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 27, 2013
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 King
(619) 699-1973
allison.king@sandag.org

AGENDA HIGHLIGHTS

• SAN DIEGO GAS & ELECTRIC PEAK DEMAND PRESENTATION
• REGIONAL ENERGY STRATEGY TECHNICAL UPDATE
• CLIMATE CHANGE WHITE PAPER

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-item # & recommendation
1. WELCOME AND INTRODUCTIONS
+2. APPROVAL OF MEETING SUMMARIES APPROVE

The Regional Energy Working Group (EWG) is asked to approve the May 23, 2013, meeting summary.

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

CHAIR’S REPORT

4. REPORTS ON MEETINGS AND EVENTS ATTENDED ON BEHALF OF SANDAG REGIONAL ENERGY WORKING GROUP INFORMATION

Regional Energy Working Group (EWG) members appointed to represent the EWG outside of SANDAG will provide brief reports orally or in writing on external meetings and events attended on behalf of the working group since the last EWG meeting.

REPORTS

5. SAN DIEGO GAS & ELECTRIC PEAK DEMAND PRESENTATION INFORMATION

Rob Anderson, San Diego Gas & Electric (SDG&E), will present SDG&E’s peak demand forecast for the near- and long-term, as well as how the region’s peak demand is changing. The EWG will discuss what this could mean for demand response, distributed generation, energy storage, electric vehicles, and other Regional Energy Strategy topics for consideration in the technical update.

+6. REGIONAL ENERGY STRATEGY TECHNICAL UPDATE DISCUSSION

The technical update to the Regional Energy Strategy (RES) from 2009 will extend energy and climate forecasts from 2030 to 2050, and outline progress on each goal. A draft outline and two sample goals are included for the EWG to discuss, along with the table of RES goals and activities.
7. CLIMATE CHANGE WHITE PAPER

Staff will present an outline of the Climate Change White Paper for use in San Diego Forward: The Regional Plan. The EWG is asked to provide initial feedback on the outline. In addition, climate change related notes taken at the first three public workshops are attached.

8. UPDATE ON 2013 ENERGY LEGISLATION

A summary of relevant energy legislation is included. Staff will provide an update on cap-and-trade legislation and other bills. The EWG is asked to provide comments and suggest bills that SANDAG and/or EWG stakeholders could support to help implement the Regional Energy Strategy.

9. UPCOMING MEETINGS

The next meeting of the EWG is scheduled from 11:30 a.m. to 1 p.m. on Thursday, July 25, 2013.

+ next to an agenda item indicates an attachment
May 23, 2013 Meeting Summary

Item #1: Welcome and Introductions

Chair Carrie Downey called the meeting to order at 11:35 a.m.

Item #2: April 25, 2013, Meeting Summary

Greg Newhouse, San Diego Clean Cities Coalition, motioned to approve the meeting summary from April 25, 2013, and Jason Anderson, CleanTECH San Diego, seconded the motion. The motion carried without opposition. Mike Nagy abstained due to his absence at the April Energy Working Group (EWG) meeting.

Item #3: Public Comments/Member Comments

John Wotzka, member of the public, discussed energy-related news and provided written comments that are summarized here: More layoffs at San Onofre Nuclear Generating Station (SONGS) have been announced; U.S. Department of Energy wants to move nuclear waste from a Hanford site cleanup to New Mexico; Russia and Turkey will build first nuclear plant in Akkuyu in Mediterranean Coast; Mexico has a nuclear plant simulator for safe training of operators; Germany is trying to drop nuclear by 2022 and produce 80 percent renewables by 2050; Kyocera Solar says there is no demand for large-scale orders of United States made solar panels; United States Steel Corporation lost $73 billion dollars in the first quarter of 2013; the first commercial-scale solar energy field in San Diego County officially opened April 26, 2013, in Borrego Springs; BP is trying to sell off its share in the Energia Sierra Juarez project; Texas has completed a $6.8 billion "competitive renewable energy zone"; gasoline use in California is down for the seventh straight year in 2012; Texas is building more natural gas-fired power plants; a Chinese company plans to open an electric bus plant in California.

Crystal Crawford, Ygrene Energy Fund, informed that Ygrene Energy Fund was selected by the Coachella Valley Association of Governments (CVAG) to set up a clean energy financing district for the entire valley. Chair Downey asked Ms. Crawford to share and forward any public documents regarding the financing district to the EWG.

Item #7: New Regional Energy Working Group Members

Chair Downey welcomed Jason Anderson from CleanTECH San Diego and Gary Bousquet from the San Diego County Water Authority.
ITEM #4: MONTHLY STATUS REPORT ON REGIONAL ENERGY STRATEGY TECHNICAL UPDATE

This was a consent item and was not discussed.

ITEM #5: PROGRESS ON SAN DIEGO FORWARD: THE REGIONAL PLAN

This was a consent item and was not discussed.

ITEM #6: REPORTS ON MEETINGS AND EVENTS ATTENDED ON BEHALF OF SANDAG REGIONAL ENERGY WORKING GROUP

There was no update from the Solar Stakeholder Working Group.

ITEM #8: UPDATE ON 2013 ENERGY LEGISLATION

This item was not discussed due to a lack of time. Staff will have an updated report at the next EWG meeting.

ITEM #9: COUNTY OF SAN DIEGO STRATEGIC ENERGY PLAN DRAFT

Peter Livingston, County of San Diego, presented the County of San Diego’s Strategic Energy Plan Draft to the EWG.

Mr. Livingston explained that the plan is still in draft form and open to comments. He presented an overview of the plan and described the purpose, background, achievements since the previous plan, and key sustainability trends. He went on to present the goals of the plan for both government operations and the community as a whole.

EWG members had the following questions and comments for Mr. Livingston:

- Chair Downey asked for more information regarding community choice aggregation (CCA) and why it was included in the plan. Mr. Livingston responded that the County is looking at CCA as one way to allow consumer choice, increase renewables, and allow independence from the utility. He shared that the goal of the plan with regards to CCA is to update a study of the incorporated areas that was completed in 2005, but in a way that addresses the entire region.

- Chair Downey then asked how the County would promote zero-emissions vehicles. Mr. Livingston informed that in the next month or so the County should have their Green Fleet Plan finalized. The plan details how each County department can utilize affordable vehicles that fit their needs. He explained that the goals centers on an increase in miles per gallon and a reduction in emissions per mile by 3 percent. Mr. Livingston added that it would be challenging to reduce overall mileage since the County is taking on more detainees from the state facilities. He also shared that the County is utilizing new software that has the capability to produce reports that demonstrate progress toward these fleet goals.

- Kayla Race, Environmental Health Coalition, asked if the building goals were just for County buildings or for private buildings as well. She also asked how many buildings the County owned and/or occupied. Mr. Livingston answered that the listed goals are for County
facilities only. He informed that the County actively manages and maintains around 550 buildings and has about 1,300 structures, which include greenhouses, sheds, etc.

- Pete Hasapopoulos, Sierra Club, asked what would be voted on at the upcoming Board of Supervisors meeting on June 18 related to Property Assessed Clean Energy (PACE). Mr. Livingston explained that the Board of Supervisors would likely decide to pursue either the joint power authority method or local district method PACE financing.

- Lianna Rios, SDG&E, asked if there would be an opportunity to educate County employees on energy efficiency and demand response. Mr. Livingston answered that the County would be educating the employees, and offer reports that will have information for residents on how sustainable their buildings are.

- Mr. Anderson asked how this informs the Comprehensive Renewable Energy Plan and how the two may work together in terms of the findings of the renewable energy plan. Mr. Livingston responded that the County is still working out the details, but he sees the Comprehensive Renewable Energy Plan as a subset of the Strategic Energy Plan.

- Ms. Race asked how the recent ruling on the Climate Action Plan affects the County’s implementation plan and other strategies. Mr. Livingston responded that the County plans to move forward with the implementation of the plan. He added that the SEP contains quantifiable goals for government operations.

**ITEM #10: ABOUT LOCAL GOVERNMENT PARTNERSHIPS AND REGIONAL ENERGY NETWORKS**

Susan Freedman, SANDAG, presented on Local Government Partnerships (LGPs) and Regional Energy Networks (RENs). Ms. Freedman explained that the California Public Utilities Commission (CPUC) is expected to open up a new proceeding shortly that will explain the funding opportunities and program opportunities for local governments through the investor-owned utilities’ (IOU) energy efficiency programs.

First, Ms. Freedman described the existing SDG&E LGPs with the City of Chula Vista, City of San Diego, and County of San Diego, which have been in place since 2006, and SANDAG and Port of San Diego, which began in 2010. Ms. Freedman explained that in the last proceeding for the 2013-2014 funding cycle, the CPUC approved two RENs, which are different from the traditional LGP. She explained that the RENs are more regional in focus than the LGP and two RENs are in the Bay Area and in Southern California. The RENs apply directly to the CPUC for funding rather than through the local IOU.

Next, Ms. Freedman presented a side-by-side comparison of the LGPs and the RENs and explained that the two funding mechanisms will likely be available for local governments and public entities in the CPUC’s next cycle of programs. She further explained that once the CPUC issues a scoping memo for the proceeding, SANDAG and other groups could hold regional stakeholder meetings to discuss the energy efficiency programs that are of most interest and benefit for reaching RES goals. She asked EWG members to brainstorm over the coming months and determine the best methods for obtaining the type of funding the region needs to achieve energy goals. Ms. Freedman added that the new program cycle will likely begin on January 1, 2015, but it is better to discuss RENs now while they are a pilot program rather than waiting until the CPUC releases funding for the new programs.
EWG members offered the following initial comments and questions:

- Chair Downey suggested that the EWG participate by creating a list of programs that should be pursued.

- Ms. Bensoussan asked if RENs use new public funds or if the funding comes from a redistribution of current ratepayer funds. Ms. Freedman informed that currently RENs receive funding from the existing ratepayer funds, but there are discussions at the state level suggesting that RENs could be good vehicles for receiving funding from other sources such as cap and trade investment funds or Proposition 39 funds.

- Ms. Bensoussan asked how the REN pilot programs are reviewed and assessed. Charlie Buck, California Center for Sustainable Energy, informed that the pilot programs are under contract with a local IOU. The CPUC authorizes the programs, but contracts are with the utility for payment. Ms. Freedman added that the utility does not approve or disprove components of the REN programs, and the government may have more control through a REN.

- Thomas Brill, SDG&E, voiced that from an SDG&E perspective they want to work with the existing LGPs and do whatever they can to make sure the RENs are successful.

- Ms. Freedman shared that in other regions in the state, relationships between the local governments and their local utilities have been antagonistic. She explained that in the San Diego region, the LGPs have good relationships with SDG&E and our region could be different in how we structure an REN.

**ITEM #11: SAN DIEGO COUNTY WATER AUTHORITY PLANNING**

Dave Chamberlain, San Diego County Water Authority (SDCWA), presented on the 2013 Regional Water Facilities Optimization and Master Plan Update. Mr. Chamberlain explained that the main focus of the plan is water supply and availability and energy is tied to the overall goals in the plan. Over the past year SDCWA has looked at droughts, reduced demand, reduced supply, reliability of the State Water Project, and the Carlsbad desalination plant project. SDCWA is just beginning to push the nexus between energy and water as an issue that needs to be addressed.

First, Mr. Chamberlain presented a brief history and background of the agency and explained that SDCWA is a wholesale water agency that began in 1944 to import water into the County. SDCWA serves 97 percent of the county’s population, and twenty-four member agencies make up the board. Eighty percent of water is imported from either the State Water Project or the Colorado River, which uses a lot of energy. The local water supply currently accounts for 20 percent of the water used in the County, and SDCWA is looking to expand that local water supply. Mr. Chamberlain explained that SDCWA looks for new infrastructure that can increase the ability to increase supplies. He added that criteria is based on water quality and supply reliability. Environmental impacts, costs, and energy are also important factors.

Next, Mr. Chamberlain gave a brief overview of the water authority’s Energy Management Report and the Sustainability Strategic Plan. The report considers the efficiencies of SDCWA operation and establishes objectives for energy sustainability, goals for business practices and facilities, create or
Mr. Hasapopoulos asked if the water classified as “Imperial Irrigation District Transfer” was Colorado River water and if the amount of water from the Colorado River would ultimately increase after 2012. Mr. Chamberlin explained that “Imperial Irrigation” is Colorado River water conserved through a number of programs paid for by SDCWA. The water would otherwise be used for irrigation. There is also a ramp up provision in the program.

Ms. Bensoussan asked when the Carlsbad desalination project will come online given that the 2020 projection shows that 7 percent of the water supply will be from desalination. She asked what the status of the desalination plant in Baja California plans were, and asked how if that will change the numbers when it comes to fruition. Mr. Chamberlain informed that the Carlsbad desalination project is just starting construction but should be online by 2016. He explained that the Baja California desalination plant plans are being assessed by the Otay Water District, and they are working with a large developer to make a plant twice the size of the Carlsbad plant in Rosarito Beach. He added that the permitting is in progress, and they are currently running pilot studies with small replicas of the plant. It is co-located at a power plant and could go forward in the next few years.

Ms. Bensoussan asked if SDCWA had a position on the plant in Mexico. Mr. Chamberlain voiced that SDCWA is in favor of local resource development and actively promotes local supply development to increase supply reliability in the region. SDCWA also supports the City of San Diego’s potable water reuse project.

Mo Lahsaie, City of Oceanside, asked if the 150 million gallon (MG) desalination plant at Camp Pendleton was still an active project. Mr. Chamberlain responded that they are examining the feasibility and cost of the project. It is still an active project and will be in the mix of considered projects as SDCWA moves forward with their master plan.

Mr. Brill asked if SDCWA had compared the energy demand between the various source alternatives. Mr. Chamberlin informed that desalination is very energy intensive, but so is imported water. He added that, overall, 20 percent of the energy used in California is related to water, with the end use of water as the largest piece of the embedded energy. Upstream uses such as groundwater pumping, Colorado River pumping and treatment, and the cost of disposal account for about 20 percent of the energy related to water.

Mr. Brill commented that the emissions associated with generating electricity are a lot higher when demand is high. He asked if there had been any consideration with time of day usage to help people use water off peak hours, in particular the use of the desalination plant. Mr. Chamberlin responded that SDCWA is just starting to address the energy-water nexus for water operations. Many districts in the north county that pump high in the hills only pump at night and shut off during the day. He explained that time of use requirements on desalination plants would be difficult. If a desalination plant is can only operate for twelve hours a day, then a plant would need to be twice as large for it to produce the same
amount of water. For this, the economics just would not make sense. Operators base load the desalination plant and run it twenty-four hours a day and pay more in energy costs.

