



## **Good Neighbor Environmental Board (GNEB) Meeting**

**March 24 - 25, 2011  
Mandarin Oriental  
1330 Maryland Avenue, S.W.  
Washington, DC 20024**

### **DRAFT MEETING SUMMARY**

**THURSDAY, MARCH 24, 2011**

#### **Welcome and Introductions**

*Diane Austin, Acting Chair, Good Neighbor Environmental Board (GNEB); Cynthia Jones-Jackson, U.S. Environmental Protection Agency (EPA), Acting Director, Office of Federal Advisory Committee Management and Outreach (OFACMO); and Mark Joyce, EPA, OFACMO, GNEB Acting Designated Federal Officer (DFO)*

Mr. Mark Joyce (EPA, OFACMO), acting DFO, welcomed members and called the meeting to order at 9:09 a.m. EDT. He thanked the participants for attending and announced that Nancy Sutley, Chair of the White House Council on Environmental Quality, would be addressing the Board at 9:30 a.m.

Dr. Diane Austin (University of Arizona), acting GNEB Chair, welcomed returning and new members to the meeting and noted that member introductions would begin before Ms. Sutley's visit and be completed after her remarks.

Ms. Cynthia Jones-Jackson (EPA, OFACMO), thanked all members for attending, including the new members she had met at the orientation on March 23rd, and the returning members, who she also thanked for their dedication. She commented that GNEB's past work has been excellent and she anticipated that the Board would continue that caliber of work. Serving as a nonpartisan advisory board to the President and Congress on environmental and infrastructure practices along the U.S. border with Mexico, this Board is tasked with providing recommendations on a broad range of environmental and economic issues. EPA is particularly excited that GNEB will be addressing the environmental and economic benefits of increased use of renewable energy in the border region.

Board members, audience members, and support staff introduced themselves. Dr. Austin thanked the staff at OFACMO for coordinating the meeting. Ms. Jones-Jackson then introduced Ms. Sutley.

#### **Opening Remarks and General Discussion**

*Nancy Sutley, Chair, White House Council on Environmental Quality (CEQ)*

Ms. Sutley expressed her pleasure in addressing the Board; having served on GNEB herself, she understands that members are performing a great public service. She thanked the Board for its excellent work on the 13th Report; CEQ appreciated the careful thought and input in the report. GNEB works diligently to craft the recommendations in the reports, and these reports provide a great service to the Administration as they are an important way to hear from communities along the border about the environmental priorities in the border region. CEQ and other federal agencies take GNEB's recommendations seriously. CEQ is bringing agencies that work on southwest border environmental

issues together, and this interagency group has taken a careful look at the recommendations in the 13th GNEB report. She noted that the Board was beginning its work on the 14th report, which will focus on clean energy and its enormous potential to improve the economic and environmental health of the border region. The President believes that developing and promoting clean energy opportunities is essential to the world, our Nation, and the border region. In the State of the Union speech, he laid out a path for the United States to out-educate, out-innovate, and out-build the rest of the world to secure a competitive position in the global economy, and clean energy is an important part of this plan. The jobs and industries of the future must be created by doing what our Nation does best: investing in the creativity and imagination of its citizens. The President has challenged scientists and engineers to invent and develop new technologies, and set a goal of generating 80 percent of America's electricity from clean sources by 2035. The border region has enormous potential for solar, wind, and geothermal energy and CEQ believes that it is well-positioned to be an important part of this clean energy revolution. In his budget, the President proposed more than \$8 billion for clean energy research and development to help create new industries and jobs in these areas, which will be long-term sustainable jobs in the United States.

CEQ has been focused on energy efficiency, which is the cheapest and cleanest energy resource available. If the United States became 20 percent more energy efficient, it would save more than \$200 billion annually. Energy efficiency will continue to be one of the most readily available ways to create jobs, save money, and reduce pollution. Many investments have been made in clean energy technology, but the Administration also has been investing in the policies that will grow a sustainable energy efficiency market. CEQ has been examining an idea called "recovery through retrofit" for the residential market. Retrofit technologies exist that can cut homeowners' energy use by an average of 40 percent. This market, however, has never been successful because it is difficult to maintain. CEQ wants to examine ways to give homeowners and businesses the tools that they need to ensure that this market will grow and flourish. The Department of Energy (DOE) has developed a home energy score that provides information to homeowners about energy use and retrofit options. The Department of Housing and Urban Development (HUD) has developed a new power saver loan that will make it easier for homeowners to retrofit. CEQ has developed new workforce guidelines and protocols for energy upgrades to ensure that there is a well-trained retrofit workforce. The Administration has made significant investments in clean energy through the American Recovery and Reinvestment Act (ARRA) and is now beginning to see its benefits. A few years ago, the United States made 2 percent of the world's advanced batteries for vehicles, and now because of the ARRA investment, the Nation will have 20 percent of the world market by next year, and as much as 40 percent by 2015. This increase is good for the development of advanced vehicles, for the auto industry, and for the communities that rely on it. Each time a factory opens, it becomes a lifeline for communities and supports hundreds of jobs directly and indirectly.

In the border region specifically, DOE is working to develop best practices for energy conservation and alternative energy in states along the southwest border, and along with the Mexican Government and its utilities, is developing a plan to map out wind resources in strategic areas in Mexico. DOE also has been working with the Mexican Government on the deployment of technologies that will help to increase energy efficiency and reliability. CEQ has examined the 13th report carefully, and is working hard to ensure it is responding to some of the Board's recommendations. The border region contains a number of poor and largely minority communities that are disproportionately affected by environmental conditions and a lack of basic infrastructure. The border has specific challenges, as pointed out in the GNEB report, because of climate change. Climate change adaptation is an important issue, and border communities have to deal with associated problems such as a decrease in water availability and increased drought duration, changes in vegetation, and changes in habitat. CEQ has been working with a number of agencies to ensure that the Federal Government is doing what it should to prepare for the impacts of climate change. CEQ has issued implementation instructions to give direction to federal agencies on how they should integrate climate change adaptation into their planning, operations, policies, and programs to ensure that federal resources are invested wisely and programs will remain effective in the face of changing climate. In another area with respect to climate, the Federal Government has many scientific resources, data, and information, and sometimes does not share these effectively with those who really need it. CEQ received a lot of feedback from state, local, and tribal governments that information about climate change impacts

should be made available and more accessible so decisions can be made about how to limit risks and reduce the long-term costs of coping with climate-related damages.

The Border 2012 program is an important part of the Federal Government's efforts to achieve public health results in communities across the border; the program recognizes that we all share responsibility for a healthy border region. Ms. Sutley thanked the Board again for its hard work.

### *Discussion*

Mr. John Wood (Cameron County Regional Mobility Authority), GNEB member, commented that he had been on the Board for 4 years, and prior to Ms. Sutley's tenure at CEQ, GNEB did not have this level of engagement with CEQ. He noted that Ms. Sutley and CEQ have invigorated the seasoned members of the Board. GNEB members consider the content of the report potentially beneficial to CEQ, the President, and the Nation. Ms. Sutley said she appreciated that fact. Washington can seem a distant place to communities along the border, and the reverse is true as well. The Board brings a voice that does not otherwise exist for the Federal Government, and tries to amplify the voices of communities along the border.

Mr. Edward Drusina (International Boundary and Water Commission [IBWC]), GNEB member, stated that Ms. Sutley's words were very encouraging. As the new IBWC Commissioner, he has been working closely with the Border Environment Cooperation Commission (BECC) and the North American Development Bank (NADB), and held a successful meeting recently with environmental interests from both sides of the border. He believes that GNEB has an excellent mixture of members to address border region issues.

Mr. Luis Ramirez Thomas (Ramirez Advisors Inter-National, LLC), GNEB member, commented that additional funding was needed for border infrastructure, and asked Ms. Sutley about her thoughts on nuclear energy. She responded that the President believes that nuclear is an important part of the energy mix, but clearly the events in Japan remind the Nation that safety is the most important factor when dealing with nuclear energy. The President has asked the Nuclear Regulatory Commission (NRC) to redouble its efforts to ensure that the nuclear plants in the United States are safe. As the Nation seeks to develop additional clean energy resources, it must deal with their environmental and public health impacts. Energy use has consequences, and it is important to invest in energy efficiency. Nuclear energy's future as a resource depends on the ability to produce it safely and ensure that there is no harm to communities as a result of its use. It is the responsibility of the Federal Government to ensure this safety.

Mr. Luis Olmedo (Comite Civico Del Valle, Inc.), GNEB member, noted that it was a great honor to be part of GNEB. He has seen progress on the ground because of the work of this Administration. There is great concern about infrastructure, however, as budgets are declining and governments are shrinking. He sees great interest in renewable energy, but issues of permitting and streamlining remain, and some protections are being removed. Ms. Sutley replied that as renewables are being developed, their environmental impact must be taken into account. Communities must have a voice in this process. People who are developing these resources cannot do so at the expense of the environment, public health, and communities. The Department of the Interior (DOI) and other agencies that have permitting responsibilities have been working with the State of California to share responsibility for permitting and approval, but the earlier communities can be engaged, the better.

Dr. David Henkel (University of New Mexico), GNEB member, stated that many of the discussions about renewable energy have overlooked the way that poor communities perceive these as lesser sources of energy. In some cases, discussions about energy conservation and efficiency overlook the rate of consumption that is presupposed; the policies assume that poorer communities will reach the rate of consumption of society in general. He asked to what degree EPA or other agencies try to marry the analysis of new energy sources with assessment of how rates of consumption can be reduced. Ms. Sutley answered that energy efficiency is a resource, and one that will vary depending on the accessibility of

techniques to reduce energy use, and whether use is industrial, commercial, or residential. Not just in poor communities, but across the United States, homeowners do not understand how their homes use energy and opportunities to reduce energy use. The home energy score is one possible tool to help homeowners understand how their homes perform relative to similar homes. Opportunities exist for communities and retrofit businesses to help homeowners reduce energy use. Community colleges and trade unions are focusing a great deal of training on this, and that is why standards had to be developed. For low income communities, opportunities exist in energy savings but also in job creation. The Federal Government's role is to provide tools and set broad goals, but programs must be designed to meet community needs.

Mr. Stephen Niemeyer (Texas Commission on Environmental Quality [TCEQ]), GNEB member, noted that Commissioner Drusina mentioned BECC and NADB. He stated that in the 13<sup>th</sup> report the GNEB was careful not to request additional funds for border water and wastewater infrastructure, and wanted to know if there were going to be any increases in such funds in the future. Ms. Sutley responded that the money that has been invested in water and wastewater infrastructure generally has been spent. EPA, through ARRA, did give a substantial amount of money to states for drinking water and wastewater infrastructure. The federal money is important; if the federal share of the total money that is invested in water and wastewater infrastructure is declining, EPA must set priorities for allocating the money that remains. This Board should continue to remind the government that there is a real need along the border.

Ms. Cecilia Aguillon (Kyocera Solar, Inc.), GNEB member, commented that her company is challenged on two fronts: financing for low income housing, and the utility companies. Programs exist for energy efficiency, but they are difficult to find on the utilities' Web pages. Can the Administration provide some help and guidance on how to deal with the utility companies as well as with the financing community so that renewable energy businesses can cooperate and collaborate with them? Ms. Sutley agreed that this is a key issue, because many decisions are made at the state level. The Federal Government has to watch how these decisions are implemented when examining the financial implications of energy efficiency of distributed energy like solar. A number of agencies including CEQ have been in discussion with the National Association of State Regulatory Commissions. CEQ wants a serious discussion at the national level about the kinds of financial and rate-making policies that will help to ensure a level playing field. California has been at the forefront in developing policies that protect utility shareholders and promote innovation. CEQ will need to focus on this issue.

Dr. Austin thanked Ms. Sutley for her presentation, and reviewed the agenda and background issues with the Board members. The first day's schedule largely consists of presentations that relate to the topic of this year's report. These will be followed by discussions among the Board members about the report. On the second day, GNEB will plan the June and September meeting dates and locations. Meetings on the border will allow people from those regions to share information with the Board about environmental issues in the community related to the report. The remainder of time on the second day will be spent discussing the report and delegating specific areas to various members.

Mr. Joyce noted that, in advance of the meeting, all members had received a draft discussion outline for the report, which is intended to form a basis of what would be discussed during the meeting. The outline contains three sections: (1) current border environmental issues; (2) renewable energy resources in the border region; and (3) economic opportunities that renewables present for the border region. More affluent areas are more able to deal with environmental concerns in their communities, so the hope is that by creating economic opportunity, jobs and resources will be developed in these areas. This also will lead to a better environment with cleaner air and energy technologies. The economic section of the report would examine the entire spectrum of renewables from manufacturing through installation, maintenance, and training. By the end of the second day of the meeting, GNEB should have an expanded outline noting the major areas of the report and which members will be responsible for drafting the initial text. To have a report ready to transmit to the President by December 2011, text must be finished by the first of November. The substantive body of the text must be available by the June meeting. The text will be edited and revised, and the September meeting will be the last opportunity for substantive issues with the report to be raised. Additionally, the locations of the June and September meetings can be tied to the

report topic. GNEB must consider which communities present an opportunity to educate the Board on renewables while drafting the report. By June, it must be decided where the report will be released: in Washington, DC, or in a border community.

