National Advisory Council for Environmental Policy and Technology (NACEPT) Meeting

August 2 - 3, 2012

Ariel Rios Building
1201 Constitution Ave, NW
Washington, D.C. 20004

FINAL MEETING SUMMARY

THURSDAY, AUGUST 2, 2012

Welcome and Introductions

Mark Joyce, Associate Director of the Office of Federal Advisory Committee Management and Outreach (OFACMO) and Acting Designated Federal Officer (DFO) for the National Advisory Council for Environmental Policy and Technology (NACEPT), U.S. Environmental Protection Agency (EPA);
William Ross, Jr., NACEPT Chair, Visiting Professor of Environmental Sciences and Policy and Duke Cancer Institute, Duke University; and
Cynthia Jones-Jackson, Acting Director, OFACMO, EPA

Mr. Joyce called the meeting to order at 9:15 a.m. and welcomed the NACEPT members. Mr. Ross expressed his appreciation to the meeting attendees and remarked that he is looking forward to a productive meeting. Ms. Jones-Jackson welcomed the members of the NACEPT and thanked them for their work and for the first sustainability letter sent to the EPA Administrator; the Council's proposed recommendations were invaluable. She acknowledged the new NACEPT Chair, Mr. Ross, and thanked him for graciously accepting the challenge to lead the Council for the next 2 years. Dr. James Johnson, Jr., the former NACEPT Chair, recently accepted a position as Director of EPA's National Center for Environmental Research (NCER) within the Office of Research and Development (ORD). Ms. Jones-Jackson also extended a special welcome to new Council member Dr. Judith Mazique (Texas Southern University). She then thanked the senior EPA staff members who agreed to speak during the NACEPT meeting: Mr. Craig Hooks, Assistant Administrator for EPA's Office of Administration and Resources Management (OARM); Ms. Bicky Corman, Deputy Associate Administrator for EPA's Office of Policy; and Dr. Robert Kavlock, Deputy Assistant Administrator for Science in ORD. Finally, Ms. Jones-Jackson thanked Mr. Howard Learner (Environmental Law and Policy Center) for his assistance as Vice-Chair under Dr. Johnson and for continuing in this position for the tenure of Mr. Ross.

Mr. Ross acknowledged the challenging nature of the NACEPT Chair position and expressed gratitude to the Administrator for the opportunity. He recognized Dr. Johnson's excellent leadership and thanked everyone who has offered assistance as Mr. Ross supports the Council's important work on sustainability. He thanked Mr. Learner for continuing to serve in his role as Vice-Chair. He then asked the NACEPT members and those in the audience to introduce themselves and share a thought or observation related to sustainability. He began by offering a poem by Alfred Tennyson. Each Council member and meeting attendee followed suite, sharing their name, affiliation and thoughts about sustainability.

Ms. Jones-Jackson noted that the microphones only work at the podium, and she encouraged everyone to use the podium or project their voices when speaking.

Opening Remarks
Bob Perciasepe, Deputy Administrator, Office of the Administrator, EPA

Mr. Perciasepe thanked the NACEPT for all of its efforts to advise EPA. He remarked that both he and the Administrator were pleased that Mr. Ross had accepted the responsibility of NACEPT Chair, and added that the advice in NACEPT's April letter was timely and much appreciated.

Mr. Perciasepe described EPA's sustainability-related programs. He noted that there are many sustainability initiatives happening outside the Agency; the Council provides a link to those external efforts. Corporate America is focusing on incorporating sustainability into business models. Sustainable services and products improve the consumer's perception of companies, but the reduced carbon emissions and energy use also provide direct benefits to a business' bottom line. Companies are realizing that sustainability initiatives are critical to their success; the advice letter from the NACEPT is aligned with corporate priorities. There have been historic investments in energy technologies and impressive advancements in sectors such as green chemistry and infrastructure. This will improve the ability for EPA to deal with environmental issues throughout the process, rather than just at the end of the pipeline.

Mr. Perciasepe relayed that, on a recent trip in rural China, he was delayed by a convoy of trucks carrying wind turbine blades, representative of the high rate of renewable energy development around the world. The lesson from companies and countries is that sustainability affects not just the environment but also the economy. There is a growing part of the economy oriented toward environmental technologies, and demand for products and services have economic and environmental advantages. EPA plays a leadership role in environmental technology to guide global and U.S. investment is this sector.