- Brendan Reed, City of Chula Vista, shared that the City of Chula Vista often promotes water conservation rebate projects, but has experienced a struggle with mainstreaming water conservation due to programs expiring after six months due to funding. He hoped that water conservation was highlighted in the document. Mr. Chamberlin responded that water conservation is included and SDCWA has worked with SDG&E staff on ongoing energy conservation programs as well. Both sides acknowledge that saving water reduces the energy footprint.

- Mr. Lahsaie commented on the new storm water ordinance that was passed that has a zero tolerance policy for runoff and over-irrigation. The ordinance is County-wide and might lead to a reduction in water.

- Ms. Bensoussan asked if the SDCWA was offering any rebate or subsidy programs for replacing water intensive plants with water efficient plants. Mr. Chamberlain answered that the SDCWA has water audits to help identify water conservation opportunities. Mr. Bousquet added that the SDCWA webpage has information. Ms. Rios added that the active incentive programs promote native vegetation landscaping.

- Mr. Anderson voiced that no one has a clear definition of what the water-energy nexus is and asked if SDCWA had given it any thought. Mr. Chamberlin responded yes, but overall the SDCWA contribution is small since much energy has already been used by the time it gets to them. The energy-water nexus is part of the conservation plan message and climate change efforts. Ms. Rios added that the CPUC is addressing the definition of energy-water nexus as well.

**ITEM #12: UPCOMING MEETINGS**

The next meeting of the EWG is scheduled from 11:30 a.m. to 1 p.m. on Thursday, June 27, 2013.

Chair Downey adjourned the meeting at 1:03 p.m.
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<td>Paul Manasjan</td>
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<td>Len Hering</td>
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<td>CleanTECH San Diego</td>
<td>Jason Anderson</td>
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<td>Marty Turock</td>
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OTHER ATTENDEES:
Jim Bolz, Community Member
Josh Brock, SDG&E
Donna Chralowicz, City of San Diego
Crystal Crawford, Ygrene Energy Fund
Scott Gallic, RECON
Mike Grim, City of Carlsbad
Mo Lahsaie, City of Oceanside
Sassan Rahimzadeh, RCC
Brendan Reed, City of Chula Vista
Lianna Rios, SDG&E
Deanna Spehn, Assemblymember Atkins
John Wotzka, member of public
Jeff Wyner, City of Escondido
Susan Freedman, SANDAG
Allison King, SANDAG
Anna Lowe, SANDAG
Sarah McCutcheon, SANDAG
Rob Rundle, SANDAG
Introduction

This year the Regional Energy Working Group (EWG) has focused on activities that help the region meet its energy and climate goals as defined in the Regional Energy Strategy (RES) and the 2050 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). A technical update to the RES is underway to demonstrate progress toward RES goals, update the existing forecast to 2050, identify priorities for achieving goals, and use in development of San Diego Forward: The Regional Plan. Staff will present draft elements of the technical update and seek input from the EWG on the proposed contents. Attached to this report are a draft outline, sample goals, and a sample table of progress on each goal’s policy measures.

Background

The current RES was adopted by SANDAG in 2009. It contains sections on guiding principles, state policy drivers, existing conditions, and eleven regional goals. Each goal includes an overview of the topic area, its importance to the San Diego region, and a set of policy measures that would help achieve each goal.

The RES has been used by SANDAG, member agencies, and regional stakeholders as guidance for clean energy and clean transportation programs, policies, and projects. The RES serves as an energy policy guide to support decision-making by SANDAG and its member agencies as the region strives to meet the energy needs of a growing population, housing stock, and number of workers while maintaining and enhancing regional quality of life and economic stability. The Regional Comprehensive Plan (RCP) from 2004 incorporated policies from the previous RES adopted in 2003. Since then, the RES has been updated once in 2009. This technical update to the RES would serve as a resource for updates to the RCP, RTP, and SCS (together as San Diego Forward: The Regional Plan). The RES is available online at www.sandag.org/energy.

RES Technical Update

The purpose of the technical update is to:

- Extend the existing forecast from 2030 to 2050
- Identify the progress in meeting each goal
- Determine if progress is on track, ahead or behind
- Identify priorities to meet each goal
- Identify monitoring method(s)
Key Staff Contact: Susan Freedman, (619) 699-7387, susan.freedman@sandag.org

Attachments:
1. Draft Outline Regional Energy Strategy Technical Update
2. Draft Goal – Land Use and Transportation Planning
3. Draft Goal – Smart Grid
4. Draft Table of Policy Measures Under Each Goal
DRAFT Outline: Regional Energy Strategy (RES) Technical Update

I. Introduction
   a. Scope of the technical update framed by RES Broad Strategies and Early Actions
   b. Summary table of progress for RES Goals
   c. Summary table of recommendations

II. Existing Conditions
   a. Update with 2012 baseline
   b. Extend forecast to 2050
   c. Include alternative fuels monitoring and forecast to 2050

III. RES Goals (See Attachments 2 and 3 for sample goals)
   a. For each goal, produce 2 pages
      i. Page 1: summary, status of goal and key programs, policy changes, progress
      ii. Page 2: course corrections, recommendations, and performance monitoring methods
   b. Energy Efficiency
   c. Peak Demand
   d. Distributed Generation
   e. Renewable Energy
   f. Smart Grid
   g. Natural Gas Power Plants
   h. Energy and Water
   i. Energy and Borders
   j. Energy and Economy
   k. Transportation Fuels
   l. Land Use and Transportation Planning

IV. Summary Table: Implementation of Policy Measures (See Attachment 4 for sample table)
   a. Include all policy measures identified for each goal
   b. Show status:
      i. Completed
      ii. On-going
      iii. In progress
      iv. On hold
   c. Describe progress to date

V. Conclusion/Next Steps
Land Use and Transportation Planning

Reduce the energy demand of the built environment through changes in land use and transportation planning

Overview
Land Use and Transportation Planning (LUTR) was a new topic area and goal for the 2030 Regional Energy Strategy (2009). The primary planning mechanism to reduce the region’s LUTR related energy and fuel consumption is the Sustainable Communities Strategy (SCS). The primary local government mechanisms are Climate Action Plans (CAPs) and General Plan Updates (GPUs).

Progress since RES Adoption

<table>
<thead>
<tr>
<th>Regional Lead</th>
<th>SANDAG SCS</th>
<th>Sets greenhouse gas reduction targets for 2020 and 2035. Places priority on mixed uses, smart growth and mobility.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Roadmaps</td>
<td>SANDAG has completed X Roadmaps with local governments and Y are underway. LUTR planning is a primary piece of each Roadmap and can be used in General Plan updates and CAPs.</td>
<td></td>
</tr>
<tr>
<td>Local Lead</td>
<td>General Plan Updates</td>
<td>As local jurisdictions update their General Plans, energy demand reduction in land use and transportation planning has become a component.</td>
</tr>
<tr>
<td>Climate Action Plans</td>
<td>19 local governments completed GHG inventories, Y adopted CAPs, and Z are under development.</td>
<td></td>
</tr>
<tr>
<td>Free for All Collaboration and Outreach</td>
<td>The San Diego Foundation’s Climate Network provided peer to peer forums to discuss climate measures, and most recently the San Diego Regional Climate Collaborative.</td>
<td></td>
</tr>
</tbody>
</table>

Planning Needs Going Forward

- Local climate planning assistance
  - Climate Action Plans, CAP Implementation Plans, Inventories, and Projects
  - Accessible energy and emissions data for GHG inventories
  - Climate considerations for local Housing Elements
  - Sources of funding
- Regional climate planning
  - Develop guidance materials for above needs
  - Prepare CEQA thresholds guidance for development projects
  - Find sources of funding
Per Capita GHG Reductions from SCS Planning
2020, 2035 and 2050 Estimates

What impacts SCS emissions?
- Walking, biking and public transit travel
- Travel by passenger vehicles with number of occupants
- Telecommuting and congestion pricing
- Types of land uses and locations – travel needs to get from home to work, school, leisure activities and shopping

Monitoring
- Track regional LUTR GHG reductions every 4 years from SCS
- Track local GHG reductions expected from CAPs and GPUs
- Compare GHG reductions from LUTR planning to state targets

Resources (to be provided online, not as appendix)
- Adopted SCS Actions
- Energy Roadmap Planning Chapter and Appendices

Recommendations
- ...seeking from EWG, TWG, PACs
- ....based on needs and priorities
Overview
The smart grid enables two-way communication between an electricity user and the utility. Newer appliances and communication networks can give the energy consumer control over their appliances when away from home. Smart technologies and utility programs can enable consumers to find out their electricity costs based on the time of day being used, and utilities can electronically communicate with end users and/or their equipment to power them down when the grid is in high use.

Progress since RES Adoption

| **SDG&E Smart Meter Rollout** | SDG&E completed the region wide installation of smart meters for all electricity customers. The utility undertook a widespread education and outreach program preceding and during the installation process, reducing confusion and uncertainty about smart meters (unlike other CA utilities). |
| **SDG&E Electric Vehicle Charging, Storage, Solar PV to Grid Demos** | Demonstration projects currently researching applications with EV charging and solar PV (add more info on who/what). Utility and host site able to accurately monitor electricity consumption, utilize energy storage and manage costs in real time (maybe...). |
| **SDG&E Local Area Networks** | Devices available for residents and businesses to connect with smart meters to manage appliances and monitor energy use. |
| **UCSD Micro-grid Zero Net Energy** | UCSD micro-grid, connections with EV charging |
| **SANDAG Activities** | SANDAG provided information to local governments and stakeholders through the Regional Energy Working Group and Energy Roadmap Program about smart meters during the installation period. |

Regional Needs
- Demonstration projects that integrate energy storage, onsite generation, electric vehicle charging and smart communications to best meet...
- Mechanisms that encourage installation of smart appliances that interface with smart meters and provide real time electricity pricing information to electricity consumers.
• Rate structures that reflect the real time price of electricity (removal of AB1X) and CPUC-led overhaul of IOU rates.

Studies and Findings
• SDG&E report has estimated smart grid benefits (in the millions) update of EPIC’s table...
• Page 43 of PDF on smart development with DER, storage, IOU and customer owned stuff

Priorities Going Forward
• Communications tied with energy storage, charging, onsite generation
• Apply for California’s EPIC project funds

Monitoring
• Anything done by EPIC, state or SDG&E post 2009.

Resources (to be provided online, not as appendix)
• PUC or SDG&E or UCSD....

Recommendations
• …seeking from EWG
• …based on needs and priorities
2030 RES (2009) IMPLEMENTATION PROGRESS

The following table identifies the implementation progress for the 11 Regional Energy Strategy (RES) Goals. Each Goal included X to Y Policy Measures. Staff has highlighted whether the implementation is:

- Completed – No action is needed.
- Ongoing – All required initial steps have been completed, but component is still actively being implemented
- In Progress – Implementation steps are still being developed and pursued based on the original implementation plan
- On-Hold – Implementation has not proceeded due to a programmatic barrier (such as funding)

### Progress Report on Policy Measures for Land Use and Transportation Planning Goal

<table>
<thead>
<tr>
<th>No.</th>
<th>Recommended Action</th>
<th>Status</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUTP-1</td>
<td>Continue to encourage and assist local governments in implementing smart growth development (e.g., incorporating Potential Smart Growth Opportunity Areas into adopted land use plans, identifying new areas, and developing Planned Opportunity Areas) in part as a means to lower total vehicle miles traveled, save energy, and lower GHG emissions.</td>
<td>Ongoing</td>
<td>X $ and Y grants have been awarded to local governments since RES adopted.</td>
</tr>
<tr>
<td>LUTP-2</td>
<td>Support policy measures that promote the general characteristics of a low-energy demand built environment (described above), energy efficient transportation choices, and alternative fuels and vehicles in future updates of the Regional Transportation Plan, and Regional Comprehensive Plan.</td>
<td></td>
<td>2050 RTP adopted in 2011 incorporated many RES policies. San Diego Forward: The Regional Plan addresses all of these measures.</td>
</tr>
<tr>
<td>LUTP-3</td>
<td>Coordinate public investments related to transportation, energy, water supply, parks and open space and others in a manner that supports energy savings and climate change goals.</td>
<td></td>
<td>SANDAG through its policy committees and working groups coordinates some, other public entities are responsible for others.</td>
</tr>
<tr>
<td>LUTP-4</td>
<td>Explore opportunities to support one or more demonstration projects in the region that exemplify adopted smart growth principles along with comprehensive energy saving strategies such as distributed photovoltaic installation and energy efficient improvements in building retrofits or new construction.</td>
<td></td>
<td>Find some examples of this.</td>
</tr>
<tr>
<td>LUTP-5</td>
<td>Include comprehensive estimates of energy consumption and GHG emissions for land use and transportation planning scenarios at the regional, local, and project levels.</td>
<td></td>
<td>At regional level, this began after RES adoption. Model refinements continue to provide better estimates of energy and GHGs.</td>
</tr>
</tbody>
</table>
CLIMATE CHANGE WHITE PAPER  

Introduction

At the January Regional Energy Working Group (EWG) meeting, staff described the white papers that would be prepared to develop the policy areas of San Diego Forward: The Regional Plan (Regional Plan). EWG members offered input on key policy questions to consider regarding energy and climate change. Since then, staff has received additional input on how to address climate change in the Regional Plan from other SANDAG working groups and policy committees and the general public through the ongoing series of Regional Plan workshops.

The climate change white paper, to be completed by early 2014, will incorporate elements of the technical update to the Regional Energy Strategy and the regional readiness plan for plug-in electric vehicles being developed by the San Diego Regional Electric Vehicle Infrastructure Working Group. A summary of SANDAG climate planning efforts is provided in this report, and the draft outline for the white paper is included as Attachment 1. EWG members are asked to provide feedback on the draft outline and components of the white paper.

Regional Plan Workshops

Seven public workshops for the Regional Plan are being held around the region. Fliers on each topic area were prepared that describe adopted plans, the goals contained in those plans, and new ideas for consideration in the Regional Plan. The energy and climate change fliers are included as Attachment 2. In addition, a summary of the comments received from SANDAG working groups, policy committees, and the general public is included as Attachment 3.

SANDAG Climate Change Planning

Climate change is a global problem that must be addressed at all levels of government and in all sectors of the economy. The state of California took action by adopting the Global Warming Solutions Act (Assembly Bill 32 [AB 32]) in 2006, which called for economy-wide reduction in greenhouse gas (GHG) emissions to 1990 levels by 2020 (see Attachment 4). As a provision of AB 32, the California Air Resources Board (CARB) is required to develop and update a Scoping Plan every five years. The first Scoping Plan was adopted in 2008, and CARB is now undertaking the first update, which will show progress toward the 2020 goal and address post-2020 actions. The 2013 Scoping Plan Update will be another resource for the development of the climate change white paper.
At a regional level, SANDAG has focused on programs and policies that regional and local governments have influence or authority over. By reducing the amount of vehicle miles traveled (VMT), using energy more efficiently, increasing our supply of renewable resources, and expanding our transportation fuel choices, the San Diego region can do its part to achieve state climate goals, improve local air quality, and enhance our neighborhoods.