Mr. Gary Gillen (Gillen Pest Control), GNEB member, mentioned that 6 years ago, reports were generally released at the Border Governors' Meeting, but many GNEB members were not able to attend this meeting. He thought the report should be released at a location where the majority of Board members could attend. Mr. Joyce responded that the December meeting would be a full Board meeting.

Ms. Ann Marie Wolf (Sonora Environmental Research Institute, Inc.), GNEB member, wondered why the Board was not choosing its own topic as it had for the previous five years she had served on the Board. She noted pressing infrastructure and environmental health issues, and remained concerned that GNEB was not able to discuss and select the topic this year. Mr. Joyce replied that GNEB provides advice to the President and Congress, and EPA and the Board have worked for a number of years to create a relationship with CEQ. The way in which topics have been identified for the Board's reports have evolved; GNEB now is working closely with CEQ to ensure that the Board is producing advice and recommendations on the topics that are the highest priority to CEQ and the Administration. This year's topic was deemed to be important for the EPA Administrator, the Agency, and CEQ. An opportunity for discussion will be available later in the year about priorities for the 15th report; the ideas will be transmitted to CEQ, and CEQ then will ask the Board to provide advice and recommendations on a specific topic. Ms. Jones-Jackson added that CEQ has been a tremendous advocate of GNEB and Ms. Sutley has taken a personal interest in the Board's activities. This is the first year that Ms. Sutley encouraged other agencies to comment on GNEB's recommendations. As a result, she is interested in having EPA and other agencies collaborate on bringing some of the recommendations to fruition. Ms. Sutley expressed interest, on behalf of the President, in pursuing this topic. Members can raise other topics of interest that can be pursued in future reports.

Mr. Evaristo Cruz (Environmental Management Office, Ysleta del Sur Pueblo), GNEB member, noted that information and data requirements for the topic would require input from DOE. DOE has data on energy efficiency grants and recipients are reporting on those projects now. He asked if it would be possible to interface some of the work with DOE to be consistent with that agency's goals and objectives. Mr. Joyce responded that it would be possible; there is an official DOE representative on the Board who is not present at the meeting. In preparation for this meeting, EPA has had discussions with representatives from the National Renewable Energy Laboratory, other parts of DOE, and other agencies. The intent is that the Board draw on expertise of all federal agencies working on these topics.

Mr. Robert Apodaca (U.S. Department of Agriculture), GNEB member, understood that part of the objective of the Board is to produce a report and he has seen past reports. The various agencies at the table already have been tasked with implementing a number of recommendations from the Board. He asked what was being done to move the recommendations to the next stage. Ms. Jones-Jackson replied that she and Mr. Joyce served on CEQ's Southwest Interagency Workgroup. CEQ is examining the different recommendations, and is willing to help select one or two projects stemming from the 13th report; hopefully, something may be implemented by end of year. CEQ will meet April 27, 2011, to discuss which of the one to three projects will be pursued. Mr. Joyce added that advisory committee recommendations are purely advisory in nature; agencies are not required to act on them and there is no deadline for implementation. Some recommendations made a decade ago have been implemented only in the past few years. Ms. Toni Rousey (EPA, OFACMO) added that CEQ takes all the recommendations very seriously; the interagency workgroup mentioned can be used as a forum to discuss the issues and the border region in general.

Mr. Niemeyer stated that meeting locations outside a major metropolitan area are difficult and costly to reach, but the Board members are committed enough to attend meetings in these locations. He noted that there are many locations where the Board could actually see renewable energy technologies and that would be useful for preparing this report. Additionally, GNEB members should have copies of the

President's response to the recommendations from past reports to help members learn the impact of GNEB's work. Lastly, the border emergency response report recommended that emergency response equipment be provided to Mexican responders, and within a year or two of that report, a program was started by the Department of Defense (DoD) to provide the equipment and training.

## **Air Quality and Climate Change Along the U.S.-Mexico Border**

### Air Quality Impacts in the Border Region

*Sue Stendebach, EPA, Office of Air and Radiation (OAR), Senior Advisor on International Air Quality*

Ms. Stendebach described the border zones as uniquely varying in terms of geography, topography, geology, temperature, humidity, amount of sunlight, wind patterns, population, industry, and socioeconomic factors. These variances define the types, sources, distribution, and impacts of pollution in the particular area of study as well as the conditions for renewable energy.

Major criteria emissions' sources in the border region include vehicles. Many vehicles in use in the border region emit large amounts of nitrogen oxides and particulate matter (PM), with diesel vehicles also emitting black carbon and carbon dioxide. New clean vehicles and ultra-low sulfur fuels will lower these emissions in the United States, but Mexico will not have ultra-low sulfur diesel nationwide until late 2014, although it is tightening its emissions standards. Energy generation facilities also release sulfur dioxide and nitrogen oxides among other pollutants.

The current standard for ozone in the United States is 0.075 ppm 8-hour standard. EPA has proposed a range of 0.060 to 0.070, with a final rule on the matter expected this summer. For PM<sub>10</sub>, the standard is 120 µg/m<sup>3</sup> 24-hour standard and 50 µg/m<sup>3</sup> annual standard. The border region has ozone monitoring stations along the border grouped in the large cities, and ozone concentration is highest in the Tijuana-San Diego area, and lowest in the Lower Rio Grande Valley. Ozone concentrations in many of the areas monitored have decreased since 2008. The PM<sub>10</sub> concentrations are highest in the Mexicali/Imperial Valley region, with levels exceeding 250 µg/m<sup>3</sup> annually.

An asthma case study showed that Imperial County, California, has the highest rate of children's asthma hospital admissions in the state. More than three times the state average were admitted to hospitals in 2003, and 85 percent of the admissions were Latino children. As of 2009, children in Imperial County still were three times more likely to be admitted to the hospital for asthma than the rest of the state.

Population density in the border region is highest in the El Paso and San Diego regions, but overall is expected to grow, using a mid-range estimate, to almost 20 million by 2030 from approximately 14 million in 2011. As a result, trade will increase substantially over time, increasing freight movement across the U.S.-Mexico border. The number of northbound trucks increased to more than 4.8 million per year in 2008, but the number of passenger cars has decreased to 79 million from a high of almost 92 million in 2005. Goods shipped by truck comprise more than 70 percent of U.S.-Mexico trade, and increased trade will mean increased emissions along trade corridors and at points of entry (POEs).

Under the proposed U.S.-Mexico long-haul trucking program, the Department of Transportation (DOT) leads would phase in a program opening the border to long-haul trucks. Presidents Obama and Calderon have agreed to the program, but Congressional approval and a public comment period are needed. Mexican trucks and drivers must be certified for participation in the program, and Mexican truck engines must bear an EPA certification label for the year of manufacture. The problem remains that ultra-low sulfur diesel will not be available in Mexico until November 2014, and it is necessary to maintain diesel particulate filters that reduce PM emissions by greater than 90 percent. An increase in long-haul trucks likely would reduce the number of drayage trucks crossing the border. Thus, trucks would be cleaner, but over time, trade would likely increase such that the number of long-haul trucks would outnumber the drayage trucks they replace. The United States needs to determine the correct combination of integrated mechanisms to decrease idling and increase security and safety.

The Joint Working Committee on Transportation Planning recently hosted a workshop on greening transportation at the border that addressed anti-idling at POEs. Additionally, in response to GNEB's recommendation to address anti-idling at POEs, EPA is working with this committee, CEQ, the Federal Highway Administration (FHWA), and other agencies to explore viable approaches. Anti-idling mechanisms also provide the opportunity to achieve co-benefits, such as simultaneously decreasing criteria pollutants and greenhouse gases.

EPA Region 6 helps support local and binational planning and projects through the El Paso-Juarez Joint Advisory Committee (JAC). The One Basin Resolution for the area will facilitate monitoring, vehicle inspection, and harmonization of standards, and the JAC has added metropolitan planning organizations to expand its ability to address emissions. El Paso now is in attainment for the ozone, carbon monoxide, and PM<sub>10</sub> National Ambient Air Quality Standards (NAAQS). EPA Region 9 assisted states and local governments in and near non-attainment areas in various ways, such as through school bus and heavy-duty truck retrofits, landfill methane recovery, and road paving. The one basin approach also is being considered for the Imperial Valley-Mexicali area.

Future challenges in the area include: (1) potential for El Paso to return to nonattainment (and new areas to fall into nonattainment) with the new 8-hour PM standard; (2) Sunland Park is close to the current PM<sub>2.5</sub> standard; (3) security issues hamper technical support for air quality monitoring networks in El Paso; (4) as the ozone NAAQS standards are developed, international transport can be considered; and (5) if other border areas fall into nonattainment, binational cooperation models should be replicated. Additionally, actions including further road paving and control of agricultural burning must be taken.

#### *Discussion*

Mr. Gillen asked what percentage of the population in Imperial Valley was Hispanic. Ms. Stendebach responded that she would find the answer for Mr. Gillen.

Ms. Patti Krebs (Industrial Environmental Association), GNEB member, noticed that water ports were not mentioned, and asked if that was because the emissions at ports were at much lower levels than at land POEs. Ms. Stendebach replied that the water ports were an issue on both sides of the border. The United States has entered into an emissions control agreement with Canada, controlling emissions from ships. EPA also has a voluntary program for the trucks and cranes. Mexico has expressed a desire to join this effort, but that will be many years down the line.

Mr. Ramirez noted that a growing number of U.S. trucks are crossing into Mexico to fill up with Mexican diesel because of the price difference; she asked for EPA's thoughts on that. Secondly, regarding promoting the use of long-haul trucks, the biggest challenge is the waiting time at the border. The low-cost drayage trucks are used so that expensive trucks will not have to idle at the border. Addressing the wait times becomes the most significant issue. Additionally, the wait times for cars at the border are higher than ever even though the number of cars crossing has decreased. Finally, one way to reduce the number of trucks crossing the border is to increase the gross volume weight allowed per axle. Currently, the United States allows 80,000 pounds, and Mexico and Canada both allow much higher weights. A pilot program in Arizona allows trucks in the immediate border region to apply for a single entry permit at a higher weight within federal standards, and a tremendous impact is being seen, not only from a reduced number of trucks crossing the border, but also the cost savings associated with not having to offload freight. Ms. Stendebach said that she would defer to DOT regarding regulations on weight. The group that is working with CEQ, the Southwest Border Interagency Working Group and Customs/Border Patrol, DOT, and the Department of Commerce are addressing the wait times.

Mr. Thomas Ruiz (New Mexico Environment Department), GNEB member, said that it was good to see the JAC given credit for air quality improvements in the Paso del Norte region, and asked about the challenges with exploring a similar approach in the Mexicali area. Could JAC help with this?

Ms. Stendebach noted there are numerous challenges; specifically, resource limitations on the Mexican

side result in too few people to conduct the work in the environmental offices, and more local support is needed, including local government, businesses, and citizens.

Mr. Olmedo noted that there are considerable challenges to improving air quality in Imperial Valley, and there is a lot of misinformation regarding international transport. How can EPA play a stronger role in dealing with counties that are not in compliance? Mr. William Luthans (EPA Region 6) responded that he had held conversations with colleagues in Region 9 about the transferability of the actions taken in the Paso del Norte region; that basin has been fortunate to have strong leadership. Mr. Olmedo asked about EPA enforcement, and noted that although there was encouraging work and international opportunity, the United States needs to do more to enforce controls. Although it is one binational airshed, there still are things that the United States can do to control air emissions.

#### The Climate Service: NOAA's Plans for Improving the Delivery of Climate Services

*Richard Rosen, National Oceanic and Atmospheric Administration (NOAA), Senior Advisor for Climate Research, Climate Program Office*

Dr. Rosen stated that throughout planning for a climate service at NOAA, the importance of improving scientific understanding of climate variability and change and delivering climate information to users at regional and local levels is understood. Just over 1 year ago, the Secretary of Commerce and NOAA Administrator announced NOAA's intent to establish the Climate Service office to create a single entity for climate assets and capabilities. Version 9 of the Climate Service Vision and Strategic Framework is now available. The vision for the service states that by providing science and services, the Climate Service envisions an informed society capable of anticipating and responding to climate and its impacts. The mission to promote a climate-resilient society by improving understanding and prediction of changes in climate can only be accomplished in collaboration with public, private, and academic partners.

The Climate Service strategic objectives include: improved scientific understanding of the changing climate and its impacts; assessments of current and future states of the climate system that identify potential impacts and inform science, service, and stewardship decisions; mitigation and adaptation choices supported by sustained, reliable, and timely climate services; and a climate-literate public that understands vulnerabilities to a changing climate and makes informed decisions. The core capabilities of the Climate Service would be understanding and modeling, observing systems, making predictions, and service development and decision support tools. Initially, the Climate Service will focus on the societal challenges of sustainability of marine ecosystems, coasts and climate resilience, climate impacts on water resources, and changes in extremes of weather and climate.

NOAA's intention with the Climate Service is to establish a line office equivalent to other line offices such as the National Weather Service or National Marine Fisheries Service. The structure proposed in the President's Fiscal Year 2012 budget includes an Office of Climate Research; Office of Observation, Monitoring, and Prediction; and Office of Service Development and Delivery.

Regional climate information is needed for decision making; therefore, partnerships will be needed at the local and regional levels. The key in bringing the partnerships together is the six Regional Climate Service Directors that NOAA established within the past 6 months. GNEB's meetings held in the Southwest should take advantage of the Regional Directors in the South and West regions.

