, be formed to provide input and comments to the RPC and Board of Directors on energy issues.

LINE OF REPORTING
The EWG reports to the RPC, which in turn reports to the SANDAG Board of Directors. The RPC approves changes to the EWG Charter.

RESPONSIBILITIES
The EWG provides input and comments to the RPC related to the development and implementation of the RES and regional energy planning as prioritized by the Board of Directors in the Overall Work Program (OWP). The EWG may be asked to provide input on a variety of energy issues to the RPC and the Board of Directors.

The EWG will ensure that regional energy planning activities align with the objectives of San Diego Forward: The Regional Plan (which merges the Regional Comprehensive Plan, Regional Transportation Plan – (RTP), and Sustainable Communities Strategy), the Regional Comprehensive Plan (RCP), and the Regional Economic Prosperity Strategy (REPS).

The EWG will bring stakeholders together to develop ideas on state and federal energy matters and bring them forward through the RPC and the Board. The EWG also will work with various stakeholders at the local level to discuss the best ways to provide energy-saving programs and services as they relate to the implementation of the Regional Energy Strategy, and then provide feedback to the RPC.

MEMBERSHIP
The EWG will have a maximum of 20 voting members. Membership is voluntary and will include a diverse group of regional stakeholders. Members are selected by the bodies they represent and serve at the discretion of the RPC. Members are allowed to have alternates which, like members, are selected by the bodies they represent.
Elected officials serving on the EWG are appointed by the six subregions they represent: North County Coastal, North County Inland, East County, South Bay, the City of San Diego, and the County of San Diego. In the event that an elected official cannot serve, a subregion may appoint a non-elected government employee to serve as either a primary or alternate member.

MEETING TIME AND LOCATION
The EWG generally meets from 11:30 a.m. to 1 p.m. on the fourth Thursday of the month. Meetings are normally held in the 7th Floor Conference Room at SANDAG offices.

SELECTION OF THE CHAIR
The EWG chair is selected by the RPC and should be rotated on a periodic basis unless otherwise determined by the Chair of the Board of Directors. The vice-chair is elected by the members of the EWG.

DURATION OF EXISTENCE
EWG status is that of a standing working group. An evaluation of the group’s work will be conducted annually as part of the SANDAG Executive Committee’s annual committee/working group review process.
LOCAL GOVERNMENT PARTNERSHIPS IN THE SAN DIEGO REGION  

File Number 3200700

Introduction

Since 2006 the California Public Utilities Commission (CPUC) has allowed the Investor-Owned Utilities (IOUs) to enter into energy efficiency program partnerships with local governments and other public agencies, termed Local Government Partnerships (LGPs). San Diego Gas & Electric (SDG&E) is the IOU for San Diego County and currently has LGPs with the Cities of Chula Vista and San Diego, the Port of San Diego, SANDAG, and the County. These are part of the SDG&E energy efficiency program portfolio, which is approved by the CPUC roughly every three years. Each LGP will present an overview of its programs with SDG&E, which is to inform Regional Energy Working Group discussions about future program options for the region.

Discussion

The process to apply for a LGP begins when SDG&E issues a call for abstracts. The local government submits a program abstract to the utility and the utility determines if the program is a good fit for its energy efficiency program portfolio. SDG&E then works with the local government to develop the partnership program elements. The LGP proposals are submitted by SDG&E to the CPUC as part of its overall portfolio of energy efficiency programs.

Local Government Energy Efficiency Partnerships have three focus areas:

1. Government facilities
2. California Long Term Energy Efficiency Strategic Plan
3. SDG&E core incentive and rebate programs

Locally, SDG&E has LGPs with:

- City of Chula Vista (since 2006)
- City of San Diego (since 2006)
- County of San Diego (since 2006)
- Port of San Diego (since 2010)
- SANDAG (since 2010)
A fact sheet about LGPs is attached to this report. Examples of programs funded through these partnerships include:

- Municipal facility retrofits for energy efficiency improvements
- Strengthened building energy codes and code enforcement
- Education and outreach
- Green building and permit expedite programs
- Peer-to-peer best practices and networking
- Staff training programs
- Energy plan development
- Collaborative projects including:
  - San Diego Regional Climate Collaborative
  - Regional Energy Mapping Project
  - San Diego Regional Retrofit Advisory Council
  - Additional Energy Upgrade California support

**CPUC Proceeding**

On November 14, 2013, the CPUC opened its latest proceeding on energy efficiency programs, Rulemaking 13-11-005, Order Instituting Rulemaking (OIR) concerning energy efficiency rolling portfolios, policies, programs, evaluation, and related issues. The CPUC held a prehearing conference on December 11, and a scoping memo and/or ruling is pending (originally scheduled for release on December 23).

The scoping memo will identify high level policies to be addressed, phases of the proceeding, and dates for program submittals. During 2014 and 2015, the CPUC will decide on policies that will shape future funding cycles. This will include IOU portfolios, Regional Energy Networks, and other issues. The current LGP program cycle is to be extended one year to end on December 31, 2015. This way, future LGP programs can incorporate any changes in California energy efficiency priorities.

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<td>Phase I pre-hearing conference</td>
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<tr>
<td>12/23/13</td>
<td>Phase I scoping memo <em>(not released yet)</em></td>
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<td>1/27/14</td>
<td>Assigned Commissioner’s Ruling on goals and potentials</td>
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<tr>
<td></td>
<td>Post-2015 programs and administrators, rolling portfolios, etc.</td>
</tr>
</tbody>
</table>

Attachment: 1. SDG&E LGP Fact Sheet

Key Staff Contact: Susan Freedman, (619) 699-7387, susan.freedman@sandag.org
Local Government Partnerships

SDG&E’s Local Government Partnership (LGP) Program is designed to proactively work with municipalities to promote and create energy-efficiency, energy-conservation and demand-response opportunities. SDG&E works with municipalities to develop marketing plans and marketing materials to assist them with outreach to residential and commercial customers.

The three major LGP Program elements are: Government Facilities, California Long-term Energy-Efficiency Strategic Plan Support, and Core Program Coordination.

1) Government Facilities
The cities themselves implement the Government Facilities element. Individual LGPs target local government facilities and sites that are owned or leased by the city, including city halls, recreation centers, fire stations, libraries, police and correctional facilities, hospitals, bridges and roads, animal shelters, and other public works facilities. The program fosters energy savings by placing city projects within parameters of sustainability and climate change initiatives. This program element includes five sub-elements:

- **Government Facilities Retrofits** - Provides technical, financial, managerial and administrative support to the government point-of-contact who initiates and implements energy-efficiency retrofit projects. Retrofitting measures include consultation, building audits, retrofit lighting, HVAC, water heating, pumps, and motors.

- **Government Facilities Retro-commissioning** - Identifies less-than-optimal performance in existing equipment, lighting and control systems and makes necessary improvements (rather than replacing outdated equipment).

- **Integrated Demand Response** - Manages LGPs’ consumption of electricity in response to supply conditions. This is done by determining demand response potential, referring demand response programs and identifying self-generation opportunities such as solar.

- **Technical Assistance** - Provides training and access to benchmarking technology such as Energy Star, to identify the facilities with the highest energy-efficiency potential. It also provides city staff resources for building operator certification, certified energy management, LEED accreditation, Green Point rating and other applicable trainings.

- **On-Bill Financing** - Provides $250,000 of interest-free financing for up to 10 years to fund energy-efficiency improvements for qualified taxpayer-funded customers, such as schools and city offices. The program offers cash rebates on more than 140 energy-efficiency measures, including lighting retrofits, HVAC upgrades, water pumps and food-service equipment replacement.

2) California Long-term Energy-Efficiency Strategic Plan Support
The Strategic Plan sets forth a statewide roadmap to maximize achievement of cost-effective energy-efficiency in California’s electricity and natural gas sectors between 2009 and 2020, and beyond. Through the San Diego Association of Governments (SANDAG) partnership, SDG&E provides an integrated suite of program offerings geared toward strategic plan support to all...
Local government partners provide education and outreach to inform their customers about comprehensive energy-saving opportunities and best practices.