**2050 Regional Transportation Plan and Sustainable Communities Strategy**

In October 2011, SANDAG adopted the 2050 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). The plan detailed how the region would reduce per capita GHG emissions from on-road transportation (passenger vehicles) in 2020 and 2035 to levels set by CARB. Development of an SCS and planning to meet regional GHG reduction targets were required by Senate Bill 375 (Steinberg, Chapter 728, Statutes of 2008), and the San Diego region was the first in California to produce an RTP with an SCS.

Leading up to the 2050 RTP/SCS, SANDAG developed several strategies for ways to reduce GHG emissions in the region. They included the Regional Energy Strategy (2009); Climate Action Strategy (2010); and Regional Alternative Fuels, Vehicles, and Infrastructure Report (2009).

Through the RTP/SCS, SANDAG is responsible for long-range regional planning that reduces GHG emissions attributed to passenger cars and light-duty trucks, which is typically measured in VMT. This can be achieved by:

- Better linking plans for land use, transportation, affordable housing, and sensitive resources protection with related measures, policies, and investments.
- Building smart growth neighborhoods and communities in which basic daily needs and public transit service are safely accessible on foot or by bicycle, expanding and developing new systems for low carbon modes of transportation, and reducing demand for single-occupancy-vehicle travel.

**Beyond the 2050 RTP/SCS**

In addition to what the agency is required to do, SANDAG has taken steps to address climate change impacts and reduce GHGs by supporting other regional and local actions, including:

- Protecting transportation infrastructure from climate change impacts such as extreme heat, sea level rise and higher storm surge, and wildfire-associated mudslides.
- Protecting energy infrastructure from climate change impacts by supporting modernization of the electricity grid, and utilizing demand response and energy efficiency measures to reduce GHGs during peak periods.
- Reducing VMT and GHG emissions from vehicles by lessening traffic congestion and promoting efficient driving practices.
- Promoting the use of low carbon alternative fuels by facilitating the process of permitting and siting electric charging and other alternative fuel infrastructure.
• Reducing energy use in residential and commercial buildings by retrofitting existing buildings and maximizing efficiency in new construction.

• Increasing the use of renewable energy by promoting installation of clean, on-site energy systems and large-scale renewable energy projects.

• Reducing water-related energy use and GHGs by integrating measures that save water and energy into building retrofit programs and using reclaimed water to decrease the amount of GHGs attributed to meeting water needs.

In addition to the community-wide measures, SANDAG and local jurisdictions can lead by example by reducing GHGs from their own operations. While municipal GHG emissions comprise only a small fraction of total climate change emissions, reducing GHGs from local government operations can save taxpayer dollars and set an example for the greater community. Many local governments are doing exactly that by developing and adopting climate action plans (CAPs) and other sustainability measures.

A growing focus is being placed on the relationship between climate change and public health. In 2012, the California Department of Public Health published a guidance document on how local governments could integrate public health into their climate planning efforts. The overview for this report is included as Attachment 5. The document introduces key health connections to climate change mitigation strategies and suggestions of where these fit into General Plans, CAPs, and similar efforts.

Attachments:
1. Facts About California’s Climate Plan, California Air Resources Board
2. Draft Climate Change White Paper Outline
3. Regional Plan Workshop Fliers: Climate Change and Clean Energy, Clean Fuels, and Innovation
4. Summary of Comments on Energy and Climate Change in San Diego Forward: The Regional Plan

Key Staff Contact: Allison King, (619) 699-1973, allison.king@sandag.org
FACTS ABOUT

CALIFORNIA’S CLIMATE PLAN

California’s plan to reduce greenhouse gases and move toward a clean, green economy

The Climate Change Scoping Plan

The Climate Change Scoping Plan is the state’s roadmap to reach the greenhouse gas reduction goals required in the Global Warming Solutions Act of 2006, or AB 32. This plan calls for an ambitious but achievable reduction in California’s carbon footprint – toward a clean energy future. Reducing greenhouse gas emissions to 1990 levels means cutting approximately 30% from business-as-usual emissions levels projected for 2020, or about 15% from today’s levels. On a per-capita basis, that means reducing annual emissions of 14 tons of carbon dioxide for every man, woman and child in California down to about 10 tons per person by 2020. This challenge also represents an opportunity to transform California’s economy into one that runs on clean and sustainable technologies, helping secure our energy independence and security, and ensure that all Californians are able to enjoy their rights to clean air, clean water, and a healthy and safe environment.

KEY STRATEGIES IN THE AB 32 SCOPING PLAN

Cap-and-Trade Program

Broad-based to provide a firm limit on emissions; covers 85% of California’s emissions: electricity generation, large industrial sources, transportation fuels, and residential and commercial use of natural gas, and provides regional linkage with the Western Climate Initiative which allows greater environmental and economic benefits. Air Resources Board.

Transportation

Reduction of 30% in vehicle greenhouse gas emissions by 2016 (known as the ‘Pavley standards’) followed by further reductions from 2017. Decrease 10% by 2020 carbon intensive vehicle fuels through the low-carbon fuel standard. Lastly, changes in the way we build, plan and develop our cities through better land-use planning (SB 375). Other transportation measures include more efficient delivery trucks, heavy duty trucks and goods movement. Air Resources Board, Business, Transportation and Housing Agency, California Energy Commission, California Public Utilities Commission, Office of Planning and Research.

Electricity and Energy (imported included)

Improved appliance efficiency standards and other aggressive energy efficiency measures; 33% renewables by 2020; increased use of efficient “combined heat and power”; Million Solar Roofs, Solar Hot Water Heating; Green Buildings; and water efficiency. Air Resources Board, State and Consumer Services Agency, California Energy Commission, California Public Utilities Commission, Office of Planning and Research.

Industry

800 largest emission sources in California including cement; audit of the largest industrial sources to identify greenhouse gas reduction opportunities; regulations on refinery flaring, and fugitive emissions; considerations for cement to address “leakage.” Air Resources Board, Business, Transportation and Housing Agency.

High Global Warming Potential Gases

Capture refrigerants and other high global warming potential gases already in use; reduce future impact through leak-resistant equipment, restrictions on use, and fees.
High global warming chemicals trap heat in the atmosphere at levels many times that of carbon dioxide, the primary cause of global warming. Air Resources Board. Forestry: Preserve forest sequestration and voluntary reductions possible from forestry projects. Air Resources Board, Cal-Fire.

**Agriculture**

More efficient agricultural equipment, fuel use and water use through transportation and energy measures; reductions from manure digesters at dairies; address impacts on productivity of crops and livestock. Air Resources Board, California Department of Food and Agriculture, State Water Resources Control Board.

**Waste and Recycling**

Reduce methane emissions from landfills and move toward high recycling and zero waste. Air Resources Board, Department of Resources Recycling and Recovery.

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**DRIVING THE DEVELOPMENT OF A GREEN ECONOMY**

The plan generates jobs, promotes a growing, clean-energy economy and a healthy environment for California at the same time.

- **The Scoping Plan continues California’s legacy of efficiency-driven job growth.** Achieving the greenhouse gas emissions reduction targets mandated by AB 32 supports a $76 billion increase in our Gross State Product (GSP), $48 billion increase in real household incomes, and the creation of 403,000 new efficiency- and climate-driven jobs. (Source: Energy Efficiency, Innovation, and Job Creation in California, David Roland-Holst, UC Berkeley)

- **California gets more clean energy venture capital investment than all states combined.** In 2009, while other sectors saw little or no investment, the clean technology sector in California received $2.1 billion, 60% of the total in North America. Venture capital investments in the Golden State totaled nearly $6.6 billion from 2006 to 2008, about five times more than our nearest competitor, and more than all other states combined. (Source: California Green Innovation Index, Next 10)

- **Green technologies produce new jobs faster.** Investments in green technologies produce jobs at a higher rate than investments in comparable conventional technologies. And the first beneficiaries of green job growth will be workers who are currently unemployed. (Source: Putting Renewables to Work: How Many Jobs Can the Clean Energy Industry Generate, UC Berkeley, California Green: Opportunities and Challenges, Center for Continuing Study of the California Economy)

- **Venture capital investment produces thousands of new jobs.** Each $100 million in venture capital funding helps create 2,700 jobs, $500 million in annual revenues for two decades and many indirect jobs. AB 32 likely will increase venture capital investment in California. (Source: Venture Impact 2004: Venture Capital Benefits To The U.S. Economy, Global Insight, National Venture Capital Association)

- **Green jobs are growing faster than any other industry.** From 2007 to 2008, jobs in green businesses grew 5% while total jobs in California fell 1%. The green economy could soon become the nation’s fastest-growing job segment, accounting for roughly 10% of new jobs over the next 20 years – up to 4.2 million new green jobs – 500,000 in California. (Source: Many Shades of Green: Diversity and Distribution of California's Green Jobs, Next 10, U.S. Metro Economies: Current and Potential Green Jobs in the U.S. Economy, U.S. Conference of Mayors)

- **California leads the nation in every clean technology category.** California entrepreneurs opened more green businesses (10,209), created more new jobs (125,390), and garnered the most clean energy venture capital funding ($6.5 billion) than any
California’s economic powerhouses support AB 32. AB 32 enjoys the strong support of a diverse and formidable alliance of California’s economic powerhouses including Google, Gap Inc., eBay, Bloom Energy, E2, Small Business California, Yahoo!, California Business Alliance for a Green Economy, Cleantech, California Ski Industry Association, and much more. (Source: California’s Global Warming Solution – the Economic Stimulus We Need)

The plan expands California’s successful track record of saving money through efficiency.

- **Energy efficiency is the greatest energy resource.** The state’s energy efficiency policies have saved Californians $56 billion, and are expected to save another $23 billion over the next five years – money that is reinvested back into the California economy. (Source: Energy Efficiency: California’s Highest-Priority Resource, California Public Utilities Commission and California Energy Commission)

- **Investment in greening existing buildings is good for business.** By upgrading existing facilities to improve energy efficiency, businesses can save approximately 60 cents per square foot, reducing per-square-foot energy costs (currently $1.50 to $2.50) by as much as 40%. (Source: Center for Energy & Climate Solutions)

- **Energy efficiency saves consumers money.** Under AB 32, homeowners can save about $200 per year through energy efficiency – savings between 1,500 and 1,800 kWh per year and over 300 therms of natural gas per year by improving energy efficiency by 25%. (Source: Options for Energy Efficiency in Existing Buildings, California Energy Commission)

- **Energy efficiency helps reduce the need for new power plants.** For every dollar invested in improving energy efficiency, two dollars are saved by not having to build additional power plants and transmission facilities. (Source: Energy Efficiency in the North American Existing Building Stock, International Energy Agency)

- **Clean cars cost less to drive.** Under California’s cleaner car law (the Pavley greenhouse gas standards), consumers save on operating costs through reduced fuel use – an extra $30 each month for other expenditures. (Source: ARB Final Statement of Reasons for Pavley Regulations, California Air Resources Board)

- **Californians already save on energy bills.** If California’s annual statewide electricity bill were the same fraction of the gross state product as Texas, Californians would be paying almost $25 billion more for electricity each year. (Source: California Green Innovation Index, Next 10)

PREPARING FOR THE FUTURE BY INVESTING TODAY

The plan helps reduce risks that could be costly to California.

- **California’s real estate assets are at risk.** $2.5 trillion in real estate assets in California are at risk from extreme weather events, sea level rise, and wildfires, with a projected annual price tag of $300 million to $3.9 billion over this century, depending on how warm the world gets. (Source: California Climate Risk and Response, David Roland-Holst and Fredrich Kahrl, UC Berkeley)

- **If no action is taken there will be losses throughout California’s economy.** In the face of rising temperatures, six economic sectors -- water, energy, transportation, tourism and recreation, agriculture, and public health-- would together incur tens of billions per year in direct costs, even higher indirect costs, and expose trillions of dollars of assets to collateral risk. (Source: California Climate Risk and Response, David Roland-Holst and Fredrich Kahrl, UC Berkeley)

- **Scarce water supplies could cost millions annually.** Water supply costs due to scarcity and increased operating costs would increase as much as $689 million per year by 2050. Researchers found that changes in yields (mostly negative) and changes in water availability could result in gross revenue losses of up to $3 billion by 2050.
Costly wildfires will continue to increase. Scientists estimate that wildfire risk will increase throughout the end of the century. Average annual monetary impacts due to home loss may plausibly be on the order of $2 billion per year by mid-century and up to $14 billion per year by the end of the century. (Source: Climate Change, Growth, and California Wildfire; Potential Effects of Climate Change on Residential Wildfire Risk in California)

The plan relies on a strong network of climate partnerships – so California is not going it alone.

Local government will play an essential role in fighting climate change. More than 100 California cities and counties have signed the U.S. Conference of Mayors Climate Protection Agreement. Many have established offices of climate change and are developing and implementing comprehensive plans to reduce their carbon footprint. (Source: U.S. Conference of Mayors)

Many are participating in voluntary programs. Nearly 350 companies, municipalities, organizations and corporations are members of the California Climate Action Registry, reporting their greenhouse gas emissions on an annual basis. Californians have also been on the leading edge of purchasing offsets to mitigate their own personal emissions. The state intends to ensure our citizens that they can be assured of the credibility of these offsets. (Source: California Climate Action Registry)

Western states are building strong regional program. There are seven American states and four Canadian provinces that make up the Western Climate Initiative. The WCI is an historic effort to collaborate climate action policies of the western United States, Canada and Mexico. More than half of U.S. states have climate policies in various stages. (Source: Western Climate Initiative)

State government will lead by example. As an employer of more than 350,000 Californians, state government is uniquely situated to adopt and implement policies that give worker the ability to decrease their individual carbon impact, including encouraging transit use, telecommuting and use of alternative work schedules. (Source: Climate Change Scoping Plan, California Air Resources Board)

The plan promotes improved public health, lowers health care costs.