A long history of collaboration exists between the United States and Mexico in the meteorological arena. One collaboration, between 2000 and 2008, involved a scientific exploration of the North American monsoon. In 2004, there was a field campaign that involved scientists in the United States and Mexico and established a large number of new observing systems. The datasets from these systems also feed into the North American Drought Monitor, which is produced monthly in collaboration with the National Meteorological Service of Mexico and the National Water Commission of Mexico, and provides information on the state of water conditions across North America. Along the border, NOAA uses a

variety of *in situ* and remotely sensed datasets that support climate change monitoring, such as river gauges in the Rio Grande Basin, and the modernized Historical Climate Network.

In closing, Dr. Rosen listed several Web sites available for further information on climate in general and climate in the border region in particular.

### *Discussion*

Mr. Olmedo stated that he did not see a connection between climate and public health or ecosystem health. Dr. Rosen responded that “climate and health” is major topic that has been brought to NOAA by the public health agencies, particularly the Centers for Disease Control and Prevention (CDC). As part of an interagency activity called the Global Change Research Program, one of the working groups addresses climate and public health. If GNEB is interested in hearing more about that, NOAA can make arrangements for that working group to meet with the Board.

Mr. Larry Starfield (EPA Region 6), GNEB member, commented that it was important for GNEB to understand the air quality impacts and climate issues, but for the purposes of the GNEB’s specific task, it would also be helpful to know how NOAA and EPA’s OAR fit in with energy efficiency and renewable energy. Dr. Rosen replied that NOAA has a memorandum of agreement with DOE’s National Renewable Energy Laboratory in Colorado; scientists are working very closely in the wind energy area especially because of NOAA’s capabilities in forecasting wind. Ms. Stendebach noted that she would provide information on OAR’s activities in renewable energy for the Board.

Dr. Henkel asked if there is a parallel program like the Global Change Research Program that examines wildlife habitat. Dr. Rosen answered that, among the partners, DOI has been setting up regional centers, and there is a memorandum of agreement between NOAA and DOI on this topic.

### **Public Comments**

Dr. Austin called for public comments, and there were none.

### **Air Quality and Climate Change Along the U.S.-Mexico Border (continued)**

#### USGS Climate Change Related Work on the U.S.-Mexico Border

*Diana Papoulias, U.S. Geological Survey (USGS), Research Biologist, Columbia Environmental Research Center*

Dr. Papoulias noted that USGS has seen a connection between the existing stressors in the border region and what could be an exacerbating stressor, climate change. To tie that to GNEB’s upcoming report on renewable resources, the Board needs to be reminded that any resource development will have impacts. DOI is quite aware of how “not green” wind development and solar development are in many respects. USGS does not regulate, but provides science on various aspects of geology, biology, hydrology, and geography. Regarding the aspects of renewable resources, USGS is very cognizant of the impacts of wind and solar development on public lands.

As a result of climate change, the border region will become drier and precipitation events may be fewer but with stronger intensity. The USGS border working group will be releasing a report shortly on the principal issues affecting the border area and the connection between climate change and these issues. Last year, DOI established a series of eight climate science centers, two in the border region, to create and integrate models in ecology, habitat, and population with climate models. The centers will be tasked with developing methods to assess the vulnerability of climate change on species, habitats, and human communities, and standardized approaches for evaluating climate change for monitoring, data management, and decision support. The Southwestern Science Center already is staffed, and soon will be finalizing agreements with six academic partners; the Southcentral Science Center will be staffed in 2012.

Additionally, DOI has begun to develop Landscape Conservation Cooperatives, which are network partnerships working in unison to ensure the sustainability of America's land, water, and biological and cultural resources by leveraging available resources. These will be tightly linked to the climate science centers.

For the border work being conducted on the climate, DOI has established the Borderlands Environmental Health Initiative (BEHI), which was initiated with new funding from the National Institute of Environmental Health Sciences (NIEHS) because of interest in how the data that DOI was collecting on fish and wildlife could be used to inform their work on human health. BEHI's objectives are to maintain a portal where geospatial data could be brought together and "made transboundary" by working with Mexican counterparts, and to facilitate research into the link between environmental health and human health.

Scientists in the Santa Cruz Watershed are addressing ecosystem services in the binational watershed in terms of biophysical/ecological value, social/human well-being, and economic/market land price. Contaminants in the Santa Cruz River continue to be an issue, and climate change will affect the concentration, degradation, and movement of emerging contaminants. Groundwater and contaminant transport modeling can be used to predict changes in water availability and movement of contaminants between groundwater and surface water based on different climate scenarios.

Modeling floods in the Ambos Nogales area also has been conducted to provide information for city planners in those communities. Recently, USGS has been able to install more rain gauges so that data would be available in real time on online maps. DoD's Northern Command is funding the project as part of a flood warning and modeling project in Nogales, Sonora.

USGS is part of the Transboundary Aquifer Assessment Project (TAAP); with the loss of surface water, the groundwater will be more important. The quantity and location of many aquifers in the Mesilla Bolson currently are unknown, and TAAP will remedy this with upgraded models that can be tied to real-time water supply conditions to allow for supply and demand analysis, pumping predictions, and effects of administrative rules for droughts or water rights.

The Salton Sea ecosystem is the largest lake in California and important in terms of the Pacific flyway. It is shrinking and increasing in salinity and contaminants, and that is expected to continue in the foreseeable future. At the same time, as the bottom lands have become more exposed, the winds in the area are moving the dust, which has both particulates and contaminants associated with it.

The central border area is the source of dust (from unpaved roads in the colonias or unproductive agricultural land) that is frequently transported during high wind events. Different scales for evaluating effects and making measurements exist, and USGS often is examining a fine resolution through high-resolution climate modeling for dust events.

### *Discussion*

Mr. Ramirez asked if the flood model mentioned in the Ambos Nogales region is completed. Dr. Papoulias answered that work on the model is underway by the Water Science Center in Tucson, Arizona. Mr. Ramirez asked whether the outreach at the local community level involved the cities or local entities such as stakeholders beyond the research entities. He also asked when the results would be published. Dr. Papoulias noted that USGS tried to get feedback through the BEHI, and there will be other mechanisms for feedback through USGS outreach, but there are no forums specifically for interacting with the public. She offered to give Mr. Ramirez contacts to learn more. Mr. Ramirez said that information is necessary because the findings of the study will have a direct impact on the Nogales area. Dr. Rosen noted that NOAA should coordinate with USGS because the river forecast centers are part of the National Weather Service and responsible for making forecasts. They benefit from the research that is

being conducted at universities and other federal agencies. The Weather Service has a long history of working with local emergency managers.

Mr. Olmedo stressed the importance of collaborating with other departments. There is much concern with regard to contaminants and the exposed sea bed in the Salton Sea. At Imperial Valley, work is being conducted on the New River as well. In areas like Imperial County where renewables are the savior for economic development and job creation, the input of every agency is needed.

Mr. Drusina noted that IBWC has reestablished a citizen forum in Arizona, which is very active, to address some of the questions that develop along the border. IBWC works closely with USGS and will continue studying the watershed to try to ascertain what needs to be done to solve the problems. Aging infrastructure such as the Nogales Wash must be considered.

Ms. Aguillon said that she was encouraged to see the list of the partners on the other side of the border. Given that it takes both sides, is it possible for United States agencies to work with their counterpart agencies in Mexico so that both countries come to the table together? Dr. Papoulias answered that she was most familiar with the activities of the Fish and Wildlife Service and the Bureau of Land Management in educating and assisting Mexican colleagues, conducting outreach about public land's intrinsic value and values in terms of ecotourism, and the concept of sister cities and sister parks. The border is an artificial boundary when it comes to wildlife. The Rio Grande is a border and many species of concern are moving through it. There is shared concern about the stressors to the Rio Grande on both sides of the border. Mexico and the United States often take different approaches, but the two countries are working together on those issues. Dr. Rosen added that there is a long history of strong collaboration between meteorological services across the border; that could serve as the model for extending the cross-border engagement. Ms. Linda Lawson (Department of Transportation), GNEB member, noted that a joint working group between the United States and Mexico is coordinated by the FHWA and is addressing issues of "greening the border".

Mr. Jose Angel (California River Basin Region Water Quality Control Board), GNEB member, asked if USGS has data on the impacts of green energy sources that can be shared with GNEB. Dr. Papoulias responded that USGS unfortunately did not have time to evaluate fully the impacts of the roads to the sites, the solvents used for wind mills, etc. These issues are examined during the proposals for the siting of these facilities but judgments are based on past experience, and there are many energy development disasters on the border continuing to contaminate the area and affect human health. Additionally, the lands being developed had been set aside for various public uses and many of them contain many species of concern. It will be important for the Board's report to address the many difficulties faced.

Mr. Nathan Small (New Mexico Wilderness Alliance), GNEB member, commented that in Arizona, where 20,000 acre proposals are being entered, it seems that there is a disconnect between the options that are provided and the importance of energy, species, land, and water. He asked if there was any work being conducted now or planned for the near future in which USGS is an active participant in shaping guidelines. Dr. Papoulias answered that having the financial support to conduct the proper monitoring would be important. Any development is going to have some impact. She hopes there will be a decision support system set up with opportunities for feedback and the ability to make changes when science indicates that movement is in the wrong direction.

Mr. Olmedo thanked Dr. Papoulias for boldly stating the challenges; more agencies should be encouraged to discuss challenges, because until they are recognized they cannot be solved. He always thought there was a difference between renewable and green energy and this presentation confirmed that thinking. Dr. Papoulias responded that especially with the climate challenges, agencies need to be cognizant of what has happened in the past and what possibly can happen in the future.

Ms. Aguillon added that distributed generation is an alternative. Has USGS looked into lessons learned from more mature green energy markets such as that of Germany? In the past 3 years, Germany has

stopped supporting the large-scale development of green energy markets for environmental reasons and issues associated with the reliability of the grid. It would be helpful to examine lessons learned, but not from the solar industry, which is divided between large-scale developers and smaller installers. Lessons learned must come from a third party that has the best interests of the public in mind.

## **Renewable Energy Resources in the U.S.-Mexico Border**

### Hydroelectric Power – A Renewable Energy Source at the U.S.-Mexico Border

*Edward Drusina, U.S. Commissioner, International Boundary and Water Commission*

Mr. Drusina explained that IBWC is responsible for applying the boundary and water treaties between the United States and Mexico and settling differences that arise in their application. IBWC applies 11 treaties between the two countries using “minutes” or formal agreements between the two nations. The goal of the 1944 Water Treaty was to provide for the satisfactory utilization of the waters of the Rio Grande, Colorado, and Tijuana Rivers. It authorized construction of three international storage reservoirs on the Rio Grande and specified the priority of uses of international water. The treaty also dictated that the IBWC study generating hydroelectric energy at the international storage dams on the Rio Grande, two of which have been built, and that the power be shared by both countries.

Falcon Dam is located 75 miles downstream from Laredo, and has a power generation facility on both sides of the river. It is a “black start” plant used to restore power to the grid during outages. The Amistad Dam, located at Del Rio, TX-Ciudad Acuña, Coahuila, also has a power plant in each country and can be used as a “black start” plant. These reservoir dams are 2,500,000 and 3,000,000 acre feet respectively, but produce far less power than the Parker reservoir because the power is generated seasonally for agricultural purposes. IBWC has studied the feasibility of installing low-flow generating units at both power plants, and units have been proposed on the Mexican side at Amistad for \$11.58 million and on the U.S. side at Falcon for \$7.3 million. IBWC is preparing the Joint Report of the Principal Engineers this year to outline design and construction.

Dam security is an issue because they are exposed areas and IBWC is the law enforcement agency at the facilities. Facility upgrades are planned, including fences, gates, locks, closed-circuit television, and alarm systems. In addition, security program improvements are planned, including an increase in the number of guards, a new training program, and increased pay.

The new USIBWC facilities will strive to be Leadership in Energy and Environmental Design (LEED) platinum certified as part of IBWC’s green energy initiative. Other aspects of the initiative involve investigating the feasibility of wind turbine and photovoltaic solar systems. The initiative will serve as a significant launch point for a long-term USIBWC sustainability program and a commitment to renewable energy initiatives.

The Western Area Power Administration (WAPA) markets and delivers federal hydroelectric power across 15 western states, and in 2008, hydropower provided 67 percent of U.S. renewable energy. WAPA markets the power from Falcon and Amistad Dams, among others. Hydropower is reliable, adaptable, has low outage rates, and generators are long lived. It was, however, negatively affected by a decade of drought. Projects are being developed to increase hydropower generation during drought, and the Federal Government should continue to support maintenance of aging hydropower facilities. Additionally, dam safety and security issues must be addressed. These issues should be mentioned in the GNEB report.

### *Discussion*

Mr. Gillen asked whether Mr. Drusina believed a third reservoir would be constructed. Mr. Drusina responded that he did, although it may not be of the size of the others. He added that there are some initiatives being proposed that require further exploration. The potential is there, but with the economy as it is, it will be difficult to justify the up to \$600 million it would cost to build the reservoir. Mr. Gillen

asked whether, with current public attitudes, it would be possible to construct a reservoir that would decrease wildlife habitat. Mr. Drusina believed it would, because there is a public need and strong push to do something along those lines. IBWC will examine this issue principally from the stormwater benefit. TCEQ might look at the potential reservoir from a water quality standpoint.

