

## Challenges and Opportunities for Crossborder Climate Change Collaboration

Tuesday, June 2, 2009  
Caltrans, District 11, 4050 Taylor Street, San Diego, CA 92110  
Garcia Conference Room  
12:45 – 5:00 p.m.

1. REGISTRATION AND NETWORKING TIME 12:45 p.m. (15 min.)
2. WELCOME AND INTRODUCTORY REMARKS 1:00 p.m. (20 min.)  
(Hon. Patricia McCoy, Chair of the Borders Committee;  
Hon. Martha Elvia Rosas, Deputy Consul General of Mexico in San Diego;  
Manuel Guevara, City of Tijuana; and Pedro Orso-Delgado, Caltrans)
3. SETTING THE STAGE FOR A DISCUSSION ON CROSSBORDER CLIMATE CHANGE PLANNING 1:20 p.m. (25 min.)  
(Hon. Crystal Crawford, City of Del Mar; Bob Leiter, SANDAG; and Secretary Sócrates Bastida, State of Baja California)

This presentation will provide an overview of the role of SANDAG and the State of Baja California in Climate Change planning and how collaboration on crossborder climate change issues would benefit our border region.

4. SAN DIEGO FOUNDATION'S REGIONAL FOCUS 2050 STUDY ON HOW THE REGION WILL CHANGE AS RESULT OF GLOBAL WARMING 1:45 p.m. (15 min.)  
(Emily Young, San Diego Foundation)

The San Diego Foundation's Regional Focus 2050 Study explores the impacts of climate change on the region into the future. While the study includes some drastic predictions, it also includes some good news on actions that can be taken now to decrease the impacts of climate change in our region.

5. OVERVIEW OF SANDAG REGIONAL CLIMATE ACTION PLAN (RCAP) 2:00 p.m. (30 min.)  
(Susan Freedman, SANDAG)

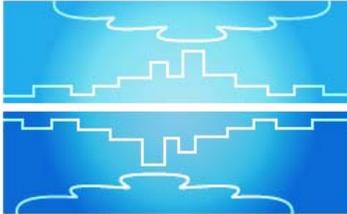
The RCAP will identify Greenhouse Gas (GHG) emissions reduction policies for the San Diego region. It will include quantitative measures to reduce emissions from passenger cars and light trucks and qualitative measures that reduce emissions in land use and transportation planning, and from electricity and natural gas usage.

6. OVERVIEW OF BAJA CALIFORNIA'S PLANNING EFFORTS ON CLIMATE CHANGE (Efraín Niebla, State of Baja California; Gabriela Muñoz, El Colegio de la Frontera Norte; and Rafael García, Universidad Autónoma de Baja California) 2:30 p.m. (30 min)

This presentation will provide an update on climate change research and results obtained from developing the GHG Emissions inventory and the Climate Action Plan for the State of Baja California (PEAC-BC, as in Spanish) via a collaborative agreement between the State of Baja California and the following educational institutions: CICESE, COLEF, and UABC.



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|-----|--|---------------------|
| **  | BREAK **   | 3:00 p.m. (15 min.) |
| 7.  | <p>OPPORTUNITIES TO ADDRESS CLIMATE CHANGE AT SAN DIEGO – TIJUANA PORTS OF ENTRY (Elisa Arias, SANDAG; and Fausto Armenta, IMPlan)</p> <p>SANDAG and IMPlan will share planning activities related to existing and future ports of entry that represent opportunities to address regional climate change issues.</p>   | 3:15 p.m. (15 min.) |
| 8.  | <p>ROUNDTABLE DISCUSSION ON CHALLENGES AND OPPORTUNITIES FOR CROSSBORDER CLIMATE CHANGE COLLABORATION (Binational Panel) (Moderator Paul Ganster, Chair of the Committee on Binational Regional Opportunities.)</p> <p>Experts and stakeholders will share their perspectives on the potential challenges and opportunities to crossborder climate change collaboration.</p> | 3:30 p.m. (30 min.) |
| 9.  | <p>OPEN DISCUSSION</p> <p>Participants will have an opportunity to provide input and pose questions to the panelists.</p>  | 4:00 p.m. (30 min.) |
| 10. | <p>SEMINAR CONCLUSIONS</p>   | 4:30 p.m. (15 min.) |
| 11. | <p>END OF SEMINAR</p>  | 4:45 p.m.           |



## Challenges and Opportunities for Crossborder Climate Change Collaboration

June 2, 2009

### Introduction

In 2007, SANDAG and the Tijuana City Council approved the Otay Mesa-Mesa de Otay Binational Corridor Strategic Plan. This plan served as the framework for the 2008 binational event that focused on smart growth and sustainability along the region's international border. One of the recommendations from the 2008 event called for evaluating coordination between agencies on both sides of the border on Greenhouse Gas (GHG) emissions data. Based on this recommendation the theme of the 2009 Binational Seminar is "*Challenges and Opportunities for Crossborder Climate Change Collaboration.*"

The Binational Seminar will bring a panel of experts to discuss the opportunities and challenges for binational climate change collaboration among agencies on both sides of the border. Organizers hope this event will serve as a forum to share information about how Baja California and the San Diego region are approaching climate change planning activities, learn from each other's experiences, and initiate a dialogue on ways to explore opportunities for collaboration.