Public health benefits save billions. Preliminary analysis indicates that the total economic value associated with public health benefits is likely to be on the order of $4.3 billion in 2020. (Source: Climate Change Scoping Plan, California Air Resources Board)

AB 32 will significantly reduce harmful pollution. The estimated reduction of combustion-generated soot (PM 2.5) associated with the recommended regulatory measures is 15 tons per day. The estimated reduction of oxides of nitrogen (a precursor to smog) totals 61 tons per day. (Source: Climate Change Scoping Plan, California Air Resources Board)

Improved air quality promotes public health. These reductions in harmful air pollution lead to 770 fewer premature deaths and 76,000 fewer work days lost. (Source: Climate Change Scoping Plan, California Air Resources Board)

### TIMELINE FOR AB 32 IMPLEMENTATION

<table>
<thead>
<tr>
<th>Date</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 1, 2009</td>
<td>Air Resources Board (ARB) adopts plan indicating how emission reductions will be achieved from significant sources of greenhouse gas emissions via regulations, market mechanisms and other actions. During 2009-11 ARB staff drafts rule language to implement its plan and holds a series of public workshops on each measure (including market mechanisms).</td>
</tr>
<tr>
<td>Jan. 1, 2010</td>
<td>Early action measures take effect.</td>
</tr>
<tr>
<td>Jan. 1, 2010</td>
<td>ARB conducts series of rulemakings, after workshops and public hearings, to adopt greenhouse gas emissions regulations including rules governing market mechanisms.</td>
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</table>

Jan. 1, 2012 | Greenhouse gas emissions rules and market mechanisms adopted by ARB take effect and are legally enforceable.¹

Jan. 1, 2020 | Deadline for achieving 2020 greenhouse gas emissions cap.¹

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GLIMPSE OF CALIFORNIA’S CLEAN ENERGY FUTURE

The plan will create a more efficient California and grow the economy:

- More efficient cars cost less to drive
- More efficient buildings use fewer resources
- More efficient homes and appliances use less energy
- More efficient land use means less time driving, less fuel used and more transit opportunities
- More efficient factories produce less pollution
- More efficient faucets, sprinklers and shower heads protect our water resources

Fighting climate change will help:

- Reduce our dependence on oil
- Protect human health
- Protect California’s forests, ocean and wildlife
- Conserve precious natural resources
- Reduce air pollution
- Promote the development of clean, locally-produced energy
- Create new jobs for California workers in clean tech industries
- Increase energy efficiency, which will save us all money on what we pay for energy
- Create more livable, walkable cities

For More Information

Please contact the public information office at (800) 242-4450 or visit us on the web at: www.arb.ca.gov

Alternative Formats

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I. Introduction
   a. Background
   b. Sources of GHG emissions:
      i. Transportation
      ii. Electricity
      iii. Natural Gas
      iv. Water
      v. Waste
   c. Climate change Impacts in the San Diego region

II. Current Conditions
   a. Key policies guiding regional and local energy and climate change planning
      i. Assembly Bill 32 – Global Warming Solutions Act
      ii. Senate Bill 375 – Sustainable Communities and Climate Protection Act
      iii. Executive Order S-03-05 – GHG Reduction Targets
      iv. Executive Order B-16-12 – Zero Emission Vehicles
      v. Assembly Bill 758 – Comprehensive Energy Efficiency Program for Existing Buildings
      vi. CA Long Term Energy Efficiency Strategic Plan
   b. Existing SANDAG Energy/Climate Change Planning Efforts
      i. 2050 Regional Transportation Plan/Sustainable Communities Strategy
      ii. Regional Energy Strategy
      iii. Climate Action Strategy
      iv. Energy Roadmap Program
      v. Plug-in Electric Vehicle Planning
      vi. Green Operations Manual
   c. Emissions Inventory
      i. 2012 Emissions Inventory
         1. SCS emissions
      ii. Compare to 2006 Emissions
      iii. Forecast emissions to 2050

III. Strategies for Addressing Climate Change
   a. Mitigation
      i. Transportation – Reduced VMT, low carbon fuels, efficient vehicles
ii. Electricity – energy efficiency, ZNE buildings, DG, RPS
iii. Natural Gas – ZNE buildings, solar hot water heating
iv. Waste – landfill diversion, composting, recycling
v. Water – graywater, recycled water, conservation

b. Adaptation
   i. Vulnerabilities
   ii. Design criteria
   iii. Regional approach/consistency

IV. Interrelationships with other SANDAG planning areas
   a. Housing
   b. Public Health
   c. Transportation
   d. Land Use Planning
   e. Habitat Conservation
   f. Shoreline Preservation

V. Collaborations
   a. Local Government Planning
      i. GHG emissions inventories
      ii. Climate Action Planning
      iii. Energy Roadmaps
      iv. CAP and Roadmap Implementation
   b. Regional Collaboration
      i. Climate Collaborative
      ii. San Diego Regional Energy Partnership

VI. Potential Funding Resources
   a. Cap and Trade Revenues
   b. Quality of Life Ballot Initiative
   c. Local Government Partnership/Regional Energy Network
   d. Smart Growth Incentive Program/Active Transportation Incentive
   e. AB118 funds
   f. Congestion Mitigation and Air Quality (CMAQ) funds

VII. Recommendations
   a. Fill gaps in current efforts
   b. Provide direction for next steps
CLEAN ENERGY, CLEAN FUELS AND INNOVATION

The Plans:

• Climate Action Strategy
• Regional Energy Strategy
• 2050 Regional Transportation Plan/Sustainable Communities Strategy
• Regional Comprehensive Plan
• Energy Roadmaps for Local Governments
• Regional Alternative Fuels, Vehicles, and Infrastructure Assessment

The Goals:

• Identify ways to capture the local economic benefits of the clean energy and clean fuels sectors (clean technologies).
• Coordinate regional long-range planning for alternative fuels and other petroleum reduction measures.
• Support infrastructure development for regional alternative fueling stations and plug-in electric vehicle (PEV) charging through collaboration with public and private sectors.
• Pursue a regional energy upgrade program to improve energy and water efficiency and install renewable energy systems in residential and commercial buildings.
• Identify and support financing mechanisms that enable residents, businesses, and governments to undertake energy upgrades.
• Support land use and transportation planning strategies that reduce energy use and greenhouse gas (GHG) emissions.
• Identify and help implement energy-saving measures for local government facilities and fleets.

New Ideas:

• High priorities from a regional public survey: Address water, energy, and other resources needed for businesses to grow; and secure energy sources and alternatives.
• Study emerging technologies that can help the region save energy, provide more fuel choices, or reduce vehicle miles traveled (VMT).
• Address energy and GHG production for water supply and use.
• Consider public health impacts of energy choices.
• Prepare the region for a variety of alternative fuel choices (not just electric vehicle charging).
• Further expand and accelerate energy-saving retrofits for residential and commercial buildings.
**CLIMATE CHANGE**

**The Plans:**

- Climate Action Strategy
- Regional Energy Strategy
- Energy Roadmaps for Local Governments
- Regional Alternative Fuels, Vehicles, and Infrastructure Assessment
- 2050 Regional Transportation Plan/ Sustainable Communities Strategy

**The Goals:**

- To the extent possible, address climate adaptation in the design of new projects and when improvements are made to existing infrastructure.
- Protect transportation infrastructure from climate change impacts, such as:
  - Damage due to extreme heat,
  - Sea level rise and higher storm surges, and
  - Wildfires associated with mudslides and flooding.
- Study the range of climate change impacts on energy infrastructure.

**New Ideas:**

- High priorities from the Regional Plan Survey: Protect water quality and coastal wetlands and beaches.
- Develop strategies to address climate change impacts, reduce greenhouse gas emissions, and improve public health.
- Study the range of impacts on public infrastructure.
- Assess and plan for the local risks and economic impacts of sea level rise and other climate changes to communities.
- Collaborate with neighboring regions and Mexico on climate resiliency.
SUMMARY OF COMMENTS ON ENERGY AND CLIMATE CHANGE IN SAN DIEGO FORWARD: THE REGIONAL PLAN

Regional Planning Technical Working Group (TWG)

The TWG is made up of the planning directors from the 19 jurisdictions in the region. TWG members offered the areas for regional consistency and collaboration to support their local climate change planning efforts:

- Data collection and methodology for greenhouse gas (GHG) emissions calculations
- Climate Action Plan (CAP) development, implementation, and monitoring
- GHG thresholds for California Environmental Quality Act (CEQA) analysis
- Funding for climate change planning
- Climate adaptation planning, particularly preparing for sea level rise

Regional Planning Committee (RPC)

RPC members discussed GHG and CEQA streamlining, and pre-plumbing for electric vehicle (EV) charging in new development. RPC also encouraged SANDAG staff to work closely with TWG members in addressing climate change planning.

Regional Energy Working Group (EWG)

At the January meeting, EWG members discussed the white paper and offered the following points:

- Highlight integration of EV chargers into the grid and connections to other components of planning
- All policy areas of the plan can be linked to energy and climate change
- Promote active transportation as well as alternative fuels
- Use quality of life to link together policy areas and gain public buy-in
- Include economic measures and highlight cost savings
- Integrate local climate action plans with SANDAG planning efforts
- Water is a vital issue for this region, particularly in terms of energy use, and should have its own section in the Regional Plan
- Use evaluation criteria that allocates funds to projects that reduce GHG emissions
- SANDAG should use its data warehouse to supply GHG inventory data for local climate planning efforts
- SANDAG can play a role in providing information on locations of EV chargers in the region

Public Health Stakeholders Group (PHSG)

PHSG is made up of members from a variety of sectors including public health, design, land use and transportation planning, engineers, and community stakeholders. PHSG members discussed climate change and public health, and the following points were made:

- Many of the strategies to address climate change also address public health
- Consider the impacts of climate change on vulnerable communities
• Need to consider strategies that mitigate emissions as well as address adaptation to climate change

San Diego Forward: The Regional Plan Public Workshops

Between May and July 2013, SANDAG is holding a series of public workshops to engage the community and stakeholders on potential ideas and policy objectives that could be considered in the development of the Regional Plan. The workshop that was held on May 17, 2013, at Caltrans focused on: healthy environment, energy, climate change, and public health. The workshop that was held on June 6, 2013, at Casa Familiar in San Ysidro was structured as a completely bilingual workshop in both English and Spanish. The workshop focused on topics addressing issues of mobility, environment, economy, borders, energy and climate change, and healthy communities. At each workshop, participants rotated tables three times, providing their ideas and opinions at each table they attended. The following is a list of the comments, questions, and suggestions made by community members and stakeholders who participated at the energy and climate change tables, as recorded by the note-takers.

May 17, 2013: Workshop #1 (Caltrans)

Climate Change: Table 1
Round 1 Participant Comments

1. Greenhouse gas (GHG) reductions need to be addressed and placed at the center of the identified Regional Plan goals and objectives.
2. Protect and restore waterways and canyons as climate adaptation.
3. Establish land use thresholds that include evaluation of project location and type.
4. Establish a regional approach to incentivize local jurisdictions to complete Climate Action Plans (CAPs) (that include both mitigation and adaptation) via funding opportunities and grants.
5. Strategize how all players (both regional and local government) need to be incorporated in the CAP process.
6. Plant more vegetation/trees now as a low cost mitigation measure that will ultimately absorb more GHG emissions in the future, serving as an adaptation tool. Benefits can be seen in cost savings and as an immediate opportunity for creating a more “livable” environment.
7. SANDAG should provide the political support for issues such as Carbon tax, PACE, etc. which are state initiatives.
8. Strong connection between land use and climate change; better integration of mass transit in land use planning. Prioritize density; don’t enable sprawl.
9. There needs to be a paradigm shift of where and when the geographical investment is made in mass transit. “If you build it they will come.”
10. Public transportation should be the second priority; the first should be eliminating or severely reducing the need to leave one’s community.
11. Meatless Mondays is a good example of what San Diego Unified School District is doing to try and reduce their energy consumption; meat processing, production, and storage is very energy intensive. More schools are considering this option in the San Diego region.
Climate Change: Table 1
Round 2 Participant Comments

12. Utilities (such as flexible piping) should be engineered to be more adaptive to the changing climate (rising tides and increased seismic activity).
13. There should be a focus on reclaiming tidelands and establishing a bulkhead elevation; plan for the worst case scenario.
14. Require (incentivize) all local jurisdictions to adopt CAPs, which should be coordinated; GHG emissions reductions go beyond jurisdictional boundaries.
15. SANDAG should promote heat relief from extreme weather events and heat island effect (for vulnerable populations).
16. SANDAG should provide strong regional policy guidance on GHG emissions reductions.
17. Address Environmental Justice (EJ)/Public Health issues associated with climate change and the measures to reduce GHGs.
18. SANDAG staff should explain the full set of options that the SANDAG Board has in expending TransNet funds (e.g., what percent/amount of funding and category/function/program can’t be modified but every 10 years, what requires 2/3 vote to modify, and portion of the allocation is discretionary).
19. SANDAG should plan to comprehensively add both climate adaptation and mitigation (without silos) and promote the synthesis between the two plans (the Regional Transportation Plan and the Regional Comprehensive Plan).
20. SANDAG must observe CEQA guidelines.
21. SANDAG should take the lead in changing attitudes and behaviors for how we travel through a massive marketing campaign (inform the public).
22. Support Transit Oriented Development (TOD) through higher density development where walkable neighborhoods exist or could exist.
23. Increase transit offerings and put public relations (PR) behind it to increase the use of alternative transportation.
24. Support innovations and opportunities for carbon-neutral activities.
25. Support new technologies that prioritize mitigations (restore waterways).
26. Focus on habitat restoration with high carbon sequestration potential (e.g., natural areas, coastal salt marshes).

Climate Change: Table 1
Round 3 Participant Comments

27. SANDAG is quiet on climate change with timid action.
28. SANDAG would be best poised to help encourage integration and regional behavioral changes through education of sustainable behaviors and personal responsibility.
29. SANDAG can influence land use decisions.
30. Improve transit headway times.
31. Create safe bikeways and encourage the use of electric bikes. Encourage transit operators to increase bike capacity on standard buses.
32. Redefine the transit operator’s priorities from fare revenue to increased ridership.
33. Develop a protocol to measure GHG emitted around schools (car idling) and then develop a campaign to encourage walking/biking, or a no-idle policy.
34. Policy should align with the State’s Executive Order (S-3-05).
35. Regional Plan should include comprehensive approaches to GHG emissions reductions which complement cities’ CAPs. The cities need to make land use changes to facilitate CAP goals and to support SANDAG activities towards achieving state goals (including SB 375).

36. At the neighborhood level, identify unique/localized performance metrics (associated with costs) and develop individual [per capita] emissions and reduction strategies for application at that level.

37. Educate the community on the benefits of sustainable living.

38. Show the connections and effects (positive or negative) between travel/transportation and health (i.e., idling vehicles and biking or walking).

39. Encourage bike share programs to support the intermodal connections (i.e. more space for bikes on buses) and create safer bike routes.

40. Place Climate Change at the forefront of the direction for the Regional Plan. Make the investment in the appropriate solutions/strategies.

41. Develop studies and research regarding roadways and their relation to climate change.

42. SANDAG should take the bold steps to address climate adaptation and mitigation. Examples include introducing transit “Free Zones” (like Portland, OR) or to subsidize transit for children under the age of 18 (SANDAG should model the effects on vehicle miles traveled (VMT), tuition, etc. for subsidized transit for children under 18).