Dr. Antonio Noé Zavaleta (University of Texas at Brownsville), GNEB member, noted that the population and agricultural activities in the lower Rio Grande valley in Texas are supported by the water available at the Falcon and Amistad. He asked if there was a new hydropower technology that does not require the release of water over the dam. Mr. Drusina responded that the low-flow turbine is the most viable technology. When water is released into the turbine, it is based on need. The private sector holds that this is the most efficient way to generate power. Dr. Zavaleta asked about desalination plants, or electricity generating plants using ocean water. Mr. Drusina noted that he was involved with the Kay Bailey Hutchison desalination plant, and desalination is a viable alternative for improving water quality, but it takes a great deal of power to run the plants, and the cost is very high. Additionally, IBWC is open to tidal, solar, or wind energy, but is examining only solar and wind at this time.

Dr. Teresa Pohlman (Department of Homeland Security [DHS]), GNEB member, stated that the dams might provide a good opportunity for a hybrid system in which a renewable photovoltaic system could take over when there are low water levels. Mr. Drusina suggested that GNEB members might want to plan a visit to the Amistad Dam.

Mr. Edward Hoyt (Nexant) asked, given the age of the two facilities, if there are any plans to repower any of the existing facilities and extract more capacity. Mr. Drusina responded that some private consultants had visited the two sites to examine the turbines and the possibility of repowering, but the cost is high. The conditions of the turbines are exceptional. The IBWC is focusing on the low-flow turbine. Mr. Hoyt asked if the low-flow turbines would be deployed in the water course of the river. Mr. Drusina responded that they would be in the dam sites themselves.

Mr. Apodaca expressed uncertainty as to whether DoD was included in any of the discussions about energy. DoD currently is addressing energy and water issues on the military bases and should probably be included at the table. Mr. Drusina added that the Kay Bailey plant is located on Fort Bliss property, but the military is getting its fair share of that water. Mr. Joyce noted that DoD had not been included in discussions with GNEB, but that OFACMO could follow up with the department.

Mr. Small asked if the low-flow turbines could be scaled to smaller irrigation canals, and noted that a huge stretch of the river is independent from the two reservoirs. There is an increasing interest in habitat restoration along those stretches of the river that are not near the reservoirs. He asked if any habitat restoration was under consideration and if there were opportunities for increased partnerships with non-governmental organizations (NGOs) or local governments on such projects. Mr. Drusina responded that IBWC has an environmental division that looks at every project conducted. He encouraged Mr. Small to contact the IBWC environmental chief and the engineering chief. Ms. Sally Spener will provide Mr. Small the contact information. IBWC does consider environmental issues along the Rio Grande, and is mindful not to step out of compliance. In terms of using low-flow turbines in irrigation systems, Mr. Drusina suggested that IBWC staff give Mr. Small the contacts that IBWC used in its analysis of the dams. Mr. Drusina added that any GNEB member could contact him or other IBWC staff at any time.

#### Renewable Energy in the U.S. Border Region – Resources and Opportunities

*Edward Hoyt, Principal, Clean Energy, Nexant Energy Solutions*

Mr. Hoyt stated that Nexant was a global energy consulting firm with 30 corporate, representative, and project offices, and thousands of projects completed since its formation in 2000. Nexant deals with the entire energy chain from production to consumption (production, delivery, and end use.) Nexant's partner 3Tier assists in assessing resources and manages a global data set for renewable energy to generate projections and simulations for solar, wind, hydro, and precipitation.

Renewable energy resources in the border region include solar, wind, biomass/biogas, hydro, and geothermal; all five currently are being utilized, and development activity is underway. Prospects for development in the future will depend on policy drivers, infrastructure and water availability, and permitting constraints.

The solar resource in the border area is significant, both from direct normal irradiance (technology that tracks the sun) and global horizontal irradiance (stationary solar applications). Wind in the border region is more localized: the significant potential is at the western and eastern ends of the border, close to either the Pacific Ocean or the Gulf of Mexico. Biomass/biogas will be available near major population centers because the major resource will be landfills. Hydro power is limited to the Rio Grande basin and some limited infrastructure in the West, and geothermal is located in the Southern California and Baja California area.

Project development activities at the western end of the border area include several wind projects in Baja California including a 10 megawatt (MW) facility currently in operation, with potential for facilities totaling 2,000 MW to be installed by various developers (some of this power would be exported to the United States.) In Tamaulipas, a large wind facility has been proposed (160 MW). A small wind farm outside of Monterrey, Mexico, will be going forward as well.

In terms of solar development, the activity underway is concentrated in the western end of the border area. Financing is in place for an 800 MW facility in the Imperial Valley, and another 700 MW facility is in late stage development there. A few small installations totaling 35 MW also are under consideration in the San Diego area. In Arizona, two solar facilities have been proposed—150 MW and 240 MW, respectively—in Yuma and Solana. Additionally, a small 20 MW hydro facility is in operation in Baja California. In terms of geothermal, there is a facility just south of the border that has been in operation for at least a decade.

Constraints on power generation development in the border region include: regulatory and framework and incentive programs, transmission infrastructure and availability, land and environmental/social impact considerations, and water availability.

### *Discussion*

Mr. Zavaleta noted that a summary of renewable energy activities in Mexico should be included in GNEB's next report.

Ms. Krebs asked whether there had been any activity with combined heat and power as a bridge technology. Mr. Hoyt responded that such cogeneration is a resource that has been utilized in major industrial areas in particular; it depends on the pattern of industrial activity in the area. For the most part, the industrial processes that are being used on the border do not require a great deal of thermal energy, and for cogeneration to be of interest, there must be a requirement for thermal energy. Many of those facilities, however, do have backup power such as diesel generators. Monterrey, Mexico, for example, has significant cogeneration facilities.

Mr. Olmedo noted that Imperial County is a prime area for renewable energy, but there are considerable concerns. Imperial County is rich in natural resources that spur development of renewable energy technologies, and with the need for jobs, the area often "rolls out the red carpet" for developers. The area tends to want to streamline protections, yet protections must be in place so that, while taking advantage of the renewable energy momentum, communities ensure that the technologies are sustainable both environmentally and economically. Mr. Hoyt responded that regardless of whether conventional or renewable energy technology is developed, there will be environmental impacts of greater or lesser degrees. Particular technologies will be deployed based on the availability of land and ability to permit facilities. The process is rigorous on both sides of the border although the degree of enforcement of environmental protections differs. For projects like wind energy, the preferences of the local communities

are taken into account. Progress has been made in the last decade in addressing those concerns. Solar photovoltaic energy can be implemented in areas where environmental impact will be limited, such as in urban or settled areas, and these projects can create local jobs.

Mr. Ruiz mentioned a map in the presentation showing potential wind power generation for the region, and asked whether it would be feasible in New Mexico. Mr. Hoyt replied that there was potential in New Mexico, but it is a relatively small market compared to the markets in other border states. Another point is that at the state policy level, New Mexico has not been as aggressive in its efforts to create the incentives for renewable installations. New Mexico also has the transmission limitation in its ability to sell power outside the state. Much work needs to be conducted to create an environment that will be attractive to the investment community.

Mr. Starfield asked whether there was potential for more biogas projects at the many waste landfill sites along the border. The landfill facilities already are in place, and methane-capture projects might offer the community the added benefit of reducing odor from local municipal landfills. Mr. Hoyt answered that that biogas projects will not deliver thousands of megawatts; the technology tends to be in the 15 to 40 MW range, so they would be appropriate only for smaller applications. Still, there should be considerably more in place than there are at the moment. One project in Monterrey is a 7 MW landfill gas project in which the municipality is the power purchaser. In the future, there may be potential to expand the capacity by changing the way municipal solid waste is handled, such as by using all the waste in gasification. Mr. Starfield added that EPA, through its Superfund program, already has a number of projects that put solar panels on closed (capped) waste landfills; similar opportunities along the border could be examined as well.

Mr. Small stated that many of New Mexico's industrial utilities have proposed a number of large projects that have not attracted funding and have not progressed. In terms of biomass, producing "green food" can be considered; potentially using algae and brackish water so the water resources are not heavily depleted. He asked whether biomass would be an energy resource that could be "dropped in" ready for various transportation uses. Mr. Hoyt responded that he focused far more on the power sector as opposed to biofuels. The algae-based production of biofuels is an emerging technology; during the next 10 to 15 years, it is likely that this will increase. Municipal governments can indicate that they will source a certain percentage of their fuel from such facilities. Potential exists for utilizing brackish water in areas along the border to advantage, but economics must be considered.

## **The Economic Potential of Renewable Energy Development in the Border Region**

### The Economic Impact of Renewable Energy in the Border States

*Todd Foley, American Council on Renewable Energy (ACORE), Senior Vice President on Policy and Government Relations*

Mr. Foley explained that ACORE is a non-profit organization created to advance renewable energy to the mainstream, and includes power from solar, wind, hydro and ocean, biomass energy and fuels, geothermal, and waste-to-energy sources. Membership is diverse, and includes all sectors necessary to make renewable energy successful. ACORE has published and will regularly update the report *Renewable Energy in America: Markets, Economic Development and Policy in the 50 States*, which includes two-page summaries for every state covering market activities, resource potential, and economic development.

Overall, the renewable energy sector is high growth and entrepreneurial, and attracts a great deal of investment. In 2010, the U.S. solar market grew 96 percent in a difficult economic environment. The wind market deployed 10 gigawatts of installations in 2009, representing 39 percent of all new energy capacity that year. Much of the growth was built on the momentum in the sector, but also the stimulus package that was passed in Congress several years ago, the 1603 Treasury Cash Grant Program. Much investment has been made in renewables in the United States, and continued growth is expected. Pew

Charitable Trusts published a report last year on U.S. investment in renewable energy and predicted an increase from \$26.9 billion to \$52.5 billion in by 2020.

The four border states represented more than 35 percent of the Nation's renewable energy capacity in 2010, and the area is well ahead of the rest of the country in deploying renewable energy. California's key policies for renewable energy include the California Solar Initiative, which includes rebates and performance-based incentives. The utilities have made a large investment in the state's solar power, and there now are more than 17,000 direct and indirect jobs related to renewable energy in the state. Texas has the most renewable energy deployed in the United States, which is mostly wind power, and contains the largest wind farm in the Nation. Total wind power is more than 10 gigawatts. Arizona serves as headquarters for leading solar energy companies like First Solar, Kyocera, and Stirling Energy Systems. New Mexico is home to 700 MW of wind energy capacity, with 300 MW under construction, though it does face challenges with transmission.

### *Discussion*

Mr. Joyce thanked Mr. Foley for the wealth of information in his presentation, and for making ACORE's report available to GNEB.

Mr. Ramirez asked about future cost trends, and whether renewable energy would be cost competitive with more traditional sources of energy. Mr. Foley replied that renewable energy already was cost competitive, although it depended on local power rates. In California, peak rates for energy are some of the highest in the country, and solar already is cost competitive with grid power. Solar and wind energy already are fully cost-competitive compared to natural gas and nuclear. The power market is in transition, and some in the utility sector think that 40 to 60 percent of existing coal plants will be closed during the next 10 years. For now, solar and wind power are cost competitive, but there will be a rapid reduction in cost. Mr. Foley offered to provide GNEB with an additional slide that will provide more information on cost. Mr. Ramirez noted that cost would seem to be one of the principal points for the GNEB report.

Dr. Henkel stated that one of the challenges for GNEB is to determine where the resources and resource potentials exist within the border region because the general totals from the states can distort this. That kind of disaggregation will be helpful to the Board. Dr. Austin asked if ACORE has this kind of information broken down below the state level. Mr. Foley said that ACORE did not have this information, but others have broken it down to the local level. Utilities have examined where resources make most sense, and where there is distribution level and cost information.

Dr. Pohlman commented that DHS was working with DOE on regionalization, single points of failure, and energy security, so she suggested that a topic for the GNEB report might be looking at the aspect of energy security. Additionally, she recommended examining regionalization, such as how border states can leverage off of each others' projects. Mr. Foley answered that each state is rich in renewable energy to different degrees, and some leveraging off each other is happening. There is some regionalization taking place. Dr. Pohlman added that as an advisory board to the President, GNEB could recommend examining regionalization. Ms. Aguillon stated that GNEB should address the concern that some states want the energy to be localized in their own states.

### **Update on Border 2012 Program and Commission for Environmental Cooperation Activities**

*Michelle DePass, EPA, Assistant Administrator, Office of International and Tribal Affairs (OITA)*

Ms. DePass thanked the Board for their time and dedication on behalf of herself, Administrator Jackson, and EPA. Border 2012 is the only ground up, bilateral process on implementation of protection of human health and the environment on the border of Mexico and the United States. She noted that her office also is responsible for the Commission for Environmental Cooperation (CEC) project.

Ms. DePass was pleased that GNEB maintains independent partnerships with other key border regional programs, one of them being the Border 2012 program. Both GNEB and Border 2012 continue to be a model of cooperation. The GNEB combines expertise and research to identify where an impact can be made. Border 2012 works to achieve tangible environmental and public health results in the U.S.-Mexico border region by implementing programs and leveraging funds. With GNEB's hard work and recommendations, the Border 2012 program can be further improved and be successful in creating positive environmental and health outcomes. She provided the Board with copies of the recently released report *U.S.-Mexico Environmental Program - Border 2012: Program Highlights - Fall 2010*.