### Background

The existence of climate change is no longer a topic of debate – scientists nearly unanimously agree that the planet is warming due to human-related activities. Climate change will affect every geographic region on the planet in distinct ways. The San Diego–Baja California region, with its diverse blend of ocean, desert, mountain, and forest ecosystems will be uniquely impacted. While the speed and severity of projected climate change impacts can be mitigated by reducing world-wide GHG emissions, further warming and associated impacts are unavoidable due to past emissions. Even if world-wide GHG emissions were reduced to zero, global average temperature would continue to increase and impacts would continue to occur for several decades and centuries.

The United Nations Framework Convention on Climate Change (UNFCCC) is an international treaty that sets an overall framework for intergovernmental efforts to address the challenge posed by climate change. In general terms, the UNFCCC addresses what actions can be taken to reduce global warming and to cope with whatever temperature increases are inevitable. The Convention entered into force in March 1994, with 192 countries having ratified it (both the United States and Mexico signed the Convention in 1992). Linked to the UNFCCC, the Kyoto Protocol sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions. Mexico signed the Kyoto Protocol in 1998 and enacted the legislation in 2005. The United States signed the Protocol in 1998, but it has not been ratified or enforced. The Kyoto Protocol expires in 2012; final negotiations to develop a new protocol to replace Kyoto will occur in December 2009.

## What is being done in California?

### Executive Order S-3-05

In an effort to address climate change issues, Governor Arnold Schwarzenegger issued Executive Order S-3-05 in 2005 to advance renewable energy technologies and reduce the emission of GHGs. Executive Order S-3-05 set the following GHG emission reduction targets standards for the state of California:

- Reduce GHG emissions to the 2000 level by 2010;
- Reduce GHG emissions to the 1990 level by 2020; and
- Reduce GHG emissions to 80 percent below the 1990 level by 2050.

### California Global Warming Solutions Act of 2006 (AB 32)

Executive Order S-3-05 was followed by the passage of the landmark California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32), which established a comprehensive program of regulatory and/or market mechanisms to achieve real, quantifiable, cost-effective reductions of GHG emissions. AB 32 codified into law the goal of Executive Order S-3-05 to achieve the 1990 GHG emissions level by 2020, and authorized the California Air Resources Board (CARB) to monitor and regulate sources of GHG emissions in order to reduce GHG emissions. CARB is required to:

- Establish a statewide GHG emissions cap for 2020, based on the 1990 level of emissions, by January 1, 2008;
- Adopt mandatory reporting and verification rules for significant sources of GHGs by January 1, 2008;
- Adopt a scoping plan by January 1, 2009, for achieving the maximum technologically feasible and cost-effective reductions in GHG emissions; and
- Adopt regulations by January 1, 2011, to achieve the maximum technologically feasible and cost-effective reductions in GHG emissions, to become operative by January 1, 2012.

### Senate Bill 375 (SB 375)

The on-road transportation sector is the largest contributor of GHG emissions in San Diego County, accounting for 46 percent of the total GHG emissions, almost twice as much as the next largest sector. Almost 90 percent of emissions in this sector are from passenger cars and light trucks (e.g., sport utility vehicles, pick-up trucks). The state has enacted several laws that create a framework for reducing GHG emissions from the on-road transportation sector. In general, California employs a three-pronged approach to implement this framework:

- Improve the fuel efficiency and lower GHG emissions from passenger vehicles (e.g., Pavley Standards, zero-emission vehicle [ZEV] program);
- Reduce the carbon intensity of transportation fuels (Low Carbon Fuel Standard); and
- Integrate regional land use and transportation planning to reduce emissions from vehicle travel (SB 375).



To further address the GHG emissions-reduction goals of Executive Order S-3-05 and AB 32, SB 375 was signed into law on September 30, 2008. SB 375 will enable Metropolitan Planning Organizations (MPOs), like SANDAG, to collaborate with local governments, CARB, and a variety of stakeholders to meet California's climate change goals. The five key provisions of SB 375 are:

1. Requires CARB to provide each region with GHG emission reduction targets for the automobile and light truck sector.
2. Requires the Regional Transportation Plan (RTP) to include a Sustainable Communities Strategy designed to achieve the targets for GHG emission GHG reduction.
3. Connects Regional Housing Needs Assessment (RHNA) planning with the RTP.
4. Requires regional transportation funding decisions to be consistent with the RTP.
5. Streamlines and creates new California Environmental Quality Act (CEQA) exemptions for certain projects.

### **What is being done in San Diego?**

#### *San Diego County Greenhouse Gas Inventory*

In 2008, the Energy Policy Initiatives Center (EPIC), a research center at the University of San Diego (USD) School of Law, released the San Diego County GHG Inventory. The report calculated the theoretical emissions reductions necessary for San Diego County to reduce emissions to 1990 levels by 2020 - the statewide statutory target under AB 32. The inventory includes historical GHG emissions from 1990 to 2006, and estimates future emissions until 2020 under a business-as-usual scenario. The study is intended to promote understanding of GHG emission sources in the region and to serve as a resource to local and regional policy-makers as they consider strategies to reduce GHG emissions.