43. Empower the community to address climate-related behaviors at an individual and neighborhood level. Start with educating the children.

44. Support policies that integrate “greener” [natural and recreational open space] connectivity between jurisdictions and communities by reconfiguring land uses and infrastructure into the existing cityscape, which will improve air quality and reduce GHG emissions.

Climate Change: Table 2
Round 1 Participant Comments

45. We need to prepare for the impacts of climate change in our region: increasing wildfires, heat waves, adverse public health, sea level rise, agriculture and food security, etc.

46. There will be disparate impacts on low-income, minority, and senior populations: air quality, food security and nutrition, housing needs, etc.

47. We need resilient transportation infrastructure that can withstand the adverse effects of climate change, like sea level rise.

48. In terms of the transportation network, adding highway lanes is only a short-term solution. We must transition to transit and other longer-term alternatives and shift to a better paradigm.

49. The San Diego Foundation has been a part of a few important climate change studies, such as sea-level rise adaptation efforts. The conversation is still very preliminary.

50. The County Water Authority is looking at how water resources (such as the Colorado River and California Water Project) may be affected by climate change and how supply and demand might be different in the future.

51. SANDAG may be able to play a role in coordinating and putting regional climate change and adaptation issues at the forefront because no one group has the time or resources to think about these.

52. SANDAG can support coordinated efforts for climate change and adaptation planning. SANDAG needs to be seen as an innovative leader on these issues to help set the stage.

53. SANDAG can provide resources for cities to put together climate action plans and local greenhouse gas reduction strategies. SANDAG can “dangle the carrot” for cities to change land use patterns and policies. One way this can be done is by providing more funding for
incentive programs, like the Smart Growth Incentive Program, to pilot innovative mitigation and adaptation strategies.

54. If our region is adding a million people within the next several decades, we can’t keep compounding constraints upon constraints. SANDAG can analyze the demand to our infrastructure. We need intermodal connections to link all of our cities together, such as regional bikeways and trails.

55. We need to address basic improvements that would make transit competitive day-to-day: provide safe routes to transit, enhance bus shelters, increase the reliability of transit travel times, make sure stops are accessible for seniors and the disabled, etc.

56. There needs to be a regional plan in place for emergency situations (heat waves, tsunamis, wild fires, power outages, etc.), especially for vulnerable populations. How can seniors seek shelter in the case of an emergency?

57. Plant more trees. Few cities have urban forestry efforts, but a great tree canopy can encourage more walking and biking. Use green roofs, as well.

58. We need to transform the materials used in construction and landscaping projects to include sustainable, locally-sourced options.

59. There is no “silver bullet” to solving our water shortage problems. We'll need a variety of tools; SANDAG should influence whatever is within its jurisdiction. Maybe SANDAG can partner with other coastal regions to learn best practices, coordinate efforts, and conduct studies. SANDAG should also look at the strategies state resources agencies have started putting together.

60. SANDAG can look at design standards for water efficiency and re-use and provide guidelines for new and existing developments: xeriscaping, rainwater capture, promoting gray water for landscaping, etc.

61. All new development should include rainwater capture.

62. We need to have major reclamation projects and look at strategic points to reclaim water.

63. We also need desalinization. It's expensive, but can provide water during times of drought.

**Climate Change: Table 2**

**Round 2 Participant Comments**

64. Sea level rise. The Port of San Diego is trying to include sea-level rise in its CEQA analysis for projects.

65. It’s becoming harder to predict the weather. Seasons have shifted and this has had an effect on wildlife.

66. The climate has never been a constant; trying to keep it the same isn’t necessarily the best approach. Consider modular development to adapt to future changes.

67. The urban forest is diminishing. The region is losing its limited supply of trees. We need to manage our urban green spaces better. Neither the cities nor the County has a robust tree planting program.

68. Water conservation. We need scalable water conservation efforts from the parcel to regional to state levels.

69. We need to learn how to build better and make changes to adapt: xeriscaping, embracing best practices, using gray water and potable water appropriately. A whole lot of gray water can be used for landscaping.

70. A high amount of energy is invested in potable water. Every bit of potable water that can be saved and conserved is also energy that can be saved and conserved. Our region is vulnerable because much of our water is imported.
71. We need more scientifically-based conservation efforts. We need to look at the hard science versus policy-based opinions of what should or shouldn’t be done when it comes to climate change.

72. We need to find an adequate mix of hardscape versus greenscape in developments. We should provide recreational designs that people enjoy, avoid heat islands, and make sure that there is adequate tree coverage to prevent erosion.

73. Low water use and drought resistant plants are good, but we still need trees.

74. Diseases spread by insects will be more common. The Bark Beetle, which resulted in a great loss of trees, was exacerbated by drought.

75. Climate change will exacerbate many issues. We need a resilient natural and human environment.

76. Agriculture and climate change are tied closely to water issues. San Diego County is not growing that much food; about 90% of the farmers in the county are over the age of 60. No university in the region has training at the scientific level on agricultural subjects. People interested in these subjects have to leave the region. Landscape architects are not ecologists or biologists, but we need these groups to be involved in helping our region grow sustainably.

77. All transportation corridors need a plan for being green and using water-efficient landscaping, providing good tree canopy for bicycle and pedestrian comfort, etc. to help with climate change and adaptation efforts. Green transportation corridors should include urban forestry efforts, which will make these areas more attractive for bicyclists and pedestrians. Efforts like this are occurring on Nimitz Boulevard.

78. SANDAG can bring multi-disciplinary views to the planning table. The paradigm is shifting, but there is still a huge gap.

79. Focus on redeveloping and revitalizing the region’s existing infrastructure. Promote infill and redevelopment.

80. Education and outreach should not be overlooked. The typical resident should know, “This is what AB32 means to you and here’s how our region is addressing climate change...” Current education and outreach efforts are not reaching the right populations. There should be more marketing and imaging. Use YouTube and other social media.

81. Incentives are huge! Give away free trees for people to plant.

*Climate Change: Table 2*

*Round 3 Participant Comments*

82. No adaptation will be possible until we get sufficient mitigation. SANDAG should adhere to the standards set forth in Executive Order S-3-05.

83. Transportation infrastructure shouldn’t be built in areas subject to sea-level rise. Other adaptation challenges should also be assessed.

84. We need to look at agriculture and the region’s food systems. Will local farming stay local? We need sustainable and secure food infrastructure to reduce transportation costs for importing food.

85. In Tokyo, Japan, developments over a certain number of feet require gardens. Maybe we can apply a similar development standard here.

86. SANDAG can provide incentives for smart growth and LEED certification to encourage the development of comprehensive neighborhoods.

87. Governments can incentivize desirable efforts through their contracting processes. Give points to firms that propose mitigation plans.

88. All long-term planning efforts should support climate stabilization. Only talking about adaptation will not solve this problem. We need to talk about mitigation.
Look at co-benefits that can serve as both adaptation and mitigation strategies, such as the color of buildings, xeriscaping, etc.

We need to consider impacts to biodiversity and habitats. What will happen to species as the water supply and temperature of our climate changes? How do we sustain existing species?

Prioritizing projects. SANDAG should use criteria that prioritize the most environmentally beneficial projects for the region.

Climate change will have disparate public health impacts on vulnerable communities and aging populations.

We need to know what assumptions are being used for greenhouse gas reduction scenarios. What we really do depends on our assumptions for the future. We can talk about adaptation and mitigation after picking a scenario.

The scenario options that have been in previous plans have been limited. We need to be able to compare and contrast the differences between aggressive scenarios and choose the aspects that make sense for our region.

We should not be building highways at all.

We need to balance trade-offs between future decisions.

Support the concept of aging in place.

Transit shouldn’t be a fixed route. It should be flexible.

We need to start providing incentives for people to reduce their outdoor and indoor water use and discourage lawns.

Conservation efforts can only go so far. We need to look at developing other water supplies, such as desalination.

Graywater systems within residences would be good, but costly. We need incentives and rebates. These systems could be incorporated easily into new developments, but how do we re-tool existing developments?

Clean Fuels, Clean Energy & Innovation: Table 1
All 3 Round: Participant Comments

Address jobs/housing fit.

Encourage development of affordable housing along transit corridors/transit stations (in TODs) and near jobs to provide housing options for all income levels (jobs/housing fit).

Improve border crossing wait-times to reduce emissions and health impacts.

Provide opportunities for and promote mobility options that produce low emissions or no emissions at all (bicycling and walking).

Create community garden opportunities to reduce emissions related to the transportation of fruits and vegetables.

Eliminate traffic level of service (LOS) and replace with multi-modal LOS when evaluating projects.

Improve bike lanes/facilities.

Provide transit service to rural areas to reduce driving/lengthy commutes (however, recognize the expense of this type of service).

SANDAG and local governments should support development that uses new technologies.

SANDAG needs to focus on less driving and improving/increasing public transit; improve frequencies and lower the costs of riding transit (barrier to low income people).

Implement a rail system along major roads/freeways that can be boarded at multiple locations.
113. Implement a low/no cost rubber-wheeled, electric powered downtown circulator shuttle.
114. SANDAG should be focused on the 41 percent of emissions that come from cars and light duty trucks.
115. SANDAG is seen as advancing sprawl development.
116. Implement “Kids Ride Free” program to get young people used to transit early.
117. Provide access to beaches other than car access.
118. Quantify objectives and timelines for achieving the goals of the regional plan.
119. Promote the idea of living closer to jobs for cost, time, and energy savings.
120. Provide people with incentives for living close to work.
121. Promote mobility options: walking and bicycling and use of multiple modes (e.g. bike and bus or bike and Trolley).
122. Advertise the benefits of density: more and better restaurants and other services (e.g. Mission Hills and Hillcrest).
123. Provide people with more information about their options and how they can reduce GHG emissions.
124. Increase marketing for Bike to Work Day.
125. SANDAG can educate local governments and people living in the region about clean energy and clean fuel options (e.g. prepare a guidebook on plug-in electric cars and other available choices (some regions have done this).
126. Increase use of news and social media.
127. A conservation campaign is needed to educate people.
128. Need to get young people involved.
129. Focus on renewable energy (e.g. wind, solar, geothermal) and increasing low carbon fuel standards.
130. More lobbying needed to counter oil and gas interests.
131. Locally produced clean energy would promote national security.
132. Distributed (on-site) generation of green energy – solar, wind, and biofuel require less infrastructure and protect open space/habitat areas; industrialized solar/wind energy is destructive and requires transmission lines.
133. Solar panels should be installed on every home and business.
134. Need more infrastructure to support electric cars.
135. Zero-emission buses (powered by solar generated electricity).
136. Provide and promote mobility options that produce low/no emissions (bicycling and walking).
137. Create awareness of and reduce phantom energy use (e.g. chargers plugged in after charging is complete).
138. Facilities needed for boating and shipping Liquid Natural Gas (LNG).
139. Reduce energy use in commercial buildings; energy waste is high in these buildings.
140. Reduce energy use by buying local food and creating food hubs.
141. Public access is needed for solar stations on private property.
142. Pursue more person-to-person or business-to-person car sharing (in addition to corporate solutions like Car2Go (Daimler-Chrysler supported).
143. Promote informal (organic) carpooling (e.g. Bay area carpools into the city).
144. Purchase carbon credits to off-set emissions related to air travel.
145. Work with airlines to reduce emissions.
Tax carbon emissions.
Increase use of biofuels and algae fuel.
Use fuel cells (waste product is water).
Develop apps or ways people can determine how much water and energy they are consuming/using to help them conserve and use these resources more efficiently.
Focus on green jobs related to transportation, buildings, etc.; support entrepreneurs.
Government and infrastructure support needed to facilitate use of new technologies.
Eliminate bus stops and use cell phone apps to flag down buses.
Telematics data: a Ford Focus can get 70 mpg if driven correctly.
Young people are less interested in driving/spending long periods of time in their cars, but people in positions of power still love their single-occupant vehicles.
Increase water recycling; zero water run-off.

Clean Fuels, Clean Energy & Innovation: Table 2
Round 1 Participant Comments

Suggested goal: reduce Greenhouse Gas (GHG) emissions enough to support climate stabilization.
All plans, including long-range and general plans, should support climate stabilization.
There needs to be a viable transition plan to achieve a lower carbon footprint.
Plan should assess the current and feasible technology and analyze where technology could go.
Infrastructure should be set up in response to the transition plan.
Look at natural gas (NG) as an important transition fuel.
NG can reduce emissions.
Currently, NG is only used, for the most part, in fleets.
Diesel school bus engines are being converted to natural gas.
Region should work with schools to change school buses to cleaner fuels.
People are nervous that there is not a better infrastructure for the single car.
In Los Angeles County, vehicles fuel up at landfills using the methane gas byproduct.
Whenever there is a jump in gas prices, there is a jump in people buying more fuel-efficient vehicles, but a few months later, people go back to their old vehicles once they realize how unsafe the highways are.
SANDAG should partner more with local private companies.
Price drives everything in term of alternate fuels.
The current Regional Transportation Plan does not meet the SB 375 target emission numbers.
Need to come up with a solid plan on what the emissions need to be for certain areas and then move back from that.
Should relocate certain types of jobs that are out of reach to those wanting to travel to work via bike.
There needs to be some way to incentivize those who drive to work to use alternate transportation to get to work.
Need an incentive or some type of voucher to carpool more.
Need to deploy more photovoltaics, but there is a problem when energy is needed more in the evening when there is no production.
177. Need to look at energy storage for excess energy.
178. Thermal mass and advanced electricity storage are two storage types.
179. Universities could focus more on researching the technology and driving the cost down.
180. Conduct more research and development on energy storage at local universities.
181. Achieving zero net energy is difficult for apartments and multifamily homes.
182. Laws need to change through legislative action on how that works.
183. A possible solution is for people to participate in a sort of co-op concept at neighborhood level.
184. Community or recreation centers could serve as hubs for education, distributed generation center, and planning.
185. Need to focus on saving energy at the start, not storing it.
186. Example: Heat from attics cause houses to heat up; reducing that heat before it starts will lead to a cooler home temperature, and less wasted energy on fans and air conditioning.
187. Should not look at the economic benefits of creating new items, but instead look at the economic benefit of doing something with the items that are already created.
188. Should look at things from a point of view a generation down the road and place a value on things for the younger generations.
189. Need to create more input and discussion around riding bikes to and from school.
190. Anything within a mile should be biked and not driven.
191. Need more planning for safe biking.