Mr. Perciasepe noted that changing the way of thinking can modify the outcome. Even today, EPA is building sustainability ideas into its programs and initiatives. For example, Region 1 addressed the challenge of thermal pollution within the Charles River in an innovative way. The Kendall power plant was discharging heat into the river. In working with Kendall for a National Pollutant Discharge Elimination System (NPDES) permit, Region 1 developed an idea to sell the heat. A pipeline was built under the river to relay the heat, which resulted in reduced thermal pollution and improved air and water quality. This example of a new way to solve an old problem illustrates how EPA is taking opportunities to think differently about innovative solutions.

In the 20 years of ENERGY STAR's existence, 5 billion ENERGY STAR products have been sold, resulting in 1.7 billion metric tons of greenhouse gases not being emitted and $230 billion saved in utility bills. ENERGY STAR is a global symbol, having reciprocity in more than 30 countries. Thinking differently about how things are done will capture the market forces to help move the momentum forward. There are many other examples. The stimulus package supplied $6 billion for innovative projects. The sewage treatment plant in Johnson County, Kansas, used some of these funds to modify the facility into a net-zero, energy sufficient operation, and New England flood damage is being repaired by retrofitting communities in an energy-efficient manner.

Mr. Perciasepe is proud that EPA received all "green" marks on the national scorecard from the Office of Management and Budget (OMB), including in the categories of greenhouse gases, renewable energy use and fuel usage in the transportation fleet. Petroleum use has been reduced by 30 percent, and the Administrator uses a Chevy Volt for transportation around Washington, D.C.

Mr. Perciasepe noted that it is timely to pursue sustainability initiatives. EPA will incorporate advice from the National Academy of Sciences (NAS) into what the Agency already is doing and develop processes to further this evolution within EPA. Visualizing that direction is very important. EPA has conducted hundreds of Listening Sessions across the United States, and an action plan is being developed to coordinate the Agency's work and build upon the existing foundation of sustainability. The action plan

will have an evolving component to ensure a continuum toward a future state that is more sustainable than today.

Mr. Perciasepe acknowledged the leadership and work of former NACEPT Chair, Dr. Johnson, who remains with EPA as the new Director for NCER. The Administrator will continue to reference the NACEPT letter regarding the workforce challenges and skillsets needed in the future. Mr. Perciasepe stated that the Office of the Administrator appreciates Dr. Johnson's efforts as Chair and eagerly anticipates his work as the new NCER director. He then presented Dr. Johnson with a plaque commemorating his Chairmanship of the NACEPT.

Dr. Johnson expressed his appreciation for the sentiments and plaque, noting that the Council is an integration of real life, science and policy. He emphasized that the NACEPT work is very important to guide the Agency as it progresses forward. It is clear that the Administrator listens to NACEPT's advice; she has referenced the NACEPT letter on workforce issues and has directed others to consult NACEPT products.

Discussion

Dr. Ronald Meissen (Baxter International Inc.) questioned EPA's capacity to advance sustainability at the Agency while being challenged by resource limitations and routine staff responsibilities addressing permitting and enforcement. Mr. Perciasepe acknowledged the importance of advancing sustainability and noted that the best approach to ensure success is to integrate sustainability into all current activities, rather than view it as an additive issue. The Agency needs to evaluate current activities within permits, enforcement and research. Mr. Perciasepe was optimistic that EPA could build upon its substantial existing knowledge and talent to better coordinate sustainability activities and invest in specific skills. Because of the limited budget, EPA needs to evaluate every activity—including NPDES permits, state oversight and regulatory interactions—to optimize processes.

Ms. Sara Kendall (Weyerhaeuser Company) stated that Mr. Perciasepe had discussed the One EPA vision at the previous NACEPT meeting and wondered whether the sustainability planning process was to be concluded prior to integrating sustainability into Agency programs. Mr. Perciasepe replied that the current strategic plan already contains cross-cutting strategies, although it will be important to give equal weight to EPA's statutory obligations and accountability to Congress. Mr. Perciasepe's new title of Chief Operating Officer (COO) reflects those changes.