Important findings include:

- San Diego County emitted 34 million metric tons of carbon dioxide equivalent<sup>1</sup> in 2006 – an 18 percent increase over 1990 levels.
- By 2020, under a business-as-usual scenario, regional GHG emissions are expected to be 43 million metric tons of carbon dioxide equivalent, an increase of 26 percent over 2006 levels and 48 percent over 1990 levels.
- To meet AB 32 emission reduction targets, San Diego County would have to produce 33 percent less emissions than the projected business-as-usual levels in 2020.
- In 2006, emissions from on-road vehicles represented 46 percent of total GHG emissions in San Diego County.
- San Diego County likely can reduce its GHG emissions to the 1990 level by 2020 through a combination of reduction strategies from all sectors (reductions from the on-road transportation, electricity, and natural gas sectors would represent 81 percent of total reductions).

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<sup>1</sup> Carbon dioxide equivalency is a quantity that describes, for a given mixture and amount of GHG, the amount of CO<sub>2</sub> that would have the same global warming potential, when measured over a specified timescale



### The San Diego Foundation's Regional Focus 2050 Study

In 2008, the San Diego Foundation performed an assessment of the impacts of climate change in the San Diego region in the year 2050 if current trends continue. The primary aim of this analysis was to provide a scientific basis for local governments and other public agencies to develop climate-preparedness strategies for mitigating the damage from, as well as adapting to, climate change.

According to the Focus 2050 Study, the population of San Diego County is expected to grow to 4.5 million in 2050, an approximately 50 percent increase from 2007. Substantial population growth will fuel an increase in GHG emissions and further contribute to the global problem unless preventative action is taken.

Going forward, the San Diego region must develop a plan of action to address and mitigate the expected consequences of climate change for its populace and environment. Some important potential impacts of climate change on the San Diego region as identified by the Focus 2050 Study include:

- Heat Waves – heat waves will increase in frequency, magnitude, and duration.
- Precipitation – the high degree of variability of annual precipitation will prevail, suggesting the region will continue to be highly vulnerable to drought.
- Sea Level Rise – sea levels will rise 12-18 inches resulting in serious flooding in low-lying areas and an increased incidence of extreme high sea level events which occur during high tides.
- Water Supplies and Demand – with 80 percent of imported water coming from the diminishing resources of the Sacramento Delta and the Colorado River – and local supplies being reduced -- the increasing water demand from growing populations and commercial activities will not be met.
- Wildfires – increased drought and potential longer Santa Ana wind conditions will lead to more frequent and severe wildfires.
- Ecosystems – extended drought and increased temperatures can stress individual plants, increase their susceptibility to insect attack, result in widespread forest decline, and the exodus/extinction of plant and animal species.
- Public Health – increases in extreme weather-related illness, rodent- and water-borne disease, pollution, and worsening wildfire conditions will severely affect the region's population.
- Electricity – total electricity demand by 2050 is projected to increase by approximately 60 percent, with peak loads increasing by 70 percent, due to increased cooling demand in the summer and the potential need for water desalination plants to offset reduced water supplies.

### Overview of SANDAG Draft Regional Climate Action Plan

SANDAG is preparing a Regional Climate Action Plan (RCAP) for completion in late 2009. The primary purpose of the RCAP is to analyze and recommend policies that SANDAG and its member agencies can support to address climate change, including policies to reduce



GHG emissions and prepare for the projected impacts to the region. The RCAP will help SANDAG identify measures to meet required GHG emission reduction targets for passenger cars and light-duty trucks required by SB 375. Major RCAP components include:

- A set of guiding principles to serve as a framework for regional and local planning decisions related to climate change;
- Emissions data from the *GHG Emissions Inventory for San Diego County* conducted by EPIC at USD;
- County-specific climate adaptation findings from the *Regional Focus 2050 Study* prepared by the San Diego Foundation;
- Policies to reduce GHG emissions, primarily focused on land use and transportation planning, and electricity and natural gas use; and
- Performance measures to gauge the effectiveness of RCAP policies and monitor progress to meet anticipated reduction targets for 2020 and 2035.

## What is being done in Baja California?

### Overview of Mexico and Baja California's Planning Efforts on Climate Change

In April 2005, the Mexican Congress created the Intersecretariat Commission for Climate Change (or *Comisión Intersecretarial de Cambio Climático*, CICC) to be the entity in charge of promoting and coordinating the development of programs and strategic actions to implement mandates from the UNFCCC. In May 2007, the CICC presented Mexico's National Strategy for Climate Change (or *Estrategia Nacional de Cambio Climático*, known as ENACC) that serves as the framework for the preparation of the Special Plan for Climate Change 2008–2012 within Mexico's National Development Plan (PND) 2007–2012.