Clean Fuels, Clean Energy & Innovation: Table 2
Round 2 Participant Comments

192. Need more economic research and development.
193. Should not need to import a large amount of people and intellect.
194. Need to start with companies coming into our communities and reaching out to students in high school and college.
195. Need to connect the R&D companies to all of the communities in San Diego.
196. Part of the dilemma is changing the mentality that many people grew up with.
197. Need to start at the beginning in pre-schools.
198. Alternative energy sources.
199. Energy efficiency and roof-top energy needs to be a priority in making communities more self-sufficient.
200. Need to fit the communities that we already have with photovoltaics, and deemphasize fitting the back country with large energy plants.
201. Follow state’s prioritization of conservation, energy efficiency, and then onsite renewables.
202. The plan needs to address that technology is changing.
203. There are some ways to store energy.
204. Prices have come down some on alternate energy and energy efficiency items.
205. Need to reach out to people that drive inefficient energy vehicles. Get them acclimated to the new way. Teach them that focusing on alternate transportation is needed.
206. Incentivize switching to electric vehicles (EV).
207. Maybe give a rebate for those that switch from gas to EV.
208. A business incentive may be a good idea.
209. Some people drive more from work to meetings and not from home to work.
Would be great if organizations had access to an electric vehicle.

Businesses can make more meetings via satellite and not in person.

Education is large part of the solution.

Potential customers need to know of the money they can save and that prices have come down.

While the cost of education is free for the most part, the cost of not educating is huge.

Need to focus education on how to lessen and stop carbon and methane.

Awareness is also needed in addition to education.

Solar panels should be on public buildings.

Transit centers could have conference rooms attached so people can rent a room and hold meetings at a place that is accessible by transit.

Suggestion to mention what transit options people can use to get to the workshop meetings.

Most people do not care about carbon when it comes to costs.

Reduced prices will draw more attention and support.

Focus on GHG reductions from a cost perspective and there will be better buy-in.

Do not want to put the ecosystem at risk when creating clean energy.

Should build the energy systems and plants on already degraded lands and brown fields.

Incentives: Often talk about personal incentives, but the goal is to have whole neighborhoods be increasing their energy efficiency.

Since some communities have very strong ties, a community incentive may work better.

The incentive could go to the schools.

Making it a collective where more than one person benefits could lead to more participation.

The net energy use by communities should be evaluated.

Work with communities and encourage them to work together.

Incentives: Take community centers, often the heart of the community, into account.

A community hub should be used to reach a greater audience and gain more attention.

Is SANDAG reaching out to elementary students? They are the ones that will be here in 50 years. They are still idealistic and their insight could be a valuable part of the plan.

Clean Fuels, Clean Energy & Innovation: Table 2

Round 3 Participant Comments

Innovation: Personalized air quality monitors to measure air quality in communities with high asthma rates.

Why aren’t communities being measured that need it the most?

Encourage roof-top photovoltaic on industrial and residential buildings.

SDG&E does not pay customer for the energy they do not use, so the rate structure needs to change so that it encourages SDG&E to encourage customers to use photovoltaics.

The Public Utility Commission (PUC) granted SDG&E a massive increase in energy bills.

It makes efforts to get them to buy unused solar energy useless since they can just agree to it and charge you more.

Only practical way to get people to use the good stuff is to highly tax the bad stuff.

Politically unpopular, but economically popular.
SDG&E Center for Sustainable Energy is great, but it is unfortunate that there is not one in the North County.

Need the marketing and the accessibility.

There needs to be more incentives and the benefits need to be explained to the homeowners.

There is a general lack of information.

Consider partnering with schools.

People pay more attention to things that involve their children.

Use a school as a demonstration project.

San Diego should recycle all gray water.

Water can be addressed in many ways: rainwater, run-off, plants planted.

Present affordable energy efficient cars to high school students nearing the driving age.

Car2Go is good program since buying a zero-emission vehicle is out of reach to many families.

Car2Go seems to be focused in areas that already have transportation options. The service area needs to be greater.

San Diego needs more efficient bus routes since the current ones take too long.

There are programs that help seniors with their bills and they talk to them about other ways to save money. People help them with weatherization. Many seniors in the program have inquired about ways they can be more environmentally friendly. Seniors are a population to target.

Implementation of innovations: SANDAG should reach out to non-profits and help them get grants to implement things such as: weatherization, car sharing, etc.

Transit times: SANDAG could partner with private organizations such as car share or yellow cab.

As a transit rider you could call a taxi and be assured that they will come.

SANDAG could split the costs with people who buy a monthly pass with a limit on how often it could be used.

Use land use to reduce energy: create sustainable communities where energy needs are reduced.

The more transactions you can make without getting in a car, the better. That would encourage density and that would create better transportation options.

Need more sustainable communities.

Should consider freight movement and relation with the border.

Feasibility study grants for electric truck stop at the border.

Why does all freight crossing the border have to go on a truck?

Why doesn’t the trolley go across the border?

A lot easier to see what people have if they are carrying a backpack versus driving a car.

You can cross the Canadian border on a train.

There are tax incentives at the end of the year for energy efficient cars, but not everyone can afford the car to start.

An exchange program should be created similar to the one with light bulbs and lawn mowers.

Tax credits are just subsidies in disguise.

Putting a tax on something sends a price signal to everyone, not just to the users and producers.
Short trips are often cheaper to drive.
The level of services with automobiles through CEQA in urban areas does not make sense.
Drafting an EIR for a bike lane is crazy; this is a policy area that SANDAG could address.
SANDAG should provide local incentives for clean energy/clean fuel areas.
When SANDAG and Caltrans get together for a freeway, does SANDAG have to do mitigation for the carbon that is created from the project?
Should have to place photovoltaics in to offset the carbon emissions.
Where to put them? The areas of impact in the urban areas.

June 6, 2013: Workshop #2 (San Ysidro)

Energy and Climate Change: English Table
Round 1 Participant Comments

1. Traffic requires a lot of energy, which is a big contributing factor to climate change.
2. Traffic has impacts on a holistic level, no impact is isolated.
4. Regardless of how we reduce emissions, there are lasting impacts from climate change that need to be addressed.
5. There is a lack of awareness and understanding how climate change relates to the average person.
6. Sea level rise is an issue that will have direct impacts in San Diego.
7. It is important to tailor the message to different population segments, taking factors such as language and culture into consideration.
8. It is important to identify the people that are affected the most by climate change.
9. Identify how community services can help address adverse effects of climate change.
10. Look at other cities, such as San Francisco, and require mandatory “green” measures in San Diego.
11. More green space can help address pollution and climate change.
12. SANDAG should take part in a program that works on creating/capturing alternative fuels from waste.
13. Cost is a large barrier to many transportation methods that are more climate friendly.
14. Car2Go car-sharing should be expanded throughout the region.
15. Demonstrate benefits of making individual changes that we need to reduce GHG emissions.
16. Publicize tax credits that are available for electric vehicles.

Energy & Climate Change: English Table
Round 2 Participant Comments

17. Invest more in sustainable energy.
18. A better transportation system will also benefit the environment and economy.
19. San Diego needs a transportation system that mirrors those in Europe.
20. Increase gas prices to encourage alternative forms of transportation.
21. Stoplights and stop signs used strategically can help reduce idling, traffic, and pollution.
22. Recycling programs and other “green” behaviors can help with climate change.
23. Better parking and traffic flow can help reduce GHG.
24. A transit center with parking would be very beneficial in encouraging people to take other forms of transportation (buses, trolley, carpooling).
25. We need to be proactive about naturally reducing fuel for wildfire, for example, with goats.
26. It is important to regulate certain industries, especially those that contaminate in residential neighborhoods.
27. Hold businesses accountable for the waste that they release.
28. Find other sources for water such as salt water conversion or recycling water.
29. Building codes should be changed to allow gray water to drain directly into gardens/landscaping.
30. Collecting rain water could be another sustainable way of conserving water.
31. Educate people on climate change and why conserving water is important.
32. City programs should be utilized to educate people on ways to conserve in their household.
33. Providing EV charging stations, raising gas prices, and offering incentives will encourage people to use alternative fuel vehicles.
34. Demonstrate cost comparisons and provide education on the benefits of electric/alternative fuel cars.
35. Better bike lanes and dedicated lanes will encourage people to ride.
36. More local businesses and dense communities will help to reduce traffic and GHG.

**Energy & Climate Change: English Table**

**Round 3 Participant Comments**

37. The traffic and pollution at the border has significant adverse effects on the region, not just the border areas.
38. Education is a very important part of the solution, these concepts need to be related to the household level.
39. Reduce single occupancy vehicles through active and mass transportation.
40. Focus spending and investment on sustainable forms of transportation.
41. Spend less money on highways and more on public transit.
42. Promote investment in new sustainable ideas; we don’t spend enough time on new ideas and processes.
43. Money needs to be invested on rapid transit systems.
44. Cars require the use of a lot of land, which is wasteful.
45. Electric vehicles are expensive and there is a large segment of the population that cannot afford them. For example the median income in San Ysidro is $26,000.
46. Change funding priorities, trolley line is an efficient solution.
47. Be more eco-friendly, provide transportation options, that are accessible, handicap access on streets.
48. Transportation is one of the greatest needs for the lower income population.
49. Invest more money into each individual community, not just transportation but infrastructure so that people don’t have to leave the community in order to find medical services, grocery or meet other basic needs.
50. San Ysidro needs solutions that make it easier and safer for kids to ride the bus or walk to school.
51. Walking and biking and public transit can help to solve climate change problems and address other issues such as public health.
52. Solutions need to be tailored to each individual community.
En Energía y Cambio Climático: Mesa en Español
Comentarios de los Participantes de la Primera Ronda

53. Controlar el agua en toda la región, buscar más maneras de hacer agua potable.
54. Promover el uso de paneles solares.
55. Implementar más sistemas de energía eólica.
56. Implementar estacionamientos accesibles.
57. Reducir la contaminación en San Ysidro.
58. En la frontera, hay más contaminación que se siente más por la cercanía a la garita.
59. Revisar las emisiones de vehículos que cruzan la frontera.
60. Se necesita una educación general a los conductores para que regulen el aire acondicionado en los vehículos de transporte público.
61. Informar a la comunidad anualmente presentando gráficas estadísticas sobre niveles de contaminación.
62. Educar más a los niños acerca del cambio climático.
63. Aumentar la cobertura de Trolley; no es suficiente y la comunidad exige más Trolleys y transporte público.
64. Informar a qué hora del día se puede salir y no se le afecta el aire contaminado.
65. Publicar los horarios de la escuela y qué relación tienen con los niveles de emisiones.
66. Informar cuales medidas están tomando en cuenta para agilizar la línea fronteriza y reducir la contaminación por emisiones y ruido.
67. Simplificar la información para que gente entienda.

En Energía y Cambio Climático: Mesa en Español
Comentarios de los Participantes de la Segunda Ronda

68. Dotar a todas las casas con aire acondicionado.
69. Mejorar el servicio del Trolley y el transporte público, ya que otras partes del condado se benefician con mejores sistemas de transporte.
70. Reducir la contaminación por emisiones que resultan de las largas líneas de espera en el cruce fronterizo.
71. Agilizar el cruce fronterizo para los peatones.
72. Ordenar las condiciones de los carros en el cruce fronterizo para reducir las emisiones.
73. Implementar paneles solares y sistemas eólicos.
74. Difundir la información de planes y programas de desarrollo en lenguaje coloquial.
75. Reducir los desperdicios, siendo más frugales en casa y cocinando una menor cantidad de comida.
76. Sembrar más áreas verdes y jardines para respirar aire más puro.
77. Desconectar aparatos eléctricos cuando no están en uso.
78. No tener muchas luces prendidas.
79. El agua se está acabando; hay que cuidarla y reusarla.
80. La mejor opinión es la opinión informada.
81. SANDAG debe explicar mejor los temas a la comunidad previamente a los talleres.
Energía y Cambio Climático: Mesa en Español
Comentarios de los Participantes de la Tercera Ronda

82. Se ha dado el cambio climático por contaminación.
83. Apoyar el cambio de focos ahorradores.
84. Aprovechar de la energía solar.
85. Mejorar la calidad del agua potable.
86. Mejorar la eficiencia de los vehículos y reducir las emisiones.
87. Gestionar el aprovechamiento del agua.
88. Ahorrar agua, reduciendo el uso de la regadera a cinco minutos.
89. Ahorrar luz y energía eléctrica.
90. Sellar bien las ventanas para regular la temperatura.
91. Apoyar los programas de acceso a nuevos refrigeradores.
92. Caminar y andar en bicicleta como medio de transporte.
93. Promover el uso de combustibles alternativos.
94. Usar transporte público y compartir carro para reducir emisiones.
95. Mejorar la frecuencia y puntualidad del transporte público.
96. Facilitar el acceso a paneles solares.
97. Aumentar las campañas de reciclaje y reúso.
98. Hacer programas para eliminar el desecho de los medicamentos.
99. Reciclar el agua en casa, como agua de la lavadora.
100. Reducir las emisiones de los vehículos en la garita del cruce fronterizo ya que afectan a la salud.
101. Revisar los vehículos que cruzan la frontera para reducir emisiones.
102. Establecer contactos a quien nos podemos dirigir para informar o preguntar sobre estas temas.
103. Organizar más talleres y trabajar con las promotoras comunitarias.
104. Conectar a SANDAG más con los líderes comunitarios que hablan español.
105. Informar a la gente acerca de cómo reducir el cambio climático y la contaminación, usando impuestos de negocios contaminantes.
106. Reciclar las televisiones de caja que son obsoletos.
107. Atender los casos de alergias provocadas por el cambio climático.
108. Plantar más áreas verdes en San Ysidro y promover campañas de forestación.
Climate Action for Health:
Integrating Public Health into Climate Action Planning

February 2012
California Department of Public Health
I. Overview: Why Is Public Health Important to Include in a Climate Action Plan?

Human health is highly impacted by climate change.

• Climate change will have significant and far-reaching public health consequences, and these health impacts are occurring sooner than expected. Georges Benjamin, Executive Director of the American Public Health Association, has stated, “Climate change is one of the most serious public health threats facing our nation. Yet few Americans are aware of the very real consequences of climate change on the health of our communities, our families, and our children.” Climate change impacts such as increased risk of wildfires, drought, and extreme weather events, such as extreme heat and floods, have accompanying health impacts that include increased death, injury, and some chronic and infectious diseases. (See Human Health Effects of Climate Change in California, page 9.)

• Many Climate Action Plans (CAPs) state that climate change will have public health impacts, but do not elaborate or link these health threats to the local community. The health impacts of climate change require more description and understanding by elected officials, key sectors, and the public.

Climate mitigation efforts can reap significant public health “co-benefits.”

• Many key strategies for reducing greenhouse gas (GHG) emissions can also improve population health. These co-benefits make climate action planning itself a “win-win” for the jurisdiction, bettering health and slowing climate change. Benefits of a CAP that prioritizes strategies with health co-benefits include a decrease in obesity, some chronic diseases, respiratory illnesses, injury, and improved community cohesion and mental health.