**Implementation**

SDG&E offers assistance to help local governments reduce their carbon footprint through increased energy-efficiency. This offering is primarily delivered through non-profit organizations: Local Governments for Sustainability, U.S.A., Inc. (ICLEI); the Institute for Local Government (ILG); and the Local Government Commission (LGC). This collaborative effort is structured to leverage the unique resources, assets, relationships, communications channels, programs, training, models and tools brought by each non-profit organization to support the California Energy Efficiency Strategic Plan (CEESP). This is a statewide local government strategic element support effort among the four investor-owned utilities (IOUs).

ICLEI helps local government participants in SDG&E’s service territory to understand the linkages between energy-efficiency and greenhouse gas (GHG) reduction/AB32 compliance. ICLEI will deliver in-person and online training to facilitate understanding of the requirements under AB32; to learn about the principles and methodologies to be able to conduct GHG inventories and set GHG reduction targets; and to develop and implement climate action plans (CAPs). ICLEI will also provide access to templates and tools that detail the components of GHG inventories and CAPs and provide training on mitigation strategies to reduce GHG emissions in both local government operations and community-scale activities and facilities.

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3) Core Program Coordination

All of SDG&E’s programs will be coordinated starting in 2009 via a customer segment planning team that will include SDG&E staff from the core program, third-party and government partnerships, demand response, customer generation, and others. The planning team will be drawn from SDG&E, LGP and third parties to coordinate the outreach and education to customer groups, including:

- Agriculture customers
- Commercial customers
- Industrial customers
- Small business customers
- Residential customers

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Programs funded by California utility ratepayers and administered by SDG&E under the auspices of the California Public Utilities Commission.

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REGIONAL ENERGY NETWORKS

File Number 3200700

Introduction

In November, SANDAG staff provided an update on Regional Energy Networks (RENs). The Regional Energy Working Group (EWG) was interested in the potential funding possibilities for local governments and the region for the next program cycle, and requested additional information be presented. The EWG will continue its discussion of RENs. Staff will provide an overview of activities performed by existing RENs in the Bay Area and Southern California. The EWG is asked to discuss opportunities for the San Diego region.

Background

The 2013-2014 California Public Utilities Commission (CPUC) program cycle included a new funding option which authorized local governments to apply directly to the CPUC for funding to support energy efficiency activities that employ a regional approach to program and project management. Two RENs were approved as pilot programs, one in the Bay Area (BayREN) and one in Southern California (SoCalREN). RENs are meant to complement Local Government Partnerships (LGPs) and comprise multiple governments and public agencies within a region. They are managed by local governments rather than the local utility, and the CPUC may offer this in the next program cycle.

Discussion

RENs submit their program proposals directly to the CPUC, rather than through the local utility. The direct submittal process is intended to provide local governments more control over the development and implementation of energy efficiency programs that are central to meeting Climate Action Plan (CAP) and sustainability goals. RENs were also established as a means to create an instrument for continuing and expanding those local government energy programs that were funded through federal stimulus grants stemming from the American Recovery and Reinvestment Act (ARRA).

In addition to the program elements typically funded in LGPs, a REN can include:

- Building retrofit programs
- Workforce training
- Financing programs
- Technical assistance
- Regional collaborations
Based on the 2013-2014 CPUC funding cycle, regions with RENs received significantly more funding to their communities to the order of $26M (BayREN) and $45M (SoCalREN). The following table highlights the 2013-2014 cycle funding allocations. It should be noted that those regions with RENs also received LGP funding.