ENACC perceives climate change as a strategic national security issue with global repercussions, and it focuses on strategies of adaptation and mitigation.

For the first time, the issue of climate change was included in Mexico's PND, under the section dedicated to sustainability. With this inclusion, Mexico has recognized the impact of GHG in climate change and acknowledged the consumption of fossil fuels as its principal cause.

To date, Mexico has presented three progress reports and three updates of its national inventory of GHG (*Inventario Nacional de Emisiones de Gases de Efecto Invernadero*).

At the local level, the Mexican federal government has established collaboration agreements with state governments for the development of State Programs for Climate Change (*Programas Estatales de Cambio Climático*, known as PECC). The purpose of PECCs will be to:

- Develop an inventory and report of local GHG emissions;
- Identify potential sources of GHG emission reductions;
- Identify the most vulnerable zones, infrastructure, and population;
- Identify projects for adaptation; and
- Develop response and adaptability capacities.



The State of Baja California, through the Secretariat of Environmental Protection (SPA), has already initiated the development of the State Plan for Climate Change Action of Baja California (PEAC-BC, as it is in Spanish), with support from Regional Academic Institutions (IES, as it is in Spanish) such as the Center for Science Research and Superior Education (Centro de Investigación Científica y de Educación Superior, CICESE), The Northern Border College (El Colegio de la Frontera Norte, COLEF), and the Autonomous University of Baja California (Universidad Autónoma de Baja California, UABC).

The general objective of the PEAC-BC is to define, analyze, and propose concrete methods and strategies to confront the State's vulnerability to climate change and GHG emissions, to identify methods of investigation, and strengthen institutional and legal capacity to manage this phenomenon.

For the preparation of the PEAC-BC, a technical coordination group was formed by academics from three IESs and a representative of SPA, who coordinates the work of investigators that are specialists in their respective fields and with a widely-recognized expertise. There are now nine working groups, supported by the participation of State and Federal environmental authorities.

At this time, two workshops addressing this theme have been completed. The first workshop, held on August 25, 2008, at CICESE in Ensenada, was attended by the researchers of the three IESs, where they performed evaluations, and shared impact scenarios such as:

- Climate and Climatic Scenarios
- Ecosystems, Agricultural Sector, and Cattle Farming
- Emissions and the Impact of GHG

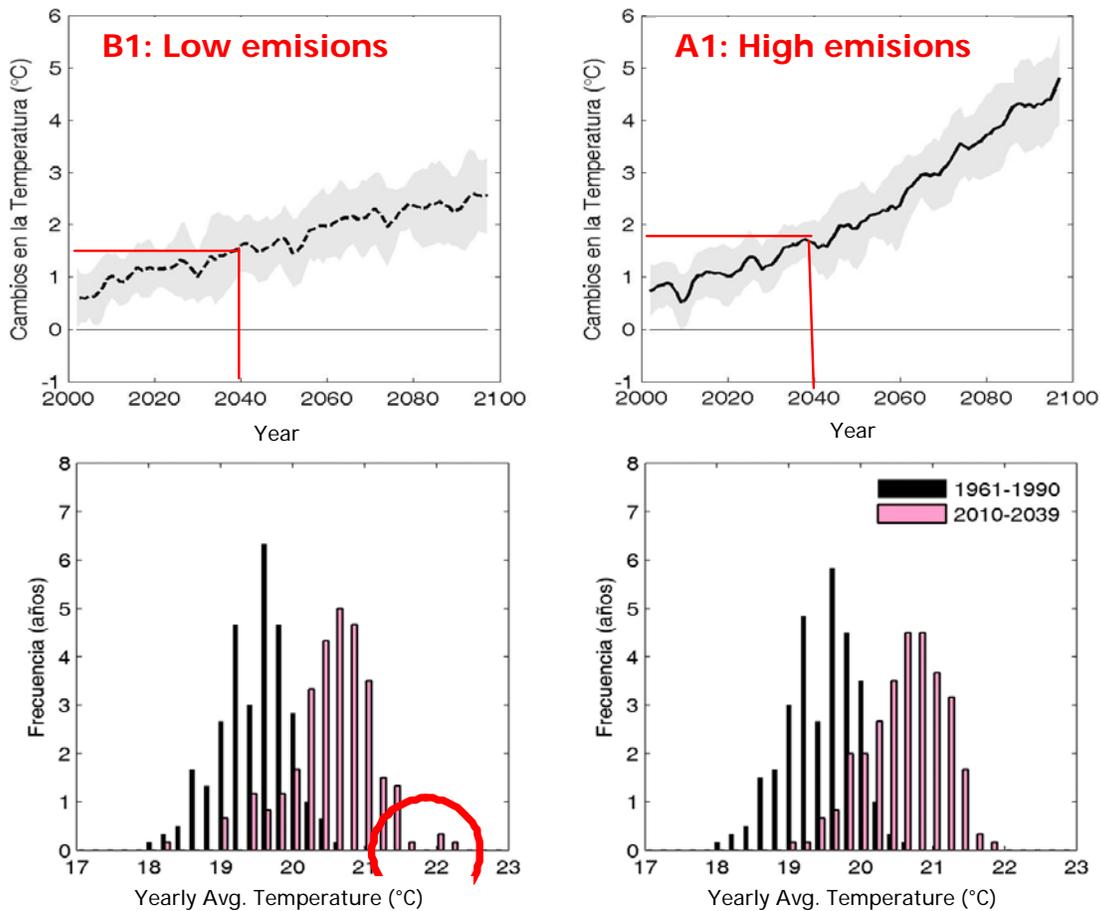
The second workshop took place at the COLEF campus in Tijuana on February 18, 2009, with the objective of presenting the results of the regionalized climate scenarios and initiating academic and governmental collaboration. The stakeholders that participated were: the City of Tijuana's Municipal Planning Institute (IMPlan), the State of Baja California's Water Commission (CEA), Energy Commission (CEE), Secretariat for Health (ISESALUD) and the Institute for Real Estate and Housing development (INDIVI). Participants from Mexico's federal government included the Secretariats for Agriculture and Livestock (SEFOA), for Tourism (SECTURE), and for the Environment and Natural Resources (SEMARNAT). Participants formed collaborative work tables to discuss their respective subjects of expertise.