Dr. Olufemi Osidele (Southwest Research Institute) questioned whether the Agency is viewing sustainability primarily as a top-down or bottom-up approach within the strategic plan and annual reports. For example, the NAS report on *Sustainability and the U.S. EPA* (commonly referred to as the "Green Book") sets a vision of sustainability and then backcasts the strategic planning process; conversely, EPA regions already have implemented programs with sustainability principles. Mr. Perciasepe responded that both approaches are necessary. Leadership needs to push the system forward to catch momentum with the policy space to make things happen. Although the diverse and diffuse culture at EPA can be lamented, Mr. Perciasepe noted that the U.S. Department of Agriculture (USDA), the Bureau of Land Management (BLM) and the U.S. Geological Survey (USGS) all contain separate regional structures. EPA's advantageous regional structure integrates air, water, pollution and other important media. It will be important to capture innovation at EPA's decentralized regional offices to find new ideas to solve problems.

Mr. Robert Kerr (Pure Strategies, Inc.) emphasized the importance of leveraging EPA's existing coordination with various sectors such as housing, transportation and commerce. Mr. Perciasepe noted that one of his priorities as the Deputy Administrator is to build strong relationships with other agencies. EPA signed a Memorandum of Understanding with the U.S. Department of Transportation (DOT) and the U.S. Department of Housing and Urban Development (HUD) to form the Partnership for Sustainable

Communities, demonstrating a productive collaboration between three federal agencies. Administrator Jackson and Small Business Administration (SBA) Administrator Karen Mills initiated a technology water cluster event in Cincinnati, Ohio, that was a confluence of government, business and academic institutions to build upon the collaborative foundation to bring new products to the market.

Overview and Discussion of EPA's Internal Sustainability Initiatives
Craig Hooks, Assistant Administrator, OARM, EPA

Mr. Hooks discussed the impact of sustainability on Agency operations. He noted that sustainability works in many ways for the OARM, as it impacts the operations, economy and the environment. EPA employs 1.8 million people, occupies 500,000 buildings across the United States, and provides 500 million goods and services; there are many areas where sustainability can be incorporated within the Agency.

EPA's updated sustainability policy began in 1992 with Executive Order (EO) 13123, which regulated energy efficiency, water conservation and green building. Many subsequent policies were combined into EO 13514, which required sustainability reporting to track progress, including greenhouse gases, energy production, renewable energy, transportation, water use, green buildings and green procurement. Waste diversion, electronic stewardship and environmental management also were tracked on a systems level. Mr. Hooks noted that EPA strives to reduce the environmental impact of its activities, including reducing the environmental footprint by decreasing employees' business travel, improving videoconferencing capabilities and increasing workshare programs. OARM is working with the Office of Environmental Information (OEI) to facilitate telework, which would significantly reduce commuter vehicle emissions.

EPA is the only federal agency to receive an "all green" rating from the OMB 2 years in a row. All of the Agency's efforts are based on the Administrator's seven priorities, which include mitigating the effects of climate change, safe chemical management and promotion of environmental justice (EJ).

Within EPA, the Office of Water has been promoting green infrastructure. The Chesapeake Bay Trust and Edmonson reduced stormwater runoff and flooding by retrofitting technology. Importantly, the designs were uploaded to the Internet so that other sites could emulate their solution. A performance plan of activities is required, which reiterates sustainability goals such as fleet management, water conservation, green buildings, waste minimization, electronics stewardship and green acquisition. Improvements are realized in the design of new green buildings and in assessing existing buildings for water use, laboratory equipment and controls, and space efficiency and consolidation. Some examples include: the Atlantic Ecology Division installed wind turbines, photovoltaics and a green roof; EPA's Caribbean Environmental Protection Division (CEPD) recently moved into a new Leadership in Energy and Environmental Design (LEED®)-certified Gold commercial building, which is the first Gold rating in Puerto Rico; and EPA's facility in Research Triangle Park (RTP), North Carolina, uses photovoltaics and a heat recovery system to reduce non-renewable energy use.

The American Recovery and Reinvestment Act (AARA) funds expand these initiatives beyond EPA. Making operations more efficient will be important as budgets continue to decrease. One suggestion is to interact with facility managers to develop new ideas to meet energy reduction targets. Mr. Hooks reminded attendees that achieving sustainability requires investments to reduce the Agency's footprint. Office space has been reduced by 20 percent, and a transit subsidy program has reduced greenhouse gas emissions by 6 million tons per year. Money saved with efficiency improvements will be cycled back into future sustainability investments.

Discussion

Dr. Meissen noted that Mr. Hooks is the Chief Sustainability Officer (CSO) and the chief human capital officer, declaring that organizations use human capital to accomplish goals. Mr. Hooks agreed that human resources departments are useful to advance sustainability initiatives.