• Some public health co-benefits can be achieved more rapidly than many GHG emissions targets. A CAP that prioritizes near-term (i.e., achievable in the next five to ten years) health benefits to local communities can increase community commitment to longer-term mitigation efforts.
• The CAP process can benefit by engaging local public health practitioners, who bring a multidisciplinary skillset that includes policy, environmental, and behavior change expertise. Policy and environmental changes that support healthy lifestyles provide the biggest impact. Partnering with public health practitioners can ensure that planning policies and documents contain health-promoting strategies that simultaneously advance GHG mitigation goals.

Health is a strong motivator for action.
• Ensuring the opportunity for a healthy life is a deeply held American value. Research shows that describing climate change as a health issue and identifying the health benefits associated with taking action against climate change is compelling to a cross-section of the population.

<table>
<thead>
<tr>
<th>Strategy to Reduce GHG Emissions</th>
<th>Potential Health Co-Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce vehicle miles traveled</td>
<td>• Increase physical activity</td>
</tr>
<tr>
<td></td>
<td>• Reduce chronic disease</td>
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<tr>
<td></td>
<td>• Improve mental health</td>
</tr>
<tr>
<td></td>
<td>• Reduce air pollution</td>
</tr>
<tr>
<td>Reduce emissions through land use changes</td>
<td>• Increase physical activity</td>
</tr>
<tr>
<td></td>
<td>• Reduce chronic disease</td>
</tr>
<tr>
<td></td>
<td>• Increase local access to essential services (affordable housing, jobs, amenities)</td>
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<td></td>
<td>• Enhance safety</td>
</tr>
<tr>
<td>Reduce residential building energy use</td>
<td>• Reduce household energy costs (especially beneficial for low-income households)</td>
</tr>
<tr>
<td></td>
<td>• Promote healthy homes (see Resources, page 32)</td>
</tr>
<tr>
<td></td>
<td>• Create local green jobs</td>
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<tr>
<td></td>
<td>• Promote cooler communities (e.g., white roofs)</td>
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<tr>
<td>Urban greening</td>
<td>• Reduce temperature and urban heat island health effects</td>
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<tr>
<td></td>
<td>• Reduce air pollution</td>
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<tr>
<td></td>
<td>• Reduce noise</td>
</tr>
<tr>
<td></td>
<td>• Enhance safety</td>
</tr>
<tr>
<td>Reduce energy intensity in local food systems</td>
<td>• Increase access to healthy, fresh foods</td>
</tr>
<tr>
<td>• reduce food miles traveled</td>
<td>• Reduce cardiovascular disease due to saturated fats</td>
</tr>
<tr>
<td>• promote local agriculture</td>
<td>• Reduce air pollution</td>
</tr>
<tr>
<td>• encourage less meat consumption</td>
<td>• Increase local social cohesion</td>
</tr>
<tr>
<td>• expand farmer’s markets and community/backyard gardens</td>
<td>• Increase resilience</td>
</tr>
</tbody>
</table>
Overview: Why Is Public Health Important to Include in a Climate Action Plan?

Making the connection between health and climate change may help to engage a broader constituency and build support for the climate action effort.

- The public health community has a critical role to play in communicating the health impacts of climate change, adding credibility, and increasing recognition of climate change as an important social and health issue. Public health professionals are well positioned to explain the connections between the rapidly emerging threats associated with climate change and our individual and community health and well-being.

- In partnership with the local public health community, the Climate Action Plan can highlight the specific local health effects of climate change, thereby informing land use, housing, and transportation planners, elected officials, stakeholders, and residents, and mobilizing these groups to decrease GHG emissions and begin climate adaptation planning.

Climate change impacts intersect with health and social equity.

- While climate change will affect the health of entire communities, some groups will experience more severe impacts than others. Climate Action Plans can identify the local populations most at risk, in order to engage these communities in solutions and include policies to lessen any disproportionate impacts.

- Some climate change mitigation efforts can exacerbate existing health problems, which can reinforce or widen disparities between groups. Potential adverse health effects in specific CAP sectors are presented in the chapters addressing specific sectors or focus areas (Transportation, Land Use, Urban Greening and Food/Agriculture, Residential Energy Use, Economic Development, Community Engagement, and Climate Adaptation), beginning on page 19.

- Early evaluation of the potential health impacts of climate change mitigation strategies can help avoid unintended negative health and equity consequences, especially as they pertain to the most vulnerable populations.

- Public health agencies can be a valuable resource for engaging communities, particularly vulnerable populations, in climate change planning. Public health staff have long-standing relationships within low-income and ethnically diverse communities, and community engagement and education expertise that can be leveraged to achieve both health and climate change mitigation goals.

The Importance of Equity in Land Use Planning

“Planners are required to address social equity in their work as part of APA’s AICP Code of Ethics and Professional Conduct. As Hurricane Katrina and heat wave mortality figures teach us, lower-income and elderly populations are more at risk and will bear the brunt of many climate change impacts. As a consequence, planners need to ensure that the responses they develop to address the impacts of climate change take into account the varied needs of all sectors of the community, in order to equitably meet the significant challenges facing us.”

(From “Policy Guide on Planning and Climate Change,” American Planning Association, April 11, 2011)
Including health in a CAP can promote greater efficiency and cost-effectiveness, and enhance the collaborative nature of local government.

• Incorporating health co-benefits into a CAP provides an opportunity for resource sharing among agencies and may help leverage local investments in community well-being in a time of diminished budgets. Identifying relevant health objectives in CAPs might make these efforts eligible for additional funding (health, community development, etc.), which is a prime concern for local governments.

• Addressing projected health effects of climate change now will help local jurisdictions avoid greater costs later.

• By embedding health into the strategies of a CAP, local governments can encourage collaboration across agencies and communities. This collaborative approach is consistent with a new state focus on Health in All Policies, under the auspices of the multi-agency Strategic Growth Council.7

• Recent research shows that deaths and health problems from floods, drought and other U.S. disasters related to climate change cost an estimated $14 billion over the last decade.8
# Human Health Effects of Climate Change in California

<table>
<thead>
<tr>
<th>Climate Change Impacts</th>
<th>Health Impacts</th>
<th>Populations Most Affected</th>
</tr>
</thead>
</table>
| Extreme Heat           | • Premature death  
|                        | • Cardiovascular stress and failure  
|                        | • Heat-related illnesses such as heat stroke, heat exhaustion, and kidney stones  
|                        | • Elderly  
|                        | • Children  
|                        | • Diabetics  
|                        | • Poor, urban residents  
|                        | • People with respiratory diseases  
|                        | • Agricultural workers  
|                        | • Those active outdoors  
| Poor Air Quality/    | • Increased asthma, allergies, chronic obstructive pulmonary disease (COPD), and other cardiovascular and respiratory diseases  
| Air Pollution         | • Children  
|                        | • Elderly  
|                        | • People with respiratory diseases  
|                        | • Low income  
|                        | • Those active outdoors  
| Wildfires              | • Injuries and death from burns and smoke inhalation  
|                        | • Eye and respiratory illnesses due to air pollution  
|                        | • Exacerbation of asthma, allergies, chronic obstructive pulmonary disease (COPD), and other cardiovascular and respiratory diseases  
|                        | • Risk from erosion and land slippage after wildfires  
|                        | • Displacement and loss of homes  
|                        | • People with respiratory diseases  
| Severe Weather, Extreme Rainfall, Floods, Water Issues | • Population displacement, loss of home and livelihood  
|                        | • Death from drowning  
|                        | • Injuries  
|                        | • Damage to potable water, wastewater, and irrigation systems, resulting in decrease in quality/quantity of water supply and disruption to agriculture  
|                        | • Water- and food-borne diseases from sewage overflow  
|                        | • Coastal residents, and residents in flood-prone areas  
|                        | • Elderly  
|                        | • Children  
|                        | • Low income  
| Increased average temperature | • Cardiovascular disease  
|                        | • Increased number and range of;  
|                        | • Vector-borne disease, such as West Nile virus, malaria, Hantavirus, or plague  
|                        | • Water-borne disease, such as cholera and E. coli  
|                        | • Food-borne disease, such as salmonella poisoning  
|                        | • Harmful algal blooms causing skin disease and poisoning  
|                        | • Allergies caused by pollen, and rashes from plants such as poison ivy or stinging nettle  
|                        | • Vulnerability to wildfires and air pollution  
|                        | • Children  
|                        | • Elderly  
|                        | • Agricultural workers  
|                        | • Those active outdoors  
|                        | • People with respiratory disease  
|                        | • People with acute allergies  
| Agricultural Changes   | • Changing patterns and yields of crops, pests, and weed species, resulting in higher prices for food and food insecurity, hunger, and malnutrition  
|                        | • Changes in agriculture/forestry, leading to lost or displaced jobs and unemployment  
|                        | • Agricultural workers  
|                        | • Rural communities  
|                        | • Low income  
|                        | • Elderly  
|                        | • Children  
| Drought                | • Hunger and malnutrition caused by disruption in food and water supply, increased cost and conflict over food and water  
|                        | • Food- and water-borne disease  
|                        | • Emergence of new contagious and vector-borne disease  
|                        | • Low income  
|                        | • Elderly  
|                        | • Children  
| All Impacts            | Mental health disorders (e.g., depression, anxiety, Post-Traumatic Stress Disorder, substance abuse, and other conditions) caused by;  
|                        | • Disruption, displacement, and migration  
|                        | • Loss of home, lives, and livelihood  
|                        | • All populations  
|                        | • Low income  
|                        | • Health care staff  
| Health Care impacts:   | • Increased rates of illness and disease, emergency room use, and related costs borne by employers, health plans, and residents  
|                        | • Damage to health facilities  

Table sources:  
Public Health-Related Impacts of Climate Change in California, A Report From: California Climate Change Center, March 2006  
Global Climate Change Impacts in the United States, Cambridge University Press  
Centers for Disease Control and Prevention, Climate and Health Program  

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UPDATE ON 2013 ENERGY LEGISLATION

Introduction

The EWG was presented with the 2013 SANDAG Legislative Program in March 2013. Goals 2B and 10B prioritized energy related legislation. The following bills have been identified as relevant or of interest for the EWG. A short description and status of each bill is included. Legislative activity is dynamic this time of year and additional updates will be provided by staff during the meeting. The EWG is asked to comment on the legislation and inform staff of additional bills to monitor.

2013 Legislation of Interest

ALTERNATIVE FUELS AND VEHICLES

AB 8 (Perea) Alternative Fuel and Vehicle Funding Programs
This bill would provide that the State Air Resources Board (ARB), until January 1, 2024, has no authority to enforce any element of its existing clean fuels outlet regulation or other regulation that requires or has the effect of requiring any person to construct, operate, or provide funding for the construction or operation of any publicly available hydrogen fueling station and require the California Energy Commission (CEC) to allocate $20 million each fiscal year, and up to $20 million each fiscal year thereafter, for purposes of achieving a hydrogen fueling network sufficient to provide convenient fueling to vehicle owners, and expand that network as necessary to support a growing market for vehicles requiring hydrogen fuel, until there are at least 100 publicly available hydrogen fueling stations. Authorize the CEC to design grants, loan incentive programs, revolving loan programs, and other forms of financial assistance, for purposes of assisting in the implementation of these provisions, and require the ARB, to evaluate how the use of new and existing investment programs could be used to increase the state alternative transportation fuels use, and evaluate how the impact of federal fuel policies and existing state policies will help increase the use of alternative transportation fuels in the state. Require the CEC and the ARB, on or before November 1, 2015, and every 2 years thereafter, to report in the integrated energy policy report the status of the state alternative transportation fuels use and make specified evaluations and require the ARB to include a finding on the effect of proposed regulations on state alternative transportation fuels use and extend vehicle registration fees, vessel registration fees, service fees for identification plates, and smog abatement fees in the amounts until January 1, 2024. This bill would extend the current authorization for the Carl Moyer Memorial Air Quality Standards Attainment Program to fund a range of projects that reduce emissions until January 1, 2024.

Status: Assembly Third Reading 6/13/13
**AB 278 (Gatto) Criteria for Determining Carbon Intensity of Fuels Under Low Carbon Fuel Standard**

This bill would require the ARB, in determining the carbon intensity of fuels under the Low Carbon Fuel Standard regulations or another scoring system, to consider the following: the life-cycle carbon intensity impacts of potential or actual deforestation, the environmental laws and practices of the jurisdiction from which the fuel originates, any disruptions or other effects upon food supply, food costs, and food shipping that could occur as a result of California policy, and changes to the local economy, including job loss or worker displacement, resulting from changes in the production of a fuel.

*Status: Senate Rules*

**AB 1079 (Bradford) Energy Management Zones**

This bill would amend the Enterprise Zone Act to authorize a city, county, or city and county to propose one or more energy management plans, developed jointly with an electrical or gas corporation, local publicly owned electric utility, or rural electric cooperative, in order to reduce air emissions and to promote economic development, the addition of new business, and the retention of existing businesses in that enterprise zone. It would require the Public Utilities Commission (PUC) to provide expedited review of the proposed jointly developed elements and would prohibit the commission from limiting the role of the electrical or gas corporation that was cooperatively developed in the energy management plan and would make a project defined by the plan eligible for funding through California Infrastructure and Economic Development Bank.

*Status: Senate Rules*

**AB 1191 (Patterson) Energy Assessments and Forecasts**

*Status: Held in Assembly Appropriations*

**SB 11 (Pavley) Alternative Fuel and Vehicle Funding Programs**

This bill would provide that the ARB, until January 1, 2024, has no authority to enforce any element of its existing clean fuels outlet regulation or other regulation that requires or has the effect of requiring any person to construct, operate, or provide funding for the construction or operation of any publicly available hydrogen fueling station. Require the CEC to allocate $20 million each fiscal year and up to $20 million each fiscal year thereafter for purposes of achieving a hydrogen fueling network sufficient to provide convenient fueling to vehicle owners, and expand that network as necessary to support a growing market for vehicles requiring hydrogen fuel, until there are at least 100 publicly available hydrogen fueling stations. Authorize the CEC to design grants, loan incentive programs, revolving loan programs, and other forms of financial assistance for purposes of assisting in the implementation of these provisions and, no later than July 1, 2013, require the ARB and air districts to jointly evaluate the specified policies and goals of specified programs, and measure the progress of alternative fuels use, and evaluate how the use of new and existing investment programs could be used to increase the state alternative transportation fuels use and how the impact of federal fuel policies and existing state policies will help increase the use of alternative transportation fuels in the state. Require the CEC and the ARB, on or before November 1, 2015, and every two years thereafter, to report in the integrated energy policy report the status of the state alternative transportation fuels use and make specified evaluations and include a finding on the effect of proposed regulations on state alternative transportation fuels use and extend existing vehicle registration fees, vessel registration fees, specified service fees for identification plate, and smog abatement fee in the amounts required until January 1, 2024, at which time the fees would be reduced by those amounts. Extend the current authorization for the Carl Moyer Memorial Air Quality Standards Attainment Program to fund a broader range of projects that reduce emissions until January 1, 2024, and on January 1, 2015, increase the California tire fee to $1.50 per tire until
January 1, 2024, and reduce the tire fee to $0.75 per tire on and after January 1, 2024, and is to take effect immediately as an urgency statute.