<table>
<thead>
<tr>
<th>IOU</th>
<th>LGP Budget</th>
<th>REN</th>
<th>REN Budget</th>
<th>Total LG Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>PG&amp;E</td>
<td>$139,500,000</td>
<td>BayREN</td>
<td>$26,567,750</td>
<td>$166,067,750</td>
</tr>
<tr>
<td>SCE</td>
<td>$38,401,000</td>
<td>SoCalREN</td>
<td>$35,748,167</td>
<td>$74,149,167</td>
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<tr>
<td>SCG</td>
<td>$6,515,984</td>
<td></td>
<td>$9,052,161</td>
<td>$15,568,145</td>
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<tr>
<td>SDG&amp;E</td>
<td>$13,022,575</td>
<td></td>
<td></td>
<td>$13,022,575</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$197,439,559</td>
<td>TOTAL</td>
<td>$71,368,078</td>
<td>$268,807,637</td>
</tr>
</tbody>
</table>

Source: CPUC Fact Sheet - RENs/CCAs (2013-2014)

**Existing Regional Energy Networks**

There are two Regional Energy Networks currently approved by the CPUC: BayREN and SoCalREN. Each of the RENs has an individual lead agency, organizational structure, membership, programs, and budgets outlined below.

**BayREN**

**Lead Agency:** Association of Bay Area Governments (ABAG)
Jerry Lahr, Energy Program Manager, ABAG POWER

**Total Budget:** $26,567,750

**Members:** ABAG, City and County of San Francisco, Alameda County Waste Management Authority (StopWaste.org), County of Contra Costa, County of Marin, County of Napa, County of San Mateo, County of Santa Clara, City of Suisun (representing Solano County), Sonoma County Regional Climate Protection Authority

**Structure:** A Coordinating Committee comprised of one representative from each member agency. Each member has single, un-weighted vote.

**Funded Activities:**

- Single Family Home Energy Upgrade Retrofit Program
  - Incentives for residential energy efficiency retrofits and home energy audits
  - Home Upgrade Advisor Service
  - Marketing and outreach

- Multi-family Program
  - Incentives for energy efficiency retrofits of multi-family units
  - Technical assistance provided to property owners
  - Marketing and outreach
• **PACE for Commercial Buildings**
  o Funding for marketing and administrative expenses

• **Water/Energy Efficiency Pilot Program**
  o Financing and incentives for water conservation and associated energy savings
  o Facilitate integration of water/wastewater into energy efficiency programs and the reverse
  o Integrate energy and water audits

• **Codes and Standards Programs**
  o Training, education, and outreach related to building codes
  o Code compliance enhancement

**SoCalREN**

Lead Agency: County of Los Angeles  
Howard Choy, General Manager, County Office of Sustainability

Total Budget: $44,800,328

Members: Los Angeles County, San Gabriel Valley Council of Governments (COG), South Bay Cities COG, Westside Cities COG, Gateway Cities COG, Ventura County, Santa Barbara County, Orange County, San Bernardino County, Riverside County

Structure: Governance committee comprised of up to two local government representatives (based on population). Committee members are responsible for coordinating REN activities within their area of jurisdiction.

Funded Activities:

• **Residential Retrofit Program**
  o Incentives for energy efficiency upgrades to homeowners
  o Marketing and outreach to community
  o Contractor outreach and training
  o Green building labeling
  o Low-income Single Family Retrofit Program
    – Integrate residential retrofit assessments, incentives and upgrades into low-income rehabilitation projects
  o Multi-family Program
    – Incentives to property owners
    – Technical assistance

• **Financing Program**
  o Public Building Loan Loss Reserve
  o Single Family Loan Loss Reserve
  o PACE (Commercial): funding for marketing and administrative expenses
• SoCal Regional Energy Center
  o Technical support to local governments
  o Aggregated regional procurement and contracting
  o Region-wide building benchmarking
  o Supporting implementation of Climate and Energy Action Plans

**Going Forward**

The start and length of energy efficiency program cycles are determined by the CPUC. The current program cycle is scheduled to end on December 31, 2014, with the draft Order Instituting Rulemaking describing a possible bridge cycle for 2015, which would essentially extend successful programs another year with the intention to have new programs begin on January 1, 2016.