Ms. Corman added that the EO requires the CSO to report on the sustainability performance plan to evaluate the Agency on heating and cooling resources and reducing the energy each employee requires for transportation. EPA also issues regulations, permits and partnerships to advance sustainability initiatives.

Dr. Patricia Gallagher (Drexel University) expressed concern that Congress would decrease funding to the Agency as sustainability efforts reduce costs. Mr. Hooks understood the concern but suggested that dollars saved through reduced costs would be invested back into future sustainability initiatives. Dr. DeWitt John (Bowdoin College) emphasized the usefulness of EPA reaching out and working together with other organizations to develop and promote sustainable practices. One participant noted that his company works with the government through EPA's Forum on Environmental Measurements (FEM), which provides a forum for sharing ideas and technology innovations.

Ms. Alison Taylor (Siemens Corporation) questioned whether sustainability efforts within EPA were voluntary or whether the Agency had developed an enforcement mechanism to drive the efforts. Mr. Hooks responded that performance metrics were described in EOs, statutes and mission statements, but no enforcement mechanism exists.

Overview and Discussion of EPA's Internal Sustainability Initiatives: Response to the NAS Green Book "Sustainability and the U.S. EPA"
Bicky Corman, Deputy Associate Administrator, Office of Policy, EPA

Ms. Corman relayed the history of the NAS Green Book, describing how in 2010 Administrator Jackson had asked the NAS to produce a sustainability report for EPA. The Green Book was a followup to the "Red Book," which was a manual to address EPA's incorporation of risk assessment into decision making. Forty years later, EPA is moving from a risk paradigm to a sustainability paradigm. Rather than focusing attention on minimizing risk at the end of a natural or artificial life cycle, EPA is maximizing opportunities to address sustainability throughout environmental and social arenas. It is apparent that potential harms are interconnected, and that multimedia approaches work best to address various problems.

The NAS confirmed that the Agency should incorporate sustainability into its foundation, producing 29 recommendations for EPA's consideration. Although EPA has been engaging in sustainability efforts, there needs to be a strategic focus. There is no EO governing how agencies implement programs or policies, and no coherence exists at the federal level about how to implement sustainability. The Department of Defense (DOD) incorporated sustainability into its mission after realizing that fuel convoys represent one of the highest fatality rates in Afghanistan. The DOD reasoned that reducing fuel usage would help to protect soldiers, which is the Department's most valuable asset. Despite these isolated initiatives, however, there is no overarching federal sustainability goal, and it is important for EPA to determine the best way to help the government progress in that direction.

EPA's Office of Policy, tasked with determining whether external stakeholders would be amenable to a paradigm shift, conducted 80 Listening Sessions across the United States. An additional 50 Listening Sessions were conducted with EPA employees and other federal agencies to coalesce around government sustainability priorities. The Listening Sessions were designed to answer two questions: (1) Should EPA more robustly incorporate sustainability into its policies and procedures? (2) If so, to what extent? Ms. Corman noted that many corporations and municipalities already have addressed these questions.

EPA needs to add value to other entities' activities by forming partnerships and leveraging ideas and finances that will harness the resources of the business world and so better achieve sustainable outcomes.

The Listening Sessions affirmed that EPA should move forward, although caveats were proffered. Industry and state representatives said that increasing sustainability is important, but EPA should not turn any policies into unfunded mandates. There was some concern that the focus on sustainability would divert EPA's attention from its regulation and permitting mission. The challenge is to demonstrate that EPA is concerned with its mission, but efficiency results from sustainable processes such as a water permit that also protects the air and reduces asthma.

Stakeholders shared four messages with EPA: (1) effectuate message change; (2) improve communication; (3) develop better science, tools and methods to support permits and measure progress; and (4) pursue partnerships. The most important change will be in doing things differently with a sustainability perspective. EPA has experienced great success in the non-regulatory arena with programs such as EPA's Design for the Environment (DfE) and ENERGY STAR, and these types of programs should be increased. Sustainability also needs to be built into the 80 percent of EPA's programs that concern permit issuance and enforcement. Stakeholders believe that EPA has a responsibility to go beyond compliance and incorporate sustainability into professional as well as personal life. For example, Region 9 has a zero waste policy.

The NACEPT's first advice letter supports EPA moving in a sustainable direction. These changes will take time and need to be considered carefully in an era of budgetary constraints. One way to start would be with internal activities under EPA's control, such as training. Investing in EPA's human resources, in addition to developing performance indicators and internal accounting systems, will improve adherence to the mission. Regions need to be credited for improvements to air and water; the current system does not reward cross-office collaborations.