**Status:** Assembly Desk

**SB 459 (Pavley) Financial Incentives for Middle-Income Households to Adopt Fuel Efficiency Vehicles**

This bill would require the ARB, in consultation with the CEC, air pollution control and air quality management districts, and the Bureau of Automotive Repair, to submit a specified plan to the Legislature that identifies opportunities to utilize existing legal authorities to reduce fuel expenditures by middle-income households by accelerating the adoption of more fuel-efficient vehicles and require the ARB to convene an advisory board to provide guidance in developing the plan.

**Status:** Assembly Desk

**ELECTRIC VEHICLES**

**AB 266 (Blumenfield) High Occupancy Vehicle Lanes**

Extends the operation of existing law that authorizes the Department of Transportation to designate certain lanes for the exclusive use of high-occupancy vehicles, which lanes may also be used by certain low-emission or alternative fuel vehicles not carrying the requisite number of passengers otherwise required for the use of an HOV lane for certain low-emission vehicles, and extends those provisions for other specified low-emission vehicles or, in either case, until a specified notice is received.

**Status:** Senate Transportation and Housing

**AB 1092 (Levine) Electric Charge Station Requirement for New Construction Projects**

This bill would require a new construction project with four or more offstreet parking spaces to include one electric vehicle charge station per every four offstreet parking spaces included in the project and provide that, if the Commission on State Mandates determines that the bill contains costs mandated by the state, reimbursement for those costs shall be made pursuant to the California Constitution requirement that the state reimburse local agencies and school districts for certain costs mandated by the state.

**Status:** Senate Transportation and Housing 6/18/13

**SB 454 (Corbett) Electric Vehicle Charging Stations Open Access Act**

This bill would create the Electric Vehicle Charging Stations Open Access Act that would require that an electric vehicle charging station that is installed in a public parking space be made available for use by the general public and shall not require persons pay a subscription fee in order to use the station, and shall not require membership in any club, association, or organization as a condition of using the station. An electric vehicle charging station may require additional out-of-network charges if those charges are disclosed to the public and must require an electric vehicle charging station to provide one or more specified options of payment to the general public. Require the CEC, on or after January 1, 2015, to adopt interoperability standards for network roaming payment methods for electric vehicle charging stations, and would require, if the CEC adopts standards, all electric vehicle charging stations to meet those standards within one year.

**Status:** Assembly Desk

**ENERGY EFFICIENCY**

**AB 122 (Rendon) Nonresidential Building Energy Retrofit Financing Program**

**Status:** Held in Assembly Appropriations
AB 270 (Bradford) Web site for Energy Efficiency Program Information
This bill would require the PUC to require the electrical and gas corporations to cooperate in establishing, by June 1, 2014, a publicly available Internet Web site containing specified information regarding ratepayer-funded energy efficiency programs through the creation of a state-mandated local program (which indemnifies any violation a crime). This bill would require the PUC to prepare and submit an annual report to the Governor and the Legislature on the costs of programs and activates conducted by each electrical and gas corporation. That report will include information on efforts to identify ratepayer-funded energy efficiency programs similar to those administered by other specified state agencies and require revisions to ratepayer-funded energy efficiency programs to ensure that those programs complement and do not duplicate the programs of other state agencies.
Status: Senate Energy, Utilities and Communications

AB 489 (Skinner) CEC Funding for Existing Building Efficiency Program
This bill would repeal the provision of Section 25943 of the Public Resources Code requiring the CEC to fund a comprehensive program to achieve greater energy savings in the state’s existing residential and nonresidential building stock from the Federal Trust Fund consistent with the federal American Recovery and Reinvestment Act of 2009 (ARRA) or other sources of nonstate funds available to the Commission.
Status: Senate Energy, Utilities & Commerce 6/18/13

AB 719 (Roger Hernández) Efficient Street Lighting Requirement for Electric Utilities
This bill would require an electrical corporation to replace low-efficiency light bulbs with high-efficiency light bulbs in street light poles that the electrical corporation owns, at the same rate as the city, county, or city and county in which any of the electrical corporation’s street light poles are located. It is the intent of the Legislature that this program be funded through existing collection mechanisms of Section 384.5 to the Public Utilities Code, and that the implementation of this program not result in an increase in any amount collected.
Status: Senate Energy, Utilities & Commerce 6/18/13

ENERGY PLANNING

AB 284 (Quirk) California Energy Commission Road to 2050 Board
Status: Held in Assembly Appropriations

ENERGY STORAGE

SB 674 (Corbett) Payment for Electricity with Integrated Energy Storage
This bill would require the PUC to adjust the payment rate for electricity purchased from electrical generation facility projects that integrate energy storage to adequately compensate for the additional value that energy storage system provides.
Status: Senate Energy, Utilities & Communications Committee – no vote taken

FINANCING

AB 1131 (Skinner) Changes to Clean Energy Upgrade (PACE) Program
Existing law, until January 1, 2015, appropriates up to $50,000,000 from the Renewable Resource Trust Fund for the CAEATFA to develop and administer Property Assessed Clean Energy (PACE) programs and submit a report to the Legislature regarding the implementation of the programs. This bill would extend that appropriation and the reporting requirement to January 1, 2017.
Status: Senate Rules
GREENHOUSE GAS / CLIMATE CHANGE

AB 153 (Bonilla) Offset Protocols for California Global Warming Solutions Act of 2006
Status: Held in Assembly Appropriations Committee

AB 416 (Gordon) Local Greenhouse Gas Emission Reduction Program
Status: Held in Assembly Appropriations Committee

AB 574 (Lowenthal) Sustainable Communities Strategies
Status: Held in Assembly Appropriations Committee

NATURAL GAS

AB 1257 (Bocanegra) California Energy Commission Natural Gas Report
This bill would enact the Natural Gas Act and would require the CEC, every four years, to prepare
and submit to the Legislature a report containing specified information identifying strategies to
maximize the benefits obtained from natural gas as an energy source and require the Governor to
review that report and provide comment in support of, against, or suggest changes to the
Legislature, and would declare the modified version of the report the state natural gas policy.
Status: Senate Rules

PROPOSITION 39

AB 39 (Skinner) Proposition 39: Grants and Loans for Public K-12 Schools
This bill would require the CEC to continuously appropriate funds and administer grants, no-interest
loans, or other financial assistance to an eligible institution, defined as a public school providing
instruction in kindergarten or grades 1 to 12, for the purpose of projects that create jobs in
California by reducing energy demand and consumption at eligible institutions, and require an
eligible institution that receives funding to report the amount of energy saved to the CEC and to
compute the cost of energy saved as a result of implementing projects funded by the grant, as
prescribed. Require moneys for job training and workforce development to be available from the
Job Creation Fund to the California Conservation Corps, Certified Community Conservation Corps,
Youth Build, and other existing workforce development programs and require moneys for public-
private partnerships to be available for assistance to certain local governments to establish and
implement PACE programs or similar financial and technical assistance consistent with the
requirements of the California Clean Energy Jobs Act.
Status: Senate Rules

AB 114 (Salas) Proposition 39: Workforce Development Programs
This bill would require the Employment Development Department (EDD), using funds made
available from the Clean Energy Job Creation Fund for job training and workforce development
purposes, to administer grants, no-interest loans, or other financial assistance for allocation to
existing workforce development programs for the purposes of creating green energy jobs in
California and would require existing workforce development programs to give higher priority to
disadvantaged youth and veterans who reside in an economically disadvantaged community or in a
community with a higher unemployment rate than the statewide unemployment rate.
Status: Senate Energy, Utilities and Commerce

AB 239 (Hagman) Proposition 39: California Clean Energy School Fund
Status: Assembly Utilities and Commerce – failed passage, reconsideration granted.

SB 39 (De León) Proposition 39: Clean Energy Employment and Student Advancement Act
of 2013
This bill would enact the Clean Energy Employment and Student Advancement Act of 2013 and
would require the OPSC to establish a school district assistance program to distribute grants, on a
SB 64 (Corbett) Proposition 39: Clean Energy on Schools, Universities, and Colleges
This bill would state the intent of the Legislature to install clean energy at public schools, universities, and colleges, and at other public buildings and facilities consistent with the California Clean Energy Jobs Act.
Status: Assembly Desk

RATES AND TARIFFS
AB 327 (Perea) CPUC Authority to Change Residential Electric and Natural Gas Rates
This bill would repeal the limitations upon increasing the electric service rates of residential customers, including the rate increase limitations applicable to electric service provided to California Alternate Rates for Energy (CARE) customers. When the PUC approves changes to electric service rates charged to residential customers, the bill would require that the changes are reasonable, including that the changes are necessary in order to ensure that the rates paid by residential customers are fair, equitable, and reflect the costs to serve those customers. The bill would require the PUC to consider specified principles in approving any changes to electric service rates, to report to the Legislature its findings and recommendations relating to tiered residential electric service rates in a specified rulemaking by January 31, 2014. The bill would delete the statement of Legislative intent that CARE program participants be afforded the lowest possible electric and gas rates and, to the extent possible, be exempt from additional surcharges attributable to the energy crisis of 2000-01.
Status: Senate Energy, Utilities and Commerce

SB 43 (Patterson) Shared Renewable Energy Self-Generation Program
This bill would repeal the local government renewable energy self-generation program. And enact the Shared Renewable Energy Self-Generation Program. It authorizes a retail customer of an electrical corporation to acquire an interest in a shared renewable energy facility for the purpose of receiving a bill credit to offset electricity usage and provides that any corporation or person engaged in developing, owning, producing, delivering in such facility is not a public utility solely by reason of engaging in those activities. The customer's payment to the electrical corporation would be for only transmission and distribution services for the portion of electricity the customer purchases directly from a developer.
Status: Assembly Desk

SB 699 (Hill) Distributed Generation Utility Reporting
This bill would require an electrical corporation to annually report as to the PUC capital expenditures included in the distribution category of the electrical corporation's ratebase for each project including all of the following: total dollar amount, type of equipment installed, purpose of the expenditure, and whether or not the installations affect the interconnection and management of distributed energy resources. This bill further requires an electrical corporation to report all interconnection costs charged to the customer for each interconnection agreement to interconnect distributed energy resources and that for each interconnection agreement executed with customers that interconnect distributed energy resources, the electrical corporation shall report all interconnection costs charged to the customer.
Status: Assembly Utilities and Commerce
SB 743 (Steinberg) Changes to California Alternate Rates for Energy (CARE)
This bill would replace the existing authorization to increase CARE rates based upon the annual percentage increase in benefits under the CalWORKs program and instead authorize the PUC to increase the rates in effect for CARE program participants for electricity usage up to 130 percent of baseline quantities by the annual percentage increase of the Consumer Price Index from the prior year but not to exceed 4 percent per year, and subject to the limitation that the CARE rates not exceed 80 percent of the corresponding rates charged to residential customers not participating in the CARE program.
*Status: Assembly Utilities and Commerce*

**RENEWABLE ENERGY**

SB 124 (Corbett) Rules of Clean Energy Contracts for Public Entities
This bill would require state agencies and the Trustees of the CSU that accept bids or proposals for a contract for the purchase or installation of a clean energy device, technology, or system, as defined, to provide a 5 percent preference to a bidder that certifies that all of the parts of the clean energy device, technology, or system to be installed have been manufactured or assembled in the state, and would authorize a public agency, including, but not limited to, the Trustees of the CSU, to award a contract based on the fact that a clean energy device, technology, or system was manufactured or assembled in the state if the contract is an energy service contract determined to be in the best interest of the public agency.
*Status: Assembly Desk*

AB 177 (Perez) California Renewables Portfolio Standard Program Updates
Under existing law, the Public Utilities Commission (PUC) has regulatory authority over public utilities, including electrical corporations, as defined. The Public Utilities Act requires the PUC, in consultation with the Independent System Operator, to establish resource adequacy requirements for all load-serving entities, including an electrical corporation.

The California Renewables Portfolio Standard Program (RPS), requires a retail seller of electricity and local publicly owned electric utilities to purchase specified minimum quantities of electricity products from eligible renewable energy resources sufficient to ensure that the procurement of electricity products from eligible renewable energy resources achieves retail sales of: 20 percent for the period January 1, 2011, to December 31, 2013, inclusive, 25 percent by December 31, 2016, and 33 percent by December 31, 2020. This bill would extend the required retail sales to a target of 51 percent by December 31, 2030, and to achieve the 2050 goal for reducing emissions of greenhouse gases adopted by the State Air Resources Board.
*Status: Assembly Utilities and Commerce*

AB 217 (Bradford) Low-Income Solar Homes Program
This bill would require the PUC to adopt a program to provide monetary incentives for the installation of solar energy systems on low-income residential housing commencing January 1, 2015, to December 31, 2021, would require the program to be funded by charges collected from customers of specified investor-owned utilities, would prohibit the total cost of the program from exceeding $108,000,000, establish the Low Income Solar Energy Fund, would require the moneys collected to be deposited therein, and to be made available to the commission for the purposes of this bill upon appropriation by the Legislature, and would require that all moneys set aside for the purpose of funding the installation of solar energy systems on low-income residential housing, that are unexpended and unencumbered on January 1, 2022, be utilized to augment existing cost-effective energy efficiency measures in low-income residential housing that benefit ratepayers.
*Status: Senate Rules*
Existing Legislation of Interest

It is important to monitor existing legislation that continues to be pertinent due to the mandatory steps, phasing, or mechanisms required for full implementation. The following bills have already been adopted but may still impact or influence the region.

**AB 758 (Skinner) Comprehensive Energy Efficiency Program for Existing Buildings (October 2009)**

This bill requires the CEC to develop and implement a comprehensive program to achieve greater energy savings in the state of California’s existing residential and nonresidential building stock. The program is being developed over three distinct and overlapping phases:

- **Phase 1:** Infrastructure Development & Implementation Plan (2010 - 2012) COMPLETED
- **Phase 2:** Market Development & Partnerships (2012 - 2014) CURRENT
- **Phase 3:** Statewide Ratings & Upgrades Requirements (2014 - 2015 and beyond) FUTURE

The CEC is addressing the progress of AB758 efforts in the 2013 Integrated Energy Policy Report (IEPR). Commissioner Andrew McAllister is the lead on this proceeding. The 2013 IEPR Scoping Order and information about the status of the IEPR can be found here: [http://www.energy.ca.gov/2013_energypolicy/](http://www.energy.ca.gov/2013_energypolicy/).

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