Border 2012 has six major goals: (1) reducing water contamination, (2) reducing air pollution, (3) reducing land contamination, (4) improving environmental health, (5) improving emergency preparedness and response, and (6) promoting environmental stewardship. During the last year, progress has been made in all six areas. Some border communities, however, still do not have access to clean drinking water. Border 2012 has been working toward safe water management by supporting communities through its Trinational Tribal Partnership Initiative. Border 2012 cannot protect water resources alone, so beyond developing capacity in specific communities, it worked to restore binational community awareness and public participation in the Colorado/Rio Grande Watershed. Border 2012 also is collaborating with local stakeholders to improve pesticide collection through binational state level partnerships. Although the U.S.-Mexico border zone is a center for international commerce, communities on the border often face disproportionate environmental and health risks, so Border 2012 has partnered with the University of Texas at El Paso to find solutions that will improve air quality by examining options for improved binational traffic flow at the Bridge of Americas. This will help Border 2012 work with communities to determine the impact on air quality and pollution exposure. Border 2012 also is engaging industry in the area to improve recycling of electronics, and initial work has led to additional partnerships with binational universities and further expansion of safe and environmentally sound recycling procedures.

As a result of the collaboration with Canada and Mexico established by the Administrator, the work of the CEC has closely reflected U.S. priorities. In terms of greening the economy in North America, the main objective is to improve private sector environmental performance. The CEC is attempting to target the work; in 2011-2012, CEC will establish a trilateral green building construction task force that will help to establish a common metric methodology to curb greenhouse gases from the construction sector, which in turn, will help to identify opportunities to reduce greenhouse gases in the construction of green buildings in North America. Additionally, activities related to the priority of healthy communities and the economy will be used as an avenue to create strong partnerships with indigenous populations across North America by identifying projects to support. CEC also is planning to help the three countries understand the transboundary movements of e-waste and used electronics in North America. As the CEC turned its attention to a low carbon economy, the priority of climate change is one of the three major themes. CEC and its North American counterparts are conducting an assessment of greenhouse gas data, inventories, and related information. In response to CEC direction, the United States recently proposed development and sustainability of an interactive online platform on which to share and discuss climate change-related information among the three countries.

As shared environmental needs and challenges grow, GNEB's recommendations are critical to help the Agency continue to seek robust solutions. Ms. DePass again thanked the Board for its commitment to work with EPA.

### *Discussion*

Mr. Olmedo commented that he had seen much progress in border communities during this Administration. There still are considerable challenges when dealing with tribal governments and nontribal governments. He mentioned a case where toxic waste was being disposed of on tribal land. EPA is taking a cautious approach, and although state and local governments want to act, they are unsure of what to do. Can EPA take more aggressive action on issues such as this that are harming border

communities? Ms. DePass replied that she had visited border communities where some problems were not being addressed because of jurisdictional issues. EPA's Assistant Administrator for Enforcement and Compliance Assurance Cynthia Giles recognizes that this is a problem. EPA looks for opportunities to work with the tribe or community to bring about compliance before enforcement is used, but the Agency would not hesitate to use enforcement when necessary. Mr. Starfield said that open dumps of non-tribal toxic waste on tribal lands are a continuing problem. Region 6 recently held a meeting with representatives of 66 tribes and discussed enforcement and consultation issues, but not much funding is available to deal with the dumps. Cleanup is a priority, however, and EPA is collaborating with the tribes on better protocols for enforcement. Ms. DePass added that there is a question regarding the responsibilities of EPA and other agencies regarding these open dumps.

Ms. Krebs noted that a number of her member companies are working with e-waste recyclers because they are concerned about liability and risk that any of their e-waste might end up overseas. Some are adopting the Responsible Recycling (R2) program. Is this adequate, or do the companies need a third-party certifier? Ms. DePass responded that EPA is co-chairing an interagency task force on e-waste. The President has asked the group for a report by May 6, 2011, on research and development, lifecycle analysis, and where the waste will go. EPA is involved in an in depth discussion about standards, certification, and disposal issues. More information will be available in 2 months.

Mr. Ruiz stated that his region had experienced some successes under Border 2012, and the bottom-up approach should be maintained for the new program. Regarding the program's timeline, the drafting committee has discussed a "no-year" or 2-year program rather than setting goals for 10 years at a time. Ms. DePass replied that accountability is important, and that it will take time to make changes along the border. In such a process, it is important to plan for a long-term effort, and allow for budget forecasting.

Ms. Wolf asked about the content of the new program. Ms. DePass responded that she was very pleased that there was such a robust public comment period. Environmental justice will be a larger piece in the framework of Border 2020. The plan will have an 8-year framework. Ms. DePass has charged staff to determine a way to improve communication and enhance involvement. The work areas are the ones that have been highlighted in the past, so the goals will be similar; GNEB should inform EPA if members believe that the program should be changed. Ms. Lisa Almodovar (EPA, OITA), mentioned that one goal on public health and environmental health might change, and a new goal on chemical safety may be created. The Border 2020 National Coordinators' Meeting will be held May 10-11, 2011, in San Antonio, Texas; the goals and objectives will be discussed at that meeting.

Mr. Ramirez asked for guidance on how to better communicate the needs of the border region. The border does not always get its fair share of resources, does not have political clout, and is facing budgetary challenges on every front. New requirements from DHS are having an impact on border communities as well. Ms. DePass stated that the Administrator has been clear that shorter-term EPA appointees must do their jobs. Everyone wants clean air and clean water. Public health will be undergirding Border 2020. This region is important to the Nation's economy and the lack of public health along the border has a significant impact on national productivity. She emphasized that a healthy economy is impossible without healthy people.

Mr. Niemeyer noted that one of the recommendations in the report was to revisit the transboundary environmental impact assessment. The Joint Public Advisory Committee of the CEC agreed with this recommendation at its meeting. This issue continues to arise, and until something gets done, there will always be complaints; nothing precludes the two governments from having an agreement. Ms. DePass responded that this is an issue that EPA hopes to address within the next year, but it is a difficult issue. Ms. Rachel Poynter (Department of State) noted that the State Department had raised the issue in a meeting with CEQ, and she believes there is a willingness to review necessary aspects of such an agreement.

Mr. Olmedo asked if Border 2020 would contain demonstration projects that last more than 12 months or could be conducted in multiple phases. He also asked if Border 2012 will have any focus on enforcement and funding. Ms. DePass asked if Mr. Olmedo's first question concerned moving a Border 2012 project into another funding stream at the Agency. Dr. Austin noted that there is such a focus in Border 2012 on pilot projects, and those projects that are successful have no possibility of other investment after the project ends. There are no resources available to send the people out to teach others about the project so many opportunities are lost. Mr. Luthans explained that this issue was a challenge for EPA, because the Agency must rely on statutory authority to provide grant money. Also, some of EPA's funding streams are limited only to pilot projects. Ms. Almodovar added that it was an appropriation issue, but EPA has asked that each goal in Border 2020 include a capacity building objective, so that there will be the capacity to pass on the knowledge gained for each goal. Ms. DePass stated that there also is an issue with communicating the projects in a way that is understandable, particularly how they are benefitting the border area. Perhaps there is a way that this information can be communicated to other institutions that have more flexibility in distributing resources. In response to Mr. Olmedo's second question, Ms. Almodovar stated that the inclusion of enforcement in Border 2020 was still under discussion, because enforcement differs greatly in the United States and Mexico. The current thought is that each goal should have an enforcement component, but negotiations still are underway. Ms. Aguillon suggested that perhaps a reward for compliance could be used as well as enforcement.

Mr. Niemeyer commented that the enforcement and compliance goals as currently written are about pollution prevention and have nothing to do with enforcement. Language that makes sense for compliance and enforcement needs to be added. Ms. DePass noted that it was important to keep Mexican partners in the negotiations.

### **The Economic Potential of Renewable Energy Development in the Border Region (continued)**

#### Distributed Solar Energy: Opportunities for the U.S. Border Region

*Cecelia Aguillon, Kyocera Solar, Inc., Director of Market Development and Government Affairs, GNEB Member*

Ms. Aguillon identified some of the benefits of distributed solar energy. It provides clean energy, provides peak shaving power that reduces the investment need for peaking plants, reduces cost volatility, reduces dependence on imported fuels, alleviates grid congestion, leverages ratepayers' funds assigned to the subsidies, creates local high-tech industries, and improves energy security through decentralization.

Distributed generation creates jobs (about 2.5 per MW produced), generates tax revenues, decreases spending outside the economy for energy or fuel, and money saved can be returned to the local economy. Solar distributed generation requires certain policies to be in place to be successful. These policies can include net metering, in which the state allows turning the meter back; declining financial incentives; and solar-friendly electricity tariffs. Additionally, long-term contracts for renewable energy credits are needed, as are renewable portfolio standards with distributed generation carve outs.

In terms of financial incentives, tax credits and exemptions often are available. Rebates can be based on system cost or expected output, and performance-based incentives and feed-in tariffs also are available. Ms. Aguillon noted that other world models could be applicable to U.S. renewable energy. Starting in 1994, Japan gave a large rebate of \$9.5 per watt for the first year. Over 10 years, Japan spent \$1 billion on incentives, and the incentive program ended in 2005, with more than a gigawatt installed in more than 200,000 homes and the largest number of solar manufacturers worldwide. In 2004, European models were created. Germany created a feed-in tariff, and a portfolio in which wind was given 4 cents per kilowatt hour, solar was given 50 cents, and each other technology was given what they needed at the time with a ramp down on the tariffs. More than 10 gigawatts were installed by the end of 2010, with more than 40,000 jobs created since 2000.

In both countries, the border region has much in common in terms of potential for renewable energy. Similarities include solar resources, grid congestion issues, population growth, industry growth, pollution, low market penetration for solar, and a skilled and unskilled labor force. There are some differences, however. Uniform policies are possible in Mexico, but difficult in the United States; there is a central utility in Mexico versus thousands in the United States; and the United States has more experience with solar policies than Mexico. Recommendations for market development include the need for consistency and transparency in the market, and the fact that incentive programs should be based on system performance and last 5 to 10 years. Rebates should be available for residential and small commercial projects. Net metering and feed-in tariff programs should be used to accelerate the market. Additionally, programs should promote competition to be sustainable, and lessons should be learned from more mature markets. Effective policies such as these can promote investments in manufacturing, stability of material development, investments in research and development, price reductions, and creation of a self-sustaining industry.

### *Discussion*

Dr. Henkel asked about the labor skills and training involved with the California operation as well as the hourly pay rate in the San Diego plant for new hires. Ms. Aguillon responded that for the production plant, no particular skill level is needed, but for installation, a minimum of 6 months training is needed. Plumbers, electricians, or construction workers could take a 2-week course, but then should be mentored by someone who is in the business. The starting pay rate for the San Diego facility is approximately \$10 per hour.

Mr. Small stated that it is difficult to obtain financing; he asked Ms. Aguillon to discuss financing and any national activities being conducted that would provide consistent funding streams. Ms. Aguillon responded that Sonoma County and Palm Desert in California have raised \$500 million and have about 35 companies in each county. She met with Mr. Foley yesterday and they discussed the fact that ACORE should be working on financing. She suggested a revolving fund. The German government making the loans on the feed-in tariff was running out of funds but within 2 years, the local banks began handling the financing. Perhaps there could be collaboration on financing with the utility, with a loan guarantee so the utility is not exposed. Ms. Aguillon added that creativity is needed.

### Renewables: The Story of Texas

*Stephen Niemeyer, Texas Commission on Environmental Quality, Border Affairs Manager, GNEB Member*

Mr. Niemeyer stated that the State of Texas had a goal, set by the state legislature in 1999, to have 2,000 MW of new renewable generation capacity by 2009; projects that would attain that goal, however, were already under development by 2005. In 2005, the legislature set new biennial goals to reach 5,880 MW by 2015, and a target of 10,000 MW by 2020. Texas exceeded 10,110 MW by the end of 2010.

Wind is the largest source of renewable energy in the state. As of December 2010, there are 10,000 MW of wind capacity in Texas, and when matched against countries, Texas is sixth in the world in wind capacity. In terms of biomass, as of December 2010, there was 125 MW of capacity statewide. Also in December 2010, there was a 25.4 MW statewide capacity for solar power, and a small hydropower capacity of 6 MW. Several thousand more MW of wind farms could be built in Texas, and great solar potential exists in some of these areas, but transmission is the biggest challenge for wind and solar electricity in Texas and across the United States. In 2005, the Texas Public Utility Commission created competitive renewable energy zones, mainly in West Texas and the Panhandle, so transmission lines could be built. Although people do not want transmission lines through their land, they do not tend to live where the wind blows. Nothing may happen with these lines for the next 3 to 5 years.

Legislation passed in 2009 allows “property-assessed clean energy,” or PACE, in which cities can offer financing to homeowners for renewable energy and efficiency that will be recovered through assessments on property. Implementation of this legislation is being delayed by state and federal legal concerns.

Mr. Niemeyer mentioned the Border Energy Forum organized by the Texas General Land Office that will be held in El Paso, October 27-28, 2011, and invited interested GNEB members to attend.