The NAS recommended developing breakthrough objectives to bring coherence to the activities in which the Agency is engaged. For example, energy efficiency is an overarching principle that applies to water utilities, waste programs and the reuse of materials in construction. Measuring energy use is difficult, but harmonizing energy efficiency in water utilities, buildings and other facilities is important, and all of these efforts must be scientifically defensible.

Ms. Corman expressed appreciation for NACEPT's efforts, noting that the advice letter confirmed that the Agency was heading in the right direction.

Discussion

Dr. Osidele reminded the attendees that NACEPT's first letter recommended that EPA develop a bold statement and vision of sustainability. He noted that there appears to be an understanding of where the Agency needs to go, and the challenge will be in developing breakthrough objectives. Ms. Corman asserted that there is no opposition for sustainability within the Agency, but there exists the practical question of how to accomplish it. The challenge is to set reasonable objectives that are credible and will not alarm outside stakeholders. Attaching numbers to objectives and measuring the impact of every action is an issue: the goal is to manage X percent of stormwater using green infrastructure by year Y, but first it is important to know how much stormwater is generated per year. ORD can help with green engineering and green technology challenges. Setting unreachable goals invites failure; caution is critical. Dr. Mark Mitchell (Mitchell Environmental Health Associates) interpreted NACEPT's goal as helping to develop the objectives and then negotiating interim steps to achieve those objectives.

Programs such as ENERGY STAR and DfE move industries toward sustainability and energy efficiency, but this is a process, not an outcome. Dr. Mitchell asked whether the DfE and ENERGY STAR programs

are time-limited. Ms. Julia Farber (Underwriters Laboratories) noted that the Department of Energy (DOE) revises ENERGY STAR standards periodically.

Mr. Learner discussed the 80 percent of EPA that is concerned with regulations, permitting and enforcement, noting that the Clean Air Act (CAA) and greenhouse gas standards do not allow much flexibility to introduce sustainable principles. He asked Ms. Corman how EPA plans to overcome the legal and structural hurdle of infusing cross-cutting principles into statutes that do not have them already. Ms. Corman expressed optimism, explaining that the Office of the General Council (OGC) is analyzing where each regulation might have flexibility for sustainability language and will be documenting its findings in a future publication. Water quality regulations have air quality components—an incidental benefit to cleaner water is healthier air with reduced pollutants. Mr. Learner noted that any information about the OGC's results would be useful to NACEPT as it formulates advice for the Agency.

Mr. Kerr thought that "incidental benefits" was a useful phrase, and that promoting innovative technology as an outcome of regulatory process will be a broad objective. Ms. Corman said that the Technology Innovation workgroup is considering these activities in a different way, specifically by pursuing market analyses, visioning what technology will look like in the future and identifying the best available control technology.

Ms. Taylor questioned the best process for NACEPT's advice, given the uncertain environment. Would the Agency be served best by a near-term, high-level sustainability letter, with more detailed advice presented in the future? Ms. Corman replied that the Agency currently is looking at the most effective methods to communicate priorities so timely advice on this issue would be most helpful. Additional advice with more detail also would be helpful in the future.

Overview of the Office of Research and Development's Realignment Around Sustainability
Robert Kavlock, Deputy Assistant Administrator for Science, ORD, EPA

Dr. Kavlock discussed strategic directions for EPA research within ORD, which has a budget of $550 million and a workforce of 1,900 full-time employees. ORD supports EPA's mission by conducting research and development to identify, understand and solve current and future environmental problems. The Office has raised the visibility of sustainability and has an evolving role to continue to support the scientific basis for regulation development, identify risks to human health and the environment and develop tools to help decision makers make better choices when faced with complicated decisions. ORD also advances sustainability science in EPA programs and promotes innovative and sustainable solutions to environmental problems. Sustainability, as defined in *The Path Forward* by former EPA Science Advisor Dr. Paul Anastas, is the "true north" of EPA.

ORD views sustainability as a three-legged stool with the supports consisting of environmental, social and economic components. EPA has a lot of experience with the environment, but could strengthen research on social components. EPA's contribution to the economic dimension is to provide analytical tools and models to inform sustainable decisions. Research helps decision makers quantify and value all dimensions of sustainability, with the awareness that EPA decisions must comply with statutory criteria for decision making. ORD's triple-value model uses a systems approach to sustainability that measures the flow of information, goods and services. Identifying and evaluating tradeoffs in the system can minimize the impact on the environment and protect the ability to produce ecological goods.