**Possible Timeline**

2013  November 14, 2013: CPUC to open proceeding and provide schedule for development and submittal of energy efficiency programs by IOUs, RENs, and Community Choice Aggregators

2014  Locally hold meetings and discussions about regional program opportunities through LGPs and RENs

2015  Energy efficiency program portfolios (including LGP programs) and RENs due to CPUC

Key Staff Contact: Anna Lowe, (619) 595-5603, anna.lowe@sandag.org
SAN DIEGO FORWARD: THE REGIONAL PLAN:
EMERGING TECHNOLOGIES WHITE PAPER

Introduction

At the November meeting, Regional Energy Working Group (EWG) members heard about San Diego Forward: The Regional Plan (Regional Plan), and expressed interest in discussing the policy white papers under development. Staff is preparing a white paper on emerging technologies for use in the development of the Regional Plan, and James Dreisbach-Towle will present the white paper outline for feedback from EWG members.

Discussion

Emerging Technology is an exciting and ever-changing field. The white paper is in a formative stage and will discuss technologies that the region has influence over including roadway, transit, payment systems and traveler information. The paper will explore how the region can use these technologies to increase efficiencies and effectiveness of transportation modes while increasing safety and decreasing energy use and greenhouse gases. The outline of the Emerging Technologies White Paper is included as Attachment 1.

Additionally, the Emerging Technologies White Paper will explore those technologies that have influences on how we will live, work, and play in the future. Although SANDAG and the region are not tasked with implementing this area of emerging technology, these technologies will shape our lives in the future. Therefore, it is from a planning approach that we look at how overall technology trends have impact on our transportation systems and travel demand.

Lastly, staff is seeking input for both the white paper as well as the region’s overall use of technology. To that end, staff have been working with both internal and external resources to identify emerging technologies, the potential impact of those technologies, and finally policy considerations to maximize the positive application of both transportation systems as well as general technology trends. Attachments 2 and 3 comprise a graphical representation of those types of technologies, as well as a table detailing each of the technologies applications. This vision, which staff is also seeking input on, will be fully developed in the Regional Plan.

Attachments: 1. Emerging Technologies White Paper Outline
2. Future ITS Mobility Solutions
3. Emerging Technologies Table

Key Staff Contact: James Dreisbach-Towle, (619) 699-1914, james.towle@sandag.org
Emerging Technology

I. Introduction

The field of Emerging Technology is exciting and ever-changing. This paper will explore the field of Emerging Technology specifically as it effects and influences transportation infrastructure. Additionally, this paper will discuss technology trends and how those trends – albeit not transportation specific, affect our everyday lives. Technology influences where we work and live, how we communicate with each other, and the personal choices we make.

Personal technology has changed the landscape in the last five to ten years and has started to significantly deliver the ability to access the ‘virtual’ office, classroom, and doctor's office to name just a few. Today's world of universal communication and instant access to information paints a picture of what our future holds.

These advances have the potential to reduce travel demand by reducing the need to make as many trips to work, school, or to medical appointments. Technology can help reduce single occupancy trips; however, there is also the potential that technologies such as the Autonomous Vehicle could increase trips by increasing the audience who has access to so-called self-driving cars.

This paper will explore vehicle technology, infrastructure or roadway technology, as well as personal technology all from a planning perspective to inform the public and policy makers on investments, policies, and timing so that as a regional we all can make informed choices that will shape our future.

II. Intelligent Transportation Systems (ITS)

Intelligent Transportation Systems or ITS is the application of technology to transportation systems including vehicles, roadways, intersections, transit, and traveler information with the goal to maximize efficiency of those services while increasing vehicle throughput, reducing congestion, and to provide decision quality information to the commuting public. Information influences transportation choices across all modes of travel.

The SANDAG ITS Program is divided into three areas of emphasis.

- **Planning** – Both long range, and at the project level, including Performance Monitoring and Management
- **Implementation** – Stand-alone projects and as integrated into a larger capital improvement
- **Operations** – Facilitate the integration of new ITS systems into ongoing operations and maintenance

A. ITS Planning / Transportation System Performance Monitoring and Management

A fundamental emerging technological need that remains constant during Regional Transportation Planning cycles is determining if the region is maximizing the benefits of transportation project improvements. To assess and realize the progress and transportation
performance benefits of existing and planned project investments, requires the application of a comprehensive and sound statistical evidence gathering and analytical process to determine facts, trends, quality of services, and optimal system efficiency. Under Transportation System Management, this is achieved through Transportation System Performance Monitoring and Management.