### *Discussion*

Ms. Sally Spener (IBWC) noted that Mr. Drusina’s presentation had mentioned that in 2008, hydropower provided 67 percent of U.S. renewable energy. In Texas, more than 90 percent of renewable energy is wind, which shows remarkable potential for wind and other energy sources in the border region. She had received a notice from her power company, El Paso Electric, which allowed payment of extra money for wind power from the Hueco wind farm. The notice said that as of 2009, there were 526 Texas customers participating in this voluntary renewable energy program, which is a very small number. Mr. Niemeyer responded that in Austin, people are willing to pay more for green energy. There are pros to wind energy but there also are some cons; for example, wind does not blow steadily all the time, and the grid current has to be kept between 59.98 and 60.02 volts per second.

Mr. Niemeyer mentioned added that two weeks ago, TCEQ Commissioner Rubinstein was unanimously confirmed by the Texas Senate. He provided copies of the TCEQ Border Initiative to GNEB members, and informed them that it was on the Commission’s Web site as well.

### **Discussion of the Agenda and Other Business**

Dr. Austin noted that the first order of business for the next day was to discuss dates for the June, September, and December meetings. Members should consult their planners and identify the weeks where they have 3 consecutive days open in case there is a field trip. Mr. Joyce added the terms of several GNEB members end on June 9, 2011; the June meeting would have to be held before that date in order for these members to attend. Mr. Starfield asked how term lengths were decided and if it would be possible to extend the terms of the retiring members until the end of the year. Mr. Joyce replied that Administrator Lisa Jackson and Deputy Administrator Bob Perciasepe established the term lengths. He noted that several members will have served 6 years, which is the maximum for EPA advisory committees. Ms. Wolf pointed out that the Board did not meet for nearly 1 year, so that the members in question really have served only for 5 years.

Mr. Starfield suggested that, if there is agreement among the GNEB members, a request to Mr. Perciasepe be prepared suggesting that the membership transition occur when the 14th report has been completed and the Board begins to consider the 15th report. Ms. Jones-Jackson agreed that this could be done, and that she could discuss the matter with Mr. Perciasepe and Ms. Diane Thompson.

Dr. Austin called for a vote on sending this request to Mr. Perciasepe, and the call was moved and seconded. The members who are scheduled to retire in June abstained from voting. The motion passed unanimously.

Dr. Austin explained that because the Board will not know the answer to the request in time to plan the June meeting, members should be prepared to discuss potential dates to meet prior to June 9th. Also, if anyone knows of major events on the border that would pose a conflict for members, please notify the Board and the DFO. Dates and locations for the upcoming meetings need to be determined by the end of the current meeting. Subcommittees will be formed to plan the meeting. The June and September meetings will be held on the border, and the December meeting will be held in Washington, DC, or on the border. Mr. Joyce noted that the advantage to having the meeting in Washington is that it is easier to get senior officials such as Nancy Sutley to attend. The December meeting location and dates must be decided by June. Mr. Starfield pointed out that the GNEB is an advisory board to the President and

Congress. If the Board's hope is to influence national policy, then it might be better to hold the December meeting in Washington, DC, where Executive Branch agencies and Congressional offices (as well as the national press) would be more likely to attend. If the meeting is held on the border, it is likely that only members of the local press will attend to cover the release of the report.

Mr. Ramirez stated that the Arizona-Mexico Commission meeting would be held June 2-4, 2011, so that would not be a good time for the GNEB meeting.

Dr. Austin stated that the other issue on the agenda is the 14th report. By the end of the meeting, an extended outline of the report should be developed. Mr. Olmedo asked whether the current outline should be subject to a vote. Mr. Joyce responded that the outline is an open question; as long as the Board in December has a substantive report addressing the issues raised by Ms. Sutley and makes compelling recommendations to the President and Congress, the goal is met. Dr. Austin noted that the goal of the Board is consensus, and the report is developed through a consensus process.

Mr. Gillen commented that he had always been proud of the fact that the Board was independent. He would have preferred CEQ to offer GNEB two or three important topics from which the Board could choose. If through CEQ, the President states, however, that renewable energy needs to be studied, it behooves GNEB to do that. Perhaps in the future, a number of topics could be presented to the Board. Mr. Joyce explained that it must be clearly stated what advisory committees are working on and who asked them to conduct the work; this requires approval at senior levels. These groups are convening to provide recommendations to EPA, public monies are being used to support these advisory boards, and the groups are totally independent in terms of the advice that they offer, but not in terms of how they operate.

Mr. Starfield stated his hope that, in addition to the three areas in the outline, the report could also discuss the positive *and* negative impacts of renewable resources, including environmental, social, and economic effects. Mr. Joyce said that this would be useful. The report should be a balanced assessment of pros and cons. It would be a worthwhile goal for GNEB to provide recommendations that would help government and industry avoid previous mistakes. Mr. Angel thanked Mr. Starfield for mentioning the impacts.

Dr. Austin noted that one of her previous concerns had been what is border specific about renewable energy. The potential positives and negatives of increasing renewable energy development in the border region need to be determined. If the Board is being asked to provide a balanced assessment, what might this mean for the border? What will the future look like on the border with increased development, what does it look like now, and what policies need to be in place to protect the communities? GNEB's job is to state what the Board members believe the increase in renewable energy means for the border.

Mr. Small commented that, from the Administration's perspective, renewable energy resources in the border region are among the greatest in the Nation. It is useful, however, to discuss the potential downsides of increased renewable energy development. The Board should consider having a specific focus on economic benefits for border communities and border residents, and empowering border communities to be a resource for the entire Nation. Dr. Austin said that the border can be held up as an example for the Nation, but she firmly believed that environmental issues needed to be the focus of the report rather than economic issues. Mr. Joyce commented that the Board's enabling legislation was broadly focused.

Dr. Henkel noted that there is an upside and downside to the discussion about renewables, and a proper balance is critical. Board members bring a local sensibility, and together, are advocates for a context that the rest of the Nation does not have. GNEB is, by legislation, directed to focus north of the boundary, but still has neighbors below the boundary who must be considered when thinking about environmental health.

Ms. Donna Wieting (NOAA), GNEB alternate, said she had been struggling with the role of NOAA, especially in regards to the socioeconomic issues associated with renewables. She would like more

guidance on how she should be thinking about the relationship between socioeconomic issues and the environment, and whether that will be part of the report. Mr. Olmedo added that renewable energy creates jobs but it also sparks more conversation about environmental and economic issues. They need to be addressed together. Mr. Joyce responded that the socioeconomic issues are intertwined with the environmental ones. The question is how to have economic development in a way that results in a better environment. Dr. Austin asked if the Board thought additional expertise was needed from other areas in the Department of Commerce. Mr. Joyce commented that the intent is that federal and state representatives will draw upon whatever expertise is available in their agencies as necessary for the Board's work. There are myriad resources across the Federal Government that can be tapped. It is hoped that members from the private sector will draw on their networks to help the Board in its work as well.

## **FRIDAY, MARCH 25, 2011**

Dr. Austin welcomed members and noted that the first topic of discussion would be locations and dates for the next three meetings. Then, members will break into groups by sector to discuss topics that need to be covered in the report. Once the topics are chosen, working groups will be formed. The working groups then will meet to discuss and make assignments. Several additional chairs are needed for these working groups.

Mr. Niemeyer asked if the meeting minutes from last March were to be approved; Ms. AnnMarie Gantner (EPA, OFACMO) said that former GNEB Chair, Paul Ganster, had approved them.

### **Discussion of Options for the June, September, and December Meetings**

Mr. Joyce recommended that the border meetings should be held in areas where the Board could hear from people and visit facilities that are dealing with renewable energy issues. Dr. Austin noted that meeting on the border not only allows GNEB members to see local facilities, but also allows local people to come and speak to the Board.

Possible locations for the meetings (and reasons) suggested by the members included:

- ✧ San Diego/El Centro/Imperial County: Members from San Diego Association of Governments (SANDAG) could be invited, as could people from the Imperial Valley area, the University of California, San Diego, and government officials from Baja California. Geothermal and biofuel facilities are present.
- ✧ Las Cruces/El Paso: Sapphire research and development site; there are some commercial applications in the area, as well as medium-sized solar installations; and the commercial algae site is 45 minutes away. Also, IBWC has projects in the area. New Mexico's two senators have been active in the energy debate.
- ✧ Laredo: Wind farms nearby, and the Falcon Dam is 75 miles from Laredo.

Del Rio, Texas, and Brownsville, Texas, also were suggested, but were reconsidered and struck from the list.

Mr. Joyce noted that the report would be in different phases of completion at the June and September meetings. He thought this should be taken into consideration in making the location selection.

Dr. Austin called for a vote on the June meeting location. Five members voted for San Diego/El Centro/Imperial County, 13 members voted for Las Cruces/El Paso, and 2 members voted for Laredo. The June meeting will be held in Las Cruces/El Paso. For the September meeting, 18 members voted for San Diego/El Centro/Imperial County and 2 voted for Laredo. The September meeting will be held in San Diego/El Centro/Imperial County.

Ms. Wolf noted that the past three meetings along the border were held at resorts, and were not conducive to public participation. She suggested that the planning committees look for facilities where the public would feel comfortable. Dr. Austin explained that planning committees were needed to develop field trip itineraries and identify speakers, as well as select the meeting venue.

Mr. Olmedo mentioned that an Annual Environmental Health Leadership Summit would be held in Imperial County on October 1, 2011, which includes an environmental justice tour the day before.

Dr. Austin called for volunteers for the planning committee for the September meeting San Diego. The committee will include Mr. Angel (Co-Chair), Ms. Aguillon (Co-Chair), Mr. Olmedo, Ms. Wolf, Ms. Wieting, and Ms. Krebs. The planning committee for the June meeting in Las Cruces will include Mr. Small (Chair), Mr. Niemeyer (Co-Chair), Mr. Ruiz, Mr. Apodaca, Dr. Henkel, Mr. Starfield, Ms. Spener, Mr. Cruz, and Mr. Gillen. Dr. Austin commented that before the end of the meeting, these committees should choose a date for a conference call.

Dr. Austin noted that meeting dates must be chosen, and GNEB should first discuss dates that will not work for these meetings. She reminded the Board that six members' terms would be expiring on June 9. Dr. Pohlman did not think that May 31-June 3 should be chosen because that is the week of the Memorial Day holiday. She also was not available to meet the following week, June 6-10, 2011. Mr. Angel commented that the last two weeks in June and the last week in September were not good for him because of events in California. Ms. Spener mentioned that June 29-July 1 is the Western Governors Association meeting, and that September 21-24 is a large Colorado River symposium. Mr. Cruz stated that tribal regional operations meetings were held the last week in June.

Mr. Angel entered a motion to hold the meeting June 7-9, 2011. It was seconded, a vote was taken, and 12 members voted for the date, 4 against, and 1 abstained. A number of members from New Mexico were unavailable on those dates, however, and the Board reconsidered. Mr. Starfield said that perhaps the decision about whether terms could be extended could be made quickly, and the meeting date could be finalized at that point.

Mr. Angel rescinded his previous motion, and entered a motion to hold the meeting on June 15-17, 2011. It was seconded, and 16 votes were entered for the date with one abstention.

Mr. Joyce noted that it would be ideal to decide on a date for the September meeting, but if a great deal more discussion was needed it would be best to move on. Perhaps the September planning committee could caucus and come up with some potential dates.

Mr. Russ Frisbie (IBWC) suggested that the Board examine the National Security Calendar to see if there were any events the southwest scheduled in December with which the Board could collaborate for that meeting. This would have the advantage of public presentation of the 14<sup>th</sup> report taking place in the GNEB's geographical area of focus and might encourage broader press coverage.

### **Discussion of the 14th Report**

Dr. Austin suggested that the members break up into three to four groups, choose someone to write down the group's ideas, and identify someone to share them with the larger group. The charge is to discuss the renewable energy situation, its potential, and concerns in the border region. These groups are only formed to brainstorm ideas; the real working groups will be determined once the topics have been narrowed down. The three groups will be: (1) state representatives; (2) federal representatives; and (3) private sector representatives (NGOs, private industry, and academia).

After the breakout session, the Board members reconvened and each group presented their findings of what should be included in the report as follows:

### State Government Group

1. “Watery”—relationship between water and energy
2. Environmental impacts of renewable energy—regulatory constraints/considerations, i.e., dry-cycle power plants
3. Environmental consequences of not doing anything (“no action alternative”), i.e., what additional greenhouse gases are released into the atmosphere
4. Best management practices (BMPs) for different renewable energy alternatives need to be highlighted
5. Benefits of renewable energy and energy efficiency—what are the benefits for communities that don’t already have renewable energy?
6. If you can barely pay for basic needs, how can you afford renewable energy?—what’s in it for the average consumer, people on fixed incomes, and economically disadvantaged communities?
7. Pros and cons of large arrays versus photovoltaic arrays for individual use
8. Challenges with existing grid system—transmission capacity
9. Lessons learned—case studies
10. Emission credits for transboundary, interstate, and local efforts

### Federal Agencies Group

1. Institutional framework
  - Federal role, process on both sides of the border
2. Role of federal financing
  - Lessons learned (e.g., Community Development Block Grant \$, ARRA \$) from existing funding programs
  - Alternative funding/financing mechanisms
  - Ways to extend resources
3. Mine existing interagency work groups (e.g., Southwest border, environmental justice); reports (e.g., Institute of Americas) and commission what is missing
4. Role of private sector engagement
5. Coordination of federal regulations and policies: identifying conflicts; background on existing policies on renewables
6. Energy security’s relationship to homeland security
7. Transmission issues across border
8. Add DOI, especially the Fish and Wildlife Service, to GNEB
9. Highlight existing examples of cross-border cooperation (e.g., agreements on hydropower generation)
10. Add additional renewable types including efficiencies, weatherization, biomass, and hydropower.