Investigators from UABC and CICESE generated regional climate change scenarios for Baja California with troubling predictions; they determined that, with no action taken to mitigate or reduce the quantity of GHG emissions, there could be an increase of 1° C (1.8° F) in the average temperature in the next 20 years and up to 5° C (9° F) by the end of this century. Although these temperature increases seem small, scientists warn that even these slight changes could irreversibly harm species forever. In addition, if the average temperature increases one degree, extreme temperatures (minimum and maximum temperature) could increase from 1° C to 3° C (1.8° F to 5.4° F) in the affected region which could affect weather and agricultural cycles.



Furthermore, it was stated that arid and semiarid regions, like Baja California, are particularly vulnerable to climate change because, in addition to the predicted increase in temperature, a 15 percent decrease in annual precipitation is projected in the next 20 years along with high rainfall variation signifying the possibility of many consecutive years of extreme drought followed by extended years of extreme rainfall. The reduction in precipitation would be most severe in winter and spring (10% - 15% less) and, when combined with the projected increase in temperature, could produce a major evaporation/transpiration cycle drying the soil and plants much more rapidly. This could potentially devastate the spring/summer crops that require humidity and cold-weather hours to grow. Moreover, it was identified that these changes could also have other negative effects such as reduced availability of water and energy for agriculture, cattle farming, and tourism.

By the end of 2009 the goal of the PEAC-BC is to propose to the Governor of Baja California a series of strategies and actions to mitigate climate change and adapt to its effects, which would eventually become public policies for the welfare of the Baja Californian society.



## What is being done binationally?

In April 2009, U.S. President Barack Obama and Mexican President Felipe Calderón announced plans to strengthen and deepen bilateral cooperation by establishing the U.S. – Mexico Bilateral Framework on Clean Energy and Climate Change. The Bilateral Framework was established after both presidents recognized a need for joint efforts to reach our common goal of achieving a low carbon future and a clean energy economy. This Framework, which creates a mechanism for political and technical cooperation, and information exchange, will facilitate common efforts to develop clean energy economies, and will complement and reinforce existing cooperative efforts between the two countries.

The Bilateral Framework will focus on renewable energy, energy efficiency, adaptation, market mechanisms, forestry and land use, green jobs, low carbon energy technology development and capacity building, GHG inventories, and climate change mitigation strategies.

With regard to the U.S.-Mexico border, the Bilateral Framework will promote efforts established in the Border 2012 program to reduce GHG emissions, strengthen the reliability and flow of crossborder electricity grids, promote academic and scientific exchanges on renewable energy, and facilitate border states' energy trading mechanisms. Other border activities could include a bilateral border crossing planning group to develop strategies to reduce emissions such as truck stop electrification and anti-idling technology for border vehicles, among other initiatives.



## Background Documents:

- Overview of Senate Bill 375 and related Long-Range Regional Planning  
[http://www.sandag.org/uploads/meetingid/meetingid\\_2118\\_8971.pdf](http://www.sandag.org/uploads/meetingid/meetingid_2118_8971.pdf)
- SANDAG Energy Working Group Meetings  
[http://www.sandag.org/uploads/meetingid/meetingid\\_2305\\_9224.pdf](http://www.sandag.org/uploads/meetingid/meetingid_2305_9224.pdf)
- Energy Policy Initiatives Center (EPIC)  
<http://www.sandiego.edu/epic/>
- The San Diego Foundation's Regional Focus 2050 Study  
<http://www.sdfoundation.org/>
- Overhaul of Climate Programs proposed  
<http://www3.signonsandiego.com/stories/2009/feb/27/1n27climate005026-overhaul-climate-programs-propos/?zIndex=59328>
- Secretaría del Medio Ambiente y Recursos Naturales (SEMARNAT)  
[www.semarnat.gob.mx](http://www.semarnat.gob.mx)
- U.S.-Mexico Announcement of the Bilateral Framework on Clean Energy and Climate Change  
[http://www.whitehouse.gov/the\\_press\\_office/US-Mexico-Announce-Bilateral-Framework-on-Clean-Energy-and-Climate-Change/](http://www.whitehouse.gov/the_press_office/US-Mexico-Announce-Bilateral-Framework-on-Clean-Energy-and-Climate-Change/)