ITS Planning places emphasis on two key areas improving data collection, analysis, and management for (1) transportation performance monitoring and (2) transportation system performance management. These program areas are key to Mobility, Reliability, and System Preservation RTP Goals.

**Transportation Performance Monitoring**

Getting the most out of our transportation investments requires monitoring the system’s performance, to (1) provide current and ongoing information on how well the transportation system is performing; (2) identify opportunities for near-term improvements; and (3) assess the impacts of future improvements. Priority activities for improving performance monitoring are focused on continued development for enhancing this regions ability to automate the data collection, data analysis, and data management systems for all modal networks regardless of data collection technology. Transportation System Performance Monitoring is rather guided by the following principles:

- **Improved Traveler Information** – Focus on the regions ability to provide better information on speeds, travel times, or congestion-related information to the motoring public.

- **Improved Performance Monitoring and Reporting** – Focus on enhancing support for ongoing or new efforts that support and align with local, regional, and federal performance monitoring and reporting programs and initiatives.

- **Transportation performance monitoring needs to be automated and uniformed across networks.** This will reduce costs and provide more frequent data collection and allow for data collection, analysis, and reporting to be consistent year to year.

- **Transportation performance monitoring needs to reflect the multimodal nature of our transportation system by focusing on all modes of travel.**

- **Data availability, accuracy, and management should be carried out to supplement and support on-going performance management and operations efforts including the development of decision support systems and real-time proactive corridor management approach.**

**B. Implementation and Project Delivery**

Project Delivery or Implementation follows System Engineering Principals and accepted project management process as detailed by the Project Management Institute (PMI)
C. ITS Operations

SANDAG ITS has deployed several modal programs, systems and regional communications networks that transition from implementation into normal or pilot operations. These systems require ongoing support for operations, administration, and maintenance to ensure that the systems perform as expected and deliver mobility services to the public.

Due to the fluid nature of public demand for real time traveler information, there is a requirement to maintain high-availability, robust systems in a 24x7 posture. To accomplish this, ITS operations develops support plans, best practices, documentation and administration strategies while the project transitions from implementation to production. Once proper administration tools and practices are applied the completed project can be supported by a traditional Information Technology department and thus transferred to the appropriate support team within the regional network of partners.

III. Technologies-Influence Emergent Technologies

- Roadway/Transit
- Arterial
- Payment
- Traveler Information

IV. Policies and Investments

- Transportation Demand Management (TDM) and Transportation System Management (TSM)
- Active Transportation
- Parking and Pricing Strategies

V. Technology Trends

- Virtual Office
- Parking Guidance
- Shared-use Vehicles
- Connected Vehicles, Autonomous Vehicles, Automated Vehicles
- Smart Roads / Intersections
- Personal / Wearable Technology