### Private Sector (NGOs/Industry/Academia) Group

1. Private sector experiences
  - Business and industry development of renewable energy
  - Role of market forces as regulatory mechanisms
  - Cost/benefit of job creation/environmental impacts
  - Financing, market development, transmission
  - Inventory of projects
2. Regulatory issues
  - Regulatory differences between states
  - Cost comparisons of conventional and renewable sources
  - Minimum/maximum projections of energy costs
  - Costs and efficiencies by renewable energy type

3. Environment/Social/Economic Impact
  - Regulation of renewable energy production
    - Health and safety safeguards
    - Enforcement
    - Lifecycle (production – decommission)
  - Technical advice to local communities in designing healthy public-private partnerships
    - Business incentives and incentive ladders
    - Community-corporate mutuality: community support and corporate good neighbors
  - Protection of natural systems
    - Land and water health
    - Wildlife habitat
  - Precautionary principle
4. Case study driven/illustrated
  - Private sector successes in commercialization and deployment of renewable energy
  - Successes in renewable energy, environmental protection, and benefits to communities
  - Scale sensitivity
    - Jobs
    - Environmental impact
    - Quality of life

Dr. Austin commended the groups for their work, and noted that the report would be fairly brief. She explained that the report is intended to raise the issues and to summarize what has been addressed in renewable energy. Some of the issues have not been addressed, and the Board may recommend that those be addressed. Mr. Joyce pointed out that a more detailed report would be more useful to Administration. The more information GNEB can convey about what the Board thinks the Federal Government should do, the better. Dr. Austin commented that the Board might have to focus on fewer issues so that the report can contain more detail.

Mr. Ramirez stated that the largest source of pollution on the border is vehicle emissions, and he did not see that in the comments from the three groups. He asked about the spectrum of renewable energy that would be considered for the report, and added that vehicle emissions should be addressed some place in the report. Ms. Krebs agreed that vehicle emissions, the low sulfur fuel standard, and biofuel development are important topics for the report. Ms. Aguillon said that San Diego is converting its buses to natural gas to reduce vehicle emissions; this could be mentioned in the report. Mr. Joyce agreed that diesel emissions are a major component of air quality issues along the border, but he pointed out that those living in border communities need electricity and power generation also yields emissions. Mr. Wood thought it was important for the GNEB members to keep in mind the economic situation along the border. Brownsville had to replace its fleet of buses, and they all are still diesel because that is what the city could afford. Some areas do not have the financial means to select the greener alternative.

Mr. Starfield was concerned that the outlines from the three groups covered many times the number of topics that the report can cover. GNEB is charged with examining the interaction between climate and the border that makes renewable energy possible, and providing recommendations on that possibility. Dr. Henkel stated that part of the discussion among the members focused on the inherited theme for the report, which came from CEQ's response to GNEB's previous report. He suggested that pollution can be examined by type, then the responses from the various kinds of renewable technologies can be examined. GNEB can determine which of these technologies are affordable and at what level. The recommendations should fit to the realities of the communities.

Mr. Olmedo pointed out that there is increased interest in renewable energy because of the subsidies. Renewables will not solve the border's air pollution problems; in fact, renewable energy technologies could contribute more air pollution in regions along the border. He stressed the need to examine renewable energy from a neutral perspective.

Mr. Joyce thought that a narrower and more targeted scope for the report would be more useful than a broad and diffuse one. Mr. Gillen asked if the scope of the report should be narrowed to issues that are driven by policy given that GNEB is advising the President and Congress. Mr. Joyce agreed that it would be useful if the report offered suggestions that would be useful to Congress and the President.

Ms. Poynter mentioned that states have a great deal of authority over renewable energy, so perhaps the report should address what the Federal Government can do to facilitate work at the state level. There is intent at the federal level to ease restrictions.

Dr. Austin noted some facts to move the group forward. A background section is needed to discuss why the border now is the focus of renewable energy development and why the Board was addressing this topic. The lifecycle of the technologies has to be discussed as does affordability, transmission across the border, institutional framework, funding and financing, efficiency, and the role of the private sector. BMPs can be case studies. Dr. Pohlman suggested adding energy security.

Mr. Starfield suggested that the Board members discuss the areas for which they would like to make recommendations. GNEB can determine the impacts of various choices, and identify policies that it would like the Administration to adopt and promote. This would make it easier to determine what information needs to be collected. Dr. Pohlman suggested including a recommendation on policy regionalization to support current efforts on energy security.

Mr. Olmedo was concerned about ensuring that the report reflected the Board's independent opinion. He got the impression that GNEB was being led to give a certain opinion. Dr. Austin encouraged Mr. Olmedo to add any topics that he believed had been omitted from the group outlines. Mr. Olmedo replied that he wanted to preserve the integrity of the Board. Mr. Gillen responded that Mr. Starfield had suggested that GNEB consider the recommendations to help guide the information gathering; he did not suggest that the recommendations be formed before the investigation. Oftentimes, in preparing a report, the GNEB will set out on a certain path, and as the Board moves forward it determines that the path must be changed. All of the recommendations in the report will be supported by ample background material. Mr. Gillen said that he has never seen any Board member's opinion discarded.

Ms. Spener suggested two points that should be covered in the report: the unique challenges and opportunities faced because of the border region (opportunities for wind and solar, challenges with hydropower); and the unique challenges and opportunities for working with Mexico.

Mr. Niemeyer pointed out that in some of the previous reports, GNEB would write about the issue, provide some background, and then include a case study illustrating best practices. The recommendations usually are presented at the beginning of each chapter. There were no foregone conclusions about the report, however, before it was started. Aside from the topic, the Board has the freedom to do whatever it wants in the report.

Mr. Angel thought it was common sense to start with the end in mind. He suggested putting a placeholder in the report and employing a mechanism to address regulatory enforcement and concerns.

Dr. Pohlman thought it would be helpful to see the discussion written down in a document that could be revised. Dr. Austin noted that the process was very rushed this year, but the members must leave this meeting knowing what they are contributing to the report.

Mr. Joyce agreed that the three outlines included a number of important issues, but he did not think they had been organized into a framework for the report. He suggested returning to the outline sent to members before the meeting. Dr. Austin commented that there were still too many topics listed. Mr. Angel said the outlines looked somewhat like a puzzle, but he thought the members are beginning to speak in a common language. Ms. Spener said, in terms of breaking this report down into workable pieces, the outline given

to GNEB might be more useful, but she was unsure how it would meld with the outline just developed. Mr. Small suggested grouping the topics into the outline. Mr. Gillen stated that everything the private sector group discussed would fit under item #3 from the CEQ.

Mr. Olmedo asked for Mr. Joyce's opinion on what type of product would make the best representation to Congress. Mr. Joyce responded that the focus of the report is economic opportunities driven by environmental and socioeconomic concerns. The hope was that, in this report, the Board could examine renewables to address several issues: the impact on the local economy and the opportunity to create jobs, the use of renewables to bring about environmental benefits, and any concerns associated with renewable energy. Mr. Joyce said he has always strived for absolute consensus among the Board members and did not expect this report to be any different. Mr. Olmedo said that different communities view tradeoffs differently; the border region will view that tradeoff between jobs and less pollution/better health differently than a more affluent community. Ms. Aguillon pointed out that any renewable energy technology company that was polluting the environment and risking the health of the local community would not be around long. The report provides a great opportunity to examine impacts—both good and bad. Dr. Austin pointed out that the report should address what renewable energy means for the border region. Mr. Joyce noted that the report should have a balanced, thorough discussion of benefits, costs, pros and cons, economic opportunities, and detrimental effects; it also should provide recommendations, by the consensus of this Board, on what needs to be done to ensure that the positive impacts are achieved and the detrimental impacts are avoided.

Mr. Niemeyer mentioned that, according to the outline, GNEB has been asked to examine the effects of air quality and climate change on the border region in more depth than in the past reports, and the potential for renewable energy resources along the border. The outline circulated before the meeting states that the major emphasis of the report will be to highlight the opportunities for green jobs in economic development with a greater emphasis on what renewable energy would bring to the border. Mr. Joyce said that the outline presented to the Board was simply a starting point for the discussions, and the Board has moved past it. Mr. Niemeyer wondered if the Board just needed to discuss the issues surrounding renewable energy. Dr. Austin thought that was the charge she heard from Ms. Sutley. Mr. Joyce added that the report should capture the context of the Board's discussion of renewable energy. What are the socioeconomic impacts (positive and negative) and what can the Federal Government do to ensure that the positive impacts are maximized and any detrimental impacts are minimized?

Mr. Apodaca suggested the possibility of creating three workgroups to focus on community impacts, economic impacts, and environmental impacts. Dr. Austin asked if other members had ideas on how to group the information together in a framework for the report. Mr. Joyce pointed out that some of the topics listed in the outlines are minor to the Board's central intent. GNEB cannot address everything. The scope must be narrowed to a scale that will allow the report to offer recommendations and a substantial body of information to support them, as well as suggestions on what the Federal Government can do to ensure the positive economic, social, and environmental benefits of renewable energy while ensuring that the detrimental impacts do not occur.

Ms. Aguillon suggested that national security be included as an impact. Mr. Small noted that national security also is a driver and one of the justifications for renewable energy.

Mr. Cruz mentioned that many of the issues discussed also are faced by the federal and state regulatory agencies.

Dr. Austin wanted the Board to go one step further, and determine how the topics fit together to create a framework for the report. Mr. Angel noted that "large vs. small" was site specific and project specific. Dr. Austin asked those who suggested that topic to comment on how it fit with the other topics. Ms. Aguillon suggested that it was part of the impacts. The pros and cons of both "large" and "small" helped her company to come to a consensus. Mr. Angel added that it was too speculative to get into

impacts at a project level. Dr. Austin suggested that “large” versus “small” be described as the difference between a large project and a small (distributed) project in the community, in economic terms, and in terms of environmental impacts.

Dr. Austin noted that each working group should seek case studies that supported the findings and recommendations; these case studies could be used to make a point or highlight the issue under discussion.

Ms. Wieting commented that in the 13th report, there were six recommendations on renewable energy; could the Board use those recommendations as a starting point and elaborate on them in this report? Mr. Gillen responded that because the 13th report was prepared for a new President, the Board took the opportunity to cover a wide array of issues. He would anticipate using some of the points raised in the 13th report as discussion points. Ms. Wieting added that more focus could be placed on those recommendations. Mr. Gillen pointed out that many of the recommendations on renewable energy came from previous reports.

Mr. Starfield commented that there are two things that GNEB should address: (1) where the growth in renewables ought to be encouraged, and (2) the best practices or policies for development. He suggested four working groups to accomplish this: background, renewable resources, economic opportunities, and impacts. Ms. Krebs noted how the Economic Technology Advancement Committee in California prepared its report—the Committee listed the technologies available today, examined how they could be applied based on who would benefit by it (residential, commercial, institutional), and then examined the policies that would have to be in place to make the projects successful. Ms. Krebs agreed to e-mail the report to Dr. Austin.

Mr. Niemeyer stated that one exercise conducted for every report is to examine the previous reports; the Board needs to complete this task. He added that he supported Mr. Starfield’s suggestion for the four working groups.

Dr. Austin stated that there were two sets of potential working group frameworks under discussion. Mr. Cruz suggested the addition of a fifth working group on consequences to the four suggested by Mr. Starfield. Dr. Austin proposed organizing the topics under the working groups suggested by Mr. Starfield, and Ms. Poynter agreed. Ms. Poynter noted that the one area missing in the outline was challenges.

Ms. Krebs proposed that the report include the comment that lifecycle analysis be considered in the future, because the Board could not conduct lifecycle analyses on all of the renewable technologies. Dr. Austin said she envisioned a small diagram for each technology, perhaps bolding or circling those aspects that take place on the border. Mr. Luthans thought that lifecycle analysis might not be the correct term, because Mr. Starfield meant it in broader terms that could include obstacles and challenges. Mr. Small recommended putting the challenges in the recommendations section of the report.

Mr. Olmedo noted that some of the categories would fit well under environmental justice. Dr. Austin commented that environmental issues should be covered in the background and institutional framework section. Ms. Aguillon pointed out that with regard to the lifecycle of photovoltaic panels, lessons can be learned from Germany. In Europe, there are plans for decommissioning the panels. Mr. Angel added that the lifecycle differs for various renewable; he noted that both wells and turbines fail.

Mr. Joyce noted that the Board members appear to favor Mr. Starfield’s proposed outline and working groups and the issues identified during the breakouts fit into that proposal. Within this framework, the Board should determine who would be willing to address these different issues. Dr. Austin thought this would be a good approach for the Board to take. She noted, however, that this approach would exclude efficiency, such as home retrofitting, for this report; it also appears that transportation would not be

considered. Mr. Small said he thought transportation had to be included, but with the scope limited to biofuels.