# Challenges and Opportunities for Crossborder Climate Change Collaboration

June 2, 2009

## **PARTICIPANTS BIOGRAPHIES**

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### **1. Scott Anders, EPIC** (Agenda Item 8)

Mr. Anders is the Director of the Energy Policy Initiatives Center (EPIC), an academic and research center of the University of San Diego School of Law. Since 2005, Mr. Anders' work at EPIC has focused on regulatory and policy issues relating to the development of efficient and low-carbon energy. Recent projects include the first ever greenhouse gas inventory for San Diego County, which includes analysis on strategies to reach AB 32 targets, and policy work for a comparison of the San Diego region with regions with emerging clean technology industry clusters. Prior to joining EPIC, Mr. Anders was director of policy and planning at the California Center for Sustainable Energy, where he managed legislative and regulatory activities. He also worked as a policy researcher for a Washington D.C. policy think tank and served as a Peace Corps Volunteer in Mali, West Africa. He holds a Master's. in public policy, with a concentration in environmental policy, from the University of Maryland's School of Public Policy.

### **2. Fausto Armenta, IMPlan** (Agenda Item 7)

Fausto Armenta is currently the Deputy Director of Projects at the Tijuana Municipal Planning Institute (IMPlan). He has vast experience in the public transportation sector through municipal administrations, where he served as a Head Transit Engineer and an external consultant for eight years. Some of the projects he has worked include improving mobility at the Puerta México (San Ysidro) Port of Entry through the implementation of carpool and SENTRI lanes. With IMPlan, Mr. Armenta is in charge of reviewing transportation projects in the City of Tijuana. He received his Electrical and Mechanic Engineering Degree from the Tijuana Institute of Technology.

### **3. Elisa Arias, SANDAG** (Agenda Item 7)

Elisa Arias is a principal planner for Long Range Transportation and Binational Planning at SANDAG. Ms. Arias has nearly 20 years of experience in transportation planning and economic analysis. She has managed several U.S.-Mexico border studies, including the model to estimate impacts of border delays on the economy of the San Diego-Baja California border region, the financial feasibility study for tolling the future State Route 11 and



Otay Mesa East Port of Entry, and the Otay Mesa-Mesa de Otay Binational Corridor Strategic Plan. Prior to joining SANDAG in 1994, Ms. Arias was a transportation planner for the San Mateo County Transit District and the Association of Monterey Bay Area Governments. Ms. Arias was born and raised in Buenos Aires, Argentina. She received a Bachelor's degree from the University of Buenos Aires and a Master's degree in Economics from San Francisco State University.

#### **4. Sócrates Bastida, State of Baja California Environmental Protection Agency**

(Agenda Item 3)

Sócrates Bastida is the Secretary of Environmental Protection for the State of Baja California. In this position, Mr. Bastida establishes, directs, and controls the environmental politics of the State, as well as plans and coordinates applicable environmental legislation. Prior to this position, he was the President of the Commission of Urban Development and Ecology for the City of Tijuana, and a Representative of the XVI Legislature of the Congress of the State, as the President of the Housing Commission. He received a certificate in Public Administration and a Bachelors degree in Business Administration from the Universidad Autónoma de Baja California.

#### **5. Crystal Crawford, City of Del Mar**

(Agenda Item 3)

Crystal Crawford has been the Mayor of the City of Del Mar since 1998. She was first elected to the City Council in November 1998 after having served on the Del Mar Design Review Board from 1994-1998, the last three years as the Chair. She successfully ran for re-election to the City Council in November 2002 and November 2006. During her ten years in office, Ms. Crawford has served on many local and regional Boards and Committees. She is currently a SANDAG Board member and North County Coastal Representative on the SANDAG Borders Committee. As the initial chair of the Borders Committee, Ms. Crawford worked to expand relationships with Riverside, Imperial, and Orange Counties and to broaden SANDAG's relationships across the international border. She is also the region's representative on the California Biodiversity Council. She received her law degree from University of San Diego in 1983.

#### **6. Rafael García-Cueto, UABC**

(Agenda Item 6)

Rafael García-Cueto is a professor at the Universidad Autonoma de Baja California, Mexicali, Mexico. He has a Masters degree in Agrometeorology and a Ph.D. in Geography. He is a member of Researchers National System of Mexico. He has worked in projects related with meteorology and climatology for more than 20 years, and is involved in climate change research and urban climatology.