VI. Conclusions and Recommendations
## A. Roadway Capacity Strategies

<table>
<thead>
<tr>
<th>Transportation Technology</th>
<th>Application to GHG Reduction</th>
<th>When?</th>
<th>Model Application (Y/N)</th>
<th>Primary Responsible Party</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vehicle Automation/ Semi-Automation</td>
<td>Less Stop-N-Go/Reduced Idling</td>
<td>Near*, Mid, and Long-Term</td>
<td>Y</td>
<td>Public/Private</td>
<td>Vehicles are partially or fully automated or able to navigate without human input improving roadway performance and safety</td>
</tr>
<tr>
<td>2. Real-Time Traveler Information Via Personal Devices</td>
<td>Fewer SOV Trips More Bike/Walk Trips More Transit/Carpool/Vanpool</td>
<td>Near-Term*</td>
<td>Y</td>
<td>Public/Private</td>
<td>Provides real-time traveler and parking information, available on-the-fly, to influence mode choice, route choice and time of travel,</td>
</tr>
<tr>
<td>3. Arterial, Freeway, and Transit management system</td>
<td>Fewer SOV Trips Less Stop-N-Go/Reduced Idling More Transit/Carpool/Vanpool</td>
<td>Near-Term*</td>
<td>Y</td>
<td>Public</td>
<td>Extension of the Integrated Corridor Management concept for real time and multi-agency congestion management to proactively improve mobility and corridor travel efficiency</td>
</tr>
<tr>
<td>4. Green GPS Fleet Tracking Systems</td>
<td>Fewer SOV Trips Less Stop-N-Go/Reduced Idling</td>
<td>Near-Term</td>
<td>N</td>
<td>Public</td>
<td>Reduces GHG emissions and operating costs by using real-time tracking to monitor fuel consumption, route efficiency, etc.</td>
</tr>
<tr>
<td>5. Corridor Level Signal Timing</td>
<td>Less Stop-N-Go/Reduced Idling</td>
<td>Near-Term*</td>
<td>Y</td>
<td>Public</td>
<td>Improvements to real-time data collection and arterial management, operations, and coordination.</td>
</tr>
<tr>
<td>6. Dynamic Lanes on Arterials to Support HOV Access</td>
<td>Fewer SOV Trips Less Stop-N-Go/Reduced Idling More Bike/Walk Trips More Transit/Carpool/Vanpool</td>
<td>Near-Term*</td>
<td>Y</td>
<td>Public</td>
<td>Infrastructure and lane control that enables arterial lanes to be switched on-the-fly from general purpose, to HOV use, for certain time periods or based on demand</td>
</tr>
<tr>
<td>7. Smart Intersections</td>
<td>Less Stop-N-Go/Reduced Idling More Bike/Walk Trips</td>
<td>Near-Term*</td>
<td>N</td>
<td>Public</td>
<td>Improvements to intersection infrastructure to allow real-time and pro-active signal timing operations and support Multi-Agency Arterial Management. Improved mobility and efficiency</td>
</tr>
</tbody>
</table>
## B. Vehicle and Personal Strategies

<table>
<thead>
<tr>
<th>Transportation Technology</th>
<th>Application to GHG Reduction</th>
<th>When</th>
<th>Model Application (Y/N)</th>
<th>Primary Responsible Party</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Car Sharing</td>
<td>Fewer SOV Trips&lt;br&gt;More Bike/Walk Trips&lt;br&gt;More Transit/Carpool/Vanpool&lt;br&gt;Increased Fuel Efficiency</td>
<td>Near-Term</td>
<td>Y</td>
<td>Public/Private</td>
<td>Reduced vehicle trips</td>
</tr>
<tr>
<td>2. Variable Speed Limits on Freeway Network</td>
<td>Less Stop-N-Go/Reduced Idling</td>
<td>Near-Term*</td>
<td>Y</td>
<td>Public</td>
<td>Speed limits vary in real-time to respond to congestion levels and roadway conditions to maintain smooth and consistent traffic flow</td>
</tr>
<tr>
<td>3. Personal Technology</td>
<td>Fewer SOV Trips&lt;br&gt;More Bike/Walk Trips&lt;br&gt;More Transit/Carpool/Vanpool</td>
<td>Mid, Long-Term</td>
<td>Y</td>
<td>Public/Private</td>
<td>Transit ticketing via personal devices; trip-tracking and reward reclamation via personal devices</td>
</tr>
<tr>
<td>4. Universal Transportation Account (UTA)</td>
<td>Fewer SOV Trips&lt;br&gt;More Bike/Walk Trips&lt;br&gt;More Transit/Carpool/Vanpool</td>
<td>Near-Term*</td>
<td>Y</td>
<td>Public</td>
<td>Fully integrated account for accessing all transportation services (transit, bikeshare, carshare, bikelockers, FasTrak, vanpool etc).</td>
</tr>
<tr>
<td>5. On the Fly Trip Planning and Ride Matching</td>
<td>Fewer SOV Trips&lt;br&gt;More Bike/Walk Trips&lt;br&gt;More Transit/Carpool/Vanpool</td>
<td>Near-Term</td>
<td>N</td>
<td>Public/Private</td>
<td>Multi-modal trip planning and ridematching in real-time via personal devices enabling travelers to find a ride, where and when they need it, using the mode and time that fits best</td>
</tr>
<tr>
<td>6. Enhanced Virtual Office/Telework</td>
<td>Fewer SOV Trips&lt;br&gt;More Bike/Walk Trips&lt;br&gt;More Transit/Carpool/Vanpool</td>
<td>Near-Term</td>
<td>N</td>
<td>Private</td>
<td>Expansion of virtual collaboration technologies that facilitate telework</td>
</tr>
</tbody>
</table>
## C. Infrastructure Strategies