The Board then placed the topics into the sections of Mr. Starfield's proposed outline, and determined which members would work on each section. The results are as follows:

- 1. Background (Mr. Niemeyer [Chair], Ms. Poynter/Ms. Georgina Scarlata, Ms. Alison Krepp/Ms. Wieting, Mr. Angel, and Mr. Ruiz)**
  - Best management
  - Case studies
  - Unique challenges and how we work with Mexico, transboundary relationship
  - Energy security
  - Institutional framework (must be defined by the group)
  - Regulatory and compliance
- 2. Renewable resources (Ms. Spener, Mr. Luthans, Mr. Angel, and DOE representative? [Chair undecided])**
  - Lifecycle analysis of each (biofuels, biogas, solar, wind, hydropower, geothermal, waste to energy)
  - Best management
  - Regulatory and compliance
  - Case studies
- 3. Economic opportunities/issues (Ms. Aguillon [Chair], Mr. Gillen, Ms. Krebs, Mr. Small, and Mr. Olmedo)**
  - Energy security
  - Best management
  - Case studies
  - Affordability
  - Large/small
  - Jobs and training
  - Funding/finance
  - Roles of private sector
- 4. Impacts (Mr. Olmedo [Co-Chair], Ms. Veronica Garcia [Co-Chair], Ms. Wolf, Mr. Small, Ms. Aguillon, Mr. Wood, Mr. Apodaca, Mr. Angel, Mr. Luthans, and a DOI representative?)**
  - Energy security
  - Community impact
  - Best management
  - Regulatory and compliance
  - Case studies
  - Environmental impacts/socioeconomic impacts
  - Unintended consequences
  - Large/small
- 5. Challenges (This section will include recommendations and findings of the report, which will be discussed in more detail at the June meeting once members have reviewed the draft text)**
  - Policy
  - Best management
  - Practical recommendations
  - Case studies
  - Transmission? (place in report to be determined)

Dr. Austin instructed the working groups to select a date for a teleconference before leaving the meeting. Each group should provide the date for the teleconference to Ms. Gantner. Each of the groups should have draft text by the June meeting. Prior to the June meeting, each working group will send its text to the entire Board for review. Groups should decide today what needs to be accomplished before the teleconference. Dr. Austin asked if there was a location online where working group reports and draft text could be posted. Mr. Joyce replied that there is a Web site for the Board. Ms. Gantner will send the teleconference call-in number and information to access the Web site to members by March 29, 2011. She also will send e-mails out to the working groups when a member posts something on the Web site.

The working groups then met separately to discuss their charges and make writing assignments.

Dr. Austin adjourned the meeting at 2:07 p.m.

## **Action Items**

- ✧ Ms. Stendebach will send information on the percentage of the population in Imperial Valley that is Hispanic to Mr. Gillen.
- ✧ Ms. Stendebach will provide information on OAR's activities in renewable energy to the Board.
- ✧ Dr. Papoulias will send Mr. Ramirez contacts to learn more about the flood model mentioned in the Ambos Nogales region.
- ✧ OFACMO staff will follow up with DoD to see if that agency can be represented on GNEB.
- ✧ Ms. Spener will send Mr. Small contact information for the IBWC environmental chief and the engineering chief, and the contacts IBWC used in its analysis of the dams for information on low-flow turbines.
- ✧ Mr. Foley will give GNEB an additional slide that provided information on the cost of wind energy.
- ✧ Ms. Krebs will send via e-mail the Economic Technology Advancement Committee report to Dr. Austin.
- ✧ The working groups will meet via teleconference prior to the June meeting.
- ✧ Ms. Gantner will send the conference call-in number for the working group teleconferences and information to access the Web site to GNEB members by March 29, 2011.
- ✧ Before the June meeting, each working group will post its text on the Web site for the Board to review.
- ✧ Ms. Gantner will send e-mails out to the working groups when a member posts something new on the Web site.

## **Good Neighbor Environmental Board (GNEB) Meeting Participants**

### **Nongovernment, State, Local, and Tribal Members of the Board**

#### **Diane Austin, Ph.D., Acting Chair**

Associate Research Anthropologist  
Bureau of Applied Research in Anthropology  
University of Arizona  
Tucson, AZ

#### **Cecilia E. Aguillon**

Director, Market Development and Government  
Relations  
KYOCERA Solar, Inc.  
San Diego, CA

#### **Jose Angel**

Assistant Executive Officer  
California River Basin Region Water Quality  
Control Board – Colorado River Basin Region  
Palm Desert, CA

#### **Evaristo Cruz**

Director  
Environmental Management Office  
Ysleta del Sur Pueblo  
El Paso, TX

#### **Veronica Garcia**

Deputy Division Director  
Waste Programs Division  
Arizona Department of Environmental Quality  
Phoenix, AZ

#### **Gary Gillen**

President  
Gillen Pest Control  
Richmond, TX

#### **David Henkel, Ph.D.**

Professor Emeritus  
University of New Mexico  
Community and Regional Planning Program  
School of Architecture and Planning  
Phoenix, AZ

#### **Patti Krebs**

Executive Director  
Industrial Environmental Association  
San Diego, CA

#### **Stephen M. Niemeyer, P.E.**

Borders Affairs Manager and Colonias  
Coordinator  
Intergovernmental Relations Division  
Texas Commission on Environmental Quality  
Austin, TX

#### **Luis Olmedo**

Executive Director  
Comite Civico Del Valle, Inc.  
Brawley, CA

#### **Luis E. Ramirez Thomas, M.S.F.S.**

President  
Ramirez Advisors Inter-National, LLC  
Phoenix, AZ

#### **Thomas Ruiz, M.S.**

Border/Environmental Justice Liaison  
Office of the Secretary  
New Mexico Environment Department  
Las Cruces, NM

#### **Nathan P. Small**

Conservation Coordinator  
New Mexico Wilderness Alliance  
Las Cruces, NM

#### **Ann Marie A. Wolf**

President  
Sonora Environmental Research Institute, Inc.  
Tucson, AZ

#### **John Wood**

Representative  
Cameron County Regional Mobility Authority  
Brownsville, TX

#### **Antonio Noé Zavaleta, Ph.D.**

Director  
Texas Center for Border and Transnational  
Studies  
University of Texas at Brownsville  
Brownsville, TX

## **Federal Members of the Board**

### **Department of Homeland Security**

#### **Teresa R. Pohlman, Ph.D.**

Director

Occupational Safety and Environmental  
Programs

Office of Chief Administrative Officer

Management Directorate

Department of Homeland Security

Washington, DC

### **Department of State**

#### **Stewart Tuttle**

U.S.-Mexico Border Affairs Coordinator

Bureau of Western Hemisphere Affairs

U.S. Department of State

Washington, DC

### **Environmental Protection Agency**

#### **Larry Starfield**

Deputy Regional Administrator

EPA Region 6

Dallas, TX

### **International Boundary and Water Commission**

#### **Edward Drusina**

Commissioner

United States Section

International Boundary and Water Commission

El Paso, TX

### **Department of Housing and Urban Development**

#### **Stan Gimont**

U.S. Department of Housing and Urban

Development

Washington, DC

### **Department of Agriculture, Natural Resources**

#### **Conservation Service**

#### **Robert M. Apodaca**

Assistant Chief – West

USDA/NRCS

Albuquerque, NM

### **Department of Commerce – National Oceanic and Atmospheric Administration**

#### **Donna Wieting**

National Oceanic and Atmospheric

Administration

Silver Spring, MD

### **Department of Energy**

## **Christopher Lawrence**

Department of Energy

Washington, DC

## **Acting Designated Federal Officer**

### **Mark Joyce**

Acting Designated Federal Officer

Good Neighbor Environmental Board

U.S. Environmental Protection Agency

Office of Federal Advisory Committee

Management and Outreach

Washington, DC

## **EPA Participants**

### **Lisa Almodovar**

U.S. Environmental Protection Agency

Office of International and Tribal Affairs

Washington, DC

### **Geraldine Brown**

U.S. Environmental Protection Agency

Office of Federal Advisory Committee

Management and Outreach

Washington, DC

### **Michelle DePass**

U.S. Environmental Protection Agency

Assistant Administrator

Office of International and Tribal Affairs

Washington, DC

### **Jerry Ellis**

U.S. Environmental Protection Agency

Office of Water

Washington, DC

### **Ann-Marie Gantner**

U.S. Environmental Protection Agency

Office of Federal Advisory Committee

Management and Outreach

Washington, DC

### **Cynthia Jones-Jackson**

U.S. Environmental Protection Agency

Acting Director

Office of Federal Advisory Committee

Management and Outreach

Washington, DC

**Debbie Lake-Hinkle**

U.S. Environmental Protection Agency  
Office of Federal Advisory Committee  
Management and Outreach  
Washington, DC

**Bill Luthans**

U.S. Environmental Protection Agency  
Region 6  
Dallas, TX

**Stephanie McCoy**

U.S. Environmental Protection Agency  
Office of Federal Advisory Committee  
Management and Outreach  
Washington, DC

**Toni Rousey**

U.S. Environmental Protection Agency  
Office of Federal Advisory Committee  
Management and Outreach  
Washington, DC

**Sue Stendebach**

U.S. Environmental Protection Agency  
Office of Air and Radiation  
Washington, DC

**Other Participants**

**Jon Andrew**

U.S. Department of the Interior  
Washington, DC

**William Bresnick**

Department of Homeland Security  
Washington, DC

**Anthony J. Como**

Department of Energy

**Todd Foley**

American Council on Renewable Energy

**Russ Frisbie**

International Boundary and Water Commission

**Patricia Harrington**

Department of Homeland Security  
Washington, DC

**Victoria Finkle**

Inside EPA

**Edward Hoyt**

Nexant  
Washington, DC

**Lesley Hunter**

American Council on Renewable Energy

**Alison Krepp**

National Oceanic and Atmospheric  
Administration  
Silver Spring, MD

**John McCardle**

Environment and Energy News

**Diana Papoulias**

U.S. Geological Survey

**Rachel Poynter**

U.S. Department of State  
Washington, DC

**David Reese**

Department of Homeland Security  
Washington, DC

**Rick Rosen**

National Oceanic and Atmospheric  
Administration  
Silver Spring, MD

**Georgina Scarlata**

U.S. Department of State  
Washington, DC

**Sally Spener**

International Boundary and Water Commission  
El Paso, TX

**Nancy Sutley**

Chair  
White House Council on Environmental Quality  
Washington, DC

**Contractor Support**

**Mary Spock, M.S.**

Writer/Editor  
The Scientific Consulting Group, Inc.  
Gaithersburg, MD

U.S. ENVIRONMENTAL PROTECTION AGENCY



# Good Neighbor Environmental Board

March 24-25, 2011

Mandarin Oriental  
1330 Maryland Avenue, S.W.  
Washington, DC 20024

## AGENDA

---

### Thursday, March 24, 2011

- |                |   |
|----------------|---|
| 8:30 am        | <b>Registration</b>   |
| 9:00-9:30      | <b>Welcome and Introductions</b><br>Diane Austin, Acting Chair<br>Cynthia Jones-Jackson, Acting Director, OFACMO<br>Mark Joyce, GNEB Acting Designated Federal Officer<br>Board Member Introductions  |
| 9:30-10:30     | <b>Opening Remarks and General Discussion</b><br>Nancy Sutley, Chair<br>White House Council on Environmental Quality  |
| 10:30-10:45    | Break   |
| 10:45-11:45    | <b>Air Quality and Climate Change Along the U.S.-Mexico Border</b><br>Sue Stendebach, Senior Advisor on International Air Quality<br>U.S. EPA Office of Air and Radiation<br>Richard Rosen, Senior Advisor for Climate Research<br>National Oceanic and Atmospheric Administration<br>Diana Papoulias<br>Research Biologist<br>U.S. Geological Survey |
| 11:45-12:00 pm | <b>Public Comments</b>  |
| 12:00-1:30     | Lunch   |

- 1:30-2:30                    **Renewable Energy Resources in the U.S.-Mexico Border Region**
- Edward Drusina, Commissioner  
United States Section  
International Boundary and Water Commission
- Edward Hoyt  
Principal Clean Energy Specialist  
Nexant Inc.  
DOE Speaker TBD
- 2:30-3:30                    **The Economic Potential of Renewable Energy Development in the Border Region**
- Cecilia Aguillon, Director  
Market Development and Government Relations  
KYOCERA Solar, Inc.
- Stephen Niemeyer  
Border Affairs Manager and Colonias Coordinator  
Texas Commission on Environmental Quality
- Todd Foley, Senior Vice President on Policy and Government Relations  
American Council on Renewable Energy
- 3:45-3:45                    Break
- 3:45-4:45                    **Update on Border 2012 Program and Commission for Environmental Cooperation Activities**
- Michelle DePass, Assistant Administrator  
U.S. EPA Office of International and Tribal Affairs
- 4:45- 6:00                    **Discussion of 14<sup>th</sup> Report**
- 6:00                            **Adjourn for the Day**

**Friday, March 25, 2011**

- 8:00 am                    **Registration**
- 8:30                            **Discussion of Options for June, September, and December Meetings**
- 9:00                            **Discussion of 14<sup>th</sup> Report continued**

10:30	<b>Break</b>
10:45	<b>Discussion of 14<sup>th</sup> Report continued</b>
1:30 pm	<b>Public Comments</b>
2:00	<b>Adjourn</b>