## **7. Francisco Doñez, US EPA**

(Agenda Item 8)

Francisco Doñez is a staff member in the Clean Energy and Climate Change Office at EPA Region 9 in Los Angeles, California. An EPA employee since 1997, Francisco has also worked in Region 9 on NOx and VOC stationary source rulemakings, heavy duty diesel emissions through the West Coast Collaborative, and as several U.S.-Mexico border projects. Between 1997 and 2001, he worked at EPA headquarters, where he performed economic analysis of environmental regulations, and coordinated climate change policy and research collaborations with the Mexican government. Francisco has a Bachelor's in Mechanical Engineering from MIT and a Master's degree in Public Policy from Georgia Tech; and is a doctoral candidate in the Energy and Resources Group, University of California, Berkeley.

## **8. Jose Raúl Félix-Saúl, Baker & McKenzie**

(Agenda Item 8)

José Raúl Félix-Saúl is a partner with Baker & McKenzie Abogados, in Juarez, Mexico. He practices in the following areas of law: Environmental Advisory; Climate Change; Renewable Energy Law; and Environmental Litigation. He is the national coordinator of the Climate Change and Renewable Energy Practice in Mexico. Mr. Félix-Saúl received his law degree summa cum laude from the Universidad de las Américas-Puebla in 1999 where he specialized in Administrative, Foreign Investment, and International Law. He took courses on International Law, at the University of British Columbia in 1998. He received his Master of Laws ("LL.M.") from Boalt Hall School of Law at the University of California-Berkeley in 2001.

## **9. Susan Freedman, SANDAG**

(Agenda Items 5 and 8)

Susan Freedman is the Senior Regional Energy Planner for SANDAG. Ms. Freedman manages SANDAG's energy and climate change planning program, which includes an energy planning partnership with the California Energy Commission. Prior to joining SANDAG, Ms. Freedman led policy and planning activities for the San Diego Regional Energy Office (now the California Center for Sustainable Energy). Before that, she spent six years in Washington D.C. addressing federal and multi-state energy and clean air policies. She holds a Bachelor's in Political Science/Ecology from Emory University and a Master's in Energy/Environmental Policy from the College of Urban Affairs and Public Policy at the University of Delaware.



## **10. Paul Ganster, Institute for Regional Studies of the Californias at San Diego State University**

(Moderator, Agenda Item 8)

Paul Ganster, Ph.D., is Professor of History, Director of the Institute for Regional Studies of the Californias, and Associate Director of the Office of International Programs at San Diego State University. He is chair of the Good Neighbor Environmental Board, a federal panel that advises the President and Congress on U.S.-Mexican border environmental issues. He also chairs the Committee on Bi-National Regional Opportunities (COBRO) of SANDAG. He is author of more than fifty articles, book chapters, and edited works on policy questions of the U.S.-Mexican border region, border environmental issues, Latin American social history, and comparative border studies. He has been a Fulbright Lecturer in Costa Rica and consultant on programmatic development for the United States Information Agency at universities in Mexico, Bolivia, Costa Rica, and Ecuador. Dr. Ganster also has been a visiting professor at the School of Economics of the Universidad Autónoma de Baja California in Tijuana. He received his Bachelor's from Yale University and his Ph.D. from University of California, San Diego (UCSD).

## **11. Dan Garza, Cal/EPA**

(Agenda Item 8)

Daniel Garza is the Senior Technical and Policy Advisor for Cal/EPA Deputy Secretary for Border Affairs. Mr. Garza has over 25 years experience in hazardous waste management, specifically in pollution prevention and source reduction. In his capacity as Cal/EPA's Pollution Prevention Border Coordinator, he has developed and presented pollution prevention training for a variety of industry sectors in Baja California. He has also developed training incorporating pollution prevention techniques into development of Environment Management Systems planning. Currently, Mr. Garza is the lead for the implementation of the Memorandum of Understanding between Mexico and California which encompasses technology transfer and information sharing in areas such as climate change, air quality, and water quality, to name a few. He is also California's lead staff for the Environment Worktable of the Border Governors Conference.

## **12. Saúl Guzmán, SEMARNAT**

(Agenda Item 8)

Saúl Guzmán García, is the Director of the Management Unit of the Delegation of the Office of the Secretary of Environment and Natural Resources in Baja California.



### **13. Manuel Guevara, City of Tijuana**

(Agenda Item 2)

Manuel Guevara is currently the Administrator of the Municipality of Tijuana. Previously Mr. Guevara occupied various positions in the Baja California public sector as well as the private sector. He was the Subsecretary of SAHOPE (Secretariat of Human Settlements and Public Works for the State of Baja California), Director of COPLADEM Tijuana, Director of Playas de Rosarito's Urban Development Department, Secretary of Urban Development of Tijuana, and a consultant for the developers of the Valle de las Palmas and Puerto Punta Colonet development projects. His experience includes the preparation of urban development projects, highway planning, and feasibility studies of territorial reserves for housing projects, among others. He is also a Civil Engineer for the Universidad Autónoma de Baja California.