<table>
<thead>
<tr>
<th>Transportation Technology</th>
<th>Application to GHG Reduction</th>
<th>When?</th>
<th>Model Application (Y/N)</th>
<th>Primary Responsible Party</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Automated Truck Corridors</td>
<td>Less Stop-N-Go/Reduced Idling Increased fuel efficiency</td>
<td>Near-Term</td>
<td>N</td>
<td>Private</td>
<td>Hybrid, fuel-cell, battery, corridor-level, etc. for energy efficiency</td>
</tr>
<tr>
<td>2. Alternative Fueling Stations</td>
<td>Increased Fuel Efficiency</td>
<td>Near-Term</td>
<td>N</td>
<td>Private</td>
<td>Fuels under CA’s Low Carbon Fuel Standard</td>
</tr>
<tr>
<td>3. Solar Highways and parking lots</td>
<td>Increased Fuel Efficiency</td>
<td>Long-Term</td>
<td>N</td>
<td>Public</td>
<td>Road surfaces and parking lots that generate electricity by solar power</td>
</tr>
<tr>
<td>4. Eco-Driving</td>
<td>Less Stop-N-Go/Reduced Idling</td>
<td>Mid-Term</td>
<td>N</td>
<td>Public/Private</td>
<td>Technologies that control and maintain vehicle speed for optimal fuel efficiency and reduced carbon emission</td>
</tr>
<tr>
<td>5. Mobility Hub – Shared Vehicles</td>
<td>Fewer SOV Trips More Bike/Walk Trips More Transit/Carpool/Vanpool Increased Fuel Efficiency</td>
<td>Mid-Term</td>
<td>N</td>
<td>Public/Private</td>
<td>Interconnected “mobility hubs,” integrate regional transit services with communities. Mobility hubs provide a source of shared vehicles and services including cars, neighborhood electric vehicles, personal electric vehicles, and bicycles, along with supporting amenities and technologies.</td>
</tr>
<tr>
<td>6. Electric Vehicle En-Route Charging</td>
<td>Increased Fuel Efficiency</td>
<td>Near-Term</td>
<td>N</td>
<td>Public/Private</td>
<td>Transition to fully electric bus/vehicle fleets</td>
</tr>
<tr>
<td>7. Electric Vehicle Charging Stations</td>
<td>Increased Fuel Efficiency</td>
<td>Near-Term</td>
<td>N</td>
<td>Public/Private</td>
<td>Expansion of efficient vehicle charging stations to support an increase in electric cars and light duty trucks</td>
</tr>
<tr>
<td>8. Rail Technologies</td>
<td>Less Stop-N-Go/Reduced Idling</td>
<td>Near-Term</td>
<td>N</td>
<td>Public/Private</td>
<td>Electric catenary rail systems, dual-mode locomotives, etc.</td>
</tr>
<tr>
<td>9. Bike Sharing or Other Shared Services</td>
<td>Fewer SOV Trips More Bike/Walk Trips More Transit/Carpool/Vanpool Increased Fuel Efficiency</td>
<td>Near-Term</td>
<td>N</td>
<td>Public/Private</td>
<td>Expand shared transportation services such public bike and car sharing and peer-to-peer carsharing.</td>
</tr>
</tbody>
</table>

**“** Included in the Intelligent Transportation System for the San Diego Region (SANDAG)  
Near-Term = 2013-2020; Mid-Term = 2020-2030; Long-Term = 2030-2050