### **14. Bob Leiter, SANDAG**

(Agenda Item 3)

Bob Leiter has served as Director of Land Use and Transportation Planning for SANDAG since 2003. Bob is responsible for leading the development and implementation of SANDAG's *Regional Comprehensive Plan*, and oversees regional planning activities in the areas of transportation, land use, public facilities, environmental management, and interregional and bi-national collaboration. Mr. Leiter joined SANDAG following a 29-year career in city planning in California that included service as planning director for the cities of Chula Vista, San Rafael, Escondido, and Ventura. He is a member of the College of Fellows of the American Institute of Certified Planners, and is the Board Chair of the American Planning Association's Regional and Intergovernmental Planning Division. Mr. Leiter holds a Bachelor's in Political Science and Master's in Economics from University of California, Santa Barbara (UCSB).

### **15. Holly Lepre, Clean TECH San Diego**

(Agenda Item 8)

Holly Lepre is vice president of Clean TECH San Diego, a nonprofit corporation formed in 2007 whose mission is to accelerate San Diego as a world leader in the clean technology economy. Prior to joining Clean TECH San Diego, Mrs. Lepre spent 10 years in Washington, D.C. working in the executive and legislative branches, as well as non government organizations. In 2003, Lepre was selected as a Presidential Appointee and worked in the U.S. Environmental Protection Agency in its office of congressional relations and then leading its public affairs division. Mrs. Lepre began her career in broadcast journalism in North Carolina working as a reporter for television and all-talk radio news. She holds a Bachelor's in Broadcast Communications from East Carolina University.



## **16. Hon. Patricia McCoy, Mayor Pro Tem of the City of Imperial Beach and Chair of SANDAG's Borders Committee**

(Agenda Item 2)

Patricia McCoy is a City Councilmember for the City of Imperial Beach. Patricia is currently the Chair of the SANDAG Borders Committee and was appointed as San Diego County's representative to the California Coastal Commission by the Speaker of the California State Assembly. She attended the University of Southampton, College of Education in the U.K. and subsequently taught during the next 20 years in England, Colombia, Costa Rica, Florida, Georgia, and California.

## **17. Gabriela Muñoz, COLEF**

(Agenda Item 6)

Gabriela Muñoz is a research professor of climate change, energy, and air quality. Her research experience covers both modeling (environmental geochemistry, life cycle assessment, CO<sub>2</sub> sequestration) as well as environmental analysis (wastewater, soil and air filters samples). Her main interest is to apply her technical knowledge into social and economical aspects. Currently, she is the coordinator of the research project to develop the Plan of Climate Action for Baja California, Mexico. Ms. Muñoz earned her Ph.D. & DIC in Environmental Sciences from Imperial College London in 2000.

## **18. Efraín Nieblas, State of Baja California Environmental Protection Agency (SPA)**

(Agenda Items 6 and 8)

Efraín Nieblas is the Director of Environmental Management for the State of Baja California Environmental Protection Agency. His responsibilities include coordinating air quality programs, managing the state emissions registry, and monitoring the air quality network. He is also the General Coordinator of the State of Baja California's Climate Action Plan, and the Co-President of the Binational Air Quality Work Group for Imperial County and Mexicali for the Border 2012 Program. Mr. Nieblas earned his Bachelor's degree in Biology, a Master's degree in Systems Engineering Sciences, and his Doctorate in Environmental Sciences from the Universidad Autónoma de Baja California.

## **19. Pedro Orso-Delgado, District Director of Caltrans District 11**

(Agenda Item 2)

Pedro Orso-Delgado is the Director of Caltrans District 11, which includes San Diego and Imperial Counties. His duties include supervising the construction and implementation of all state roads and highways and improving the general mobility of the region. He received his Civil Engineering degree from San Diego State University (SDSU).



## **20. Martha Elvia Rosas Rodriguez , Cónsul General of Mexico**

(Agenda Item 2)

Martha Elvia Rosas Rodríguez has been the Cónsul General of Mexico in San Diego, California since 2005. Prior to this position, she served as the Chancellor of the Mexican Embassies in the Dominican Republic and Paraguay. Moreover, Ms. Rosas has worked in various offices of the Secretary of External Relations in Mexico City and has been a Delegate for the same offices in the cities of Venustiano, Carranza, and Miguel Hidalgo. She received her Bachelor's degree in Law from the Universidad Nacional Autónoma de México, and her Master's degree in Diplomacy and International Relations.

## **21. Emily Young, San Diego Foundation**

(Agenda Item 4)

Emily Young joined The San Diego Foundation in October 2000 and currently serves as Senior Director of Environment Analysis and Strategy. Emily is responsible for working with donors and other foundations to provide them with knowledge and information concerning the region's environmental needs and opportunities, managing The San Diego Foundation's environmental grants, and working with volunteers in the Environment Working Group to design and implement grant-making initiatives in the Environment Program. Before she joined The Foundation, Emily was an Assistant Professor at the University of Arizona's Department of Geography and Regional Development for five years, where she taught and conducted research in the area of environment, sustainable development, and marine conservation in Mexico and Latin America. Emily graduated from the University of Wisconsin-Madison with a double Bachelor's in Ibero-American Studies and Spanish, and a Master's in Geography. She received a Ph.D. in Geography from the University of Texas at Austin.