Dr. Kavlock described the organization of ORD, which is comprised of national laboratories, cores and centers that efficiently apply resources in a multidisciplinary manner. National Program Directors for the newly realigned and integrated ORD research programs work with regulatory officers and regions, coordinating efforts and deadlines for high-priority needs. The six ORD research programs are: Sustainable and Healthy Communities Research Program (SHC); Air, Climate and Energy Research (ACE); Safe and Sustainable Water Resources Research (SSWR); Chemical Safety for Sustainability

Research (CSS); Homeland Security Research (HSR); and Human Health Risk Assessment Research (HHRA). Each program has identified visions, goals and coordinating themes to structure research tasks. Although the HSR and HHRA programs support a single program structure, other ORD programs support multiple entities. Each program has a 40-page Strategic Action Plan that details the programs' priorities and outcomes.

Encompassing all of ORD's activities is the SHC program. The vision of the SHC is "to inform and empower decision makers in communities, as well as in federal, state and tribal community-driven programs, to effectively and equitably weigh and integrate human health, socioeconomic, environmental and ecological factors into their decisions in a way that fosters community sustainability." SHC has developed tools such as the National Atlas for Sustainability (Atlas), Regional Vulnerability Assessment Environmental Decision Toolkit (ReVA), Community/Tribal-Focused Exposure Risk Screening Tool (C/T-FERST) and the Community Cumulative Assessment Tool (CCAT). The Atlas provides high-resolution analysis of 250 urban areas and is a collaborative effort with USDA and USGS partners. Performance measures developed by SHC include the Human Well-Being Index, Environmental Quality Index and a database of Sustainability Indicators. SHC uses the Health Impact Assessment approach to complement Environmental Impact Assessments and values social media, collaborative research and improving current and future tools through inventory, gap analysis, evaluation and access.

ORD's ACE program investigates the multipollutant nature of air pollution to assess exposures and effects of chemical mixtures and develop options for air quality management. Other key issues include evaluating the impact of climate change and the development and evaluation of sustainable adaptation and mitigation options, as well as evaluating the human health and environmental impacts of current and future energy alternatives. Laboratories are organized around ACE research themes, which include assessing impacts, preventing and reducing emissions, and responding to changes in climate and air quality.

The SSWR program contains a number of research activities, including green infrastructure to manage stormwater runoff and sustainable solutions for chemical and microbial contaminants. The triple value model can be used to model the water nutrient cycle, illuminating how sources such as nitrogen can impact different systems. A pilot project in Narragansett, Rhode Island, has applied systems thinking to explore integrated strategies for nutrient mitigation in collaboration with other stakeholders, demonstrating the value of the system.

The CSS program is designed to address the problem statement, "Although chemicals are essential to modern life, we lack innovative, systematic, effective and efficient approaches and tools to inform decisions that reduce negative environmental and societal impacts of chemicals." The CSS, aligned along eight research themes of chemical inherency, systems models, biomarkers, cumulative risk, life cycle considerations, extrapolation, dashboards and evaluation, aims to design new tools to encourage sustainable chemical use. A collaborative activity with the National Institutes of Health (NIH) Chemical Genomics Center (NCGC) is developing transformative tools that can screen 8,193 chemicals using biological assays for disease production. The tool screens a different project each week, which provides guidance for green chemistry initiatives.

The HSR program strives to secure and sustain water systems and remediate sites if a contamination occurs. The HHRA, responsible for developing Integrated Risk Information System (IRIS) assessments, supports communities with environmental and human health risk assessments.

The Green Book indicates the need for ORD to develop a systems approach to assess the biological and chemical life cycle using sophisticated tools. The Chief Innovation Officer (CIO) rewards investigators for being innovative while advancing the resilience of society. ORD's next steps are to develop an Internal Implementation Plan and evaluate two future NAS reports.

Discussion

Dr. Fernando Abruña (Abruña and Musgrave, Architects) expressed interest in the Sustainability Atlas and questioned whether any urban Puerto Rico areas were included in the study. Puerto Rico does not have a national land-use plan, and a sustainability study would be very useful.

Dr. Meissen acknowledged the urgency in innovating systems thinking and noted that he would like to learn more about ORD's programs. Dr. Kavlock suggested that Dr. Meissen visit with the National Program Directors to learn more.

Dr. Giovanna Di Chiro (Nuestras Raices, Inc.) applauded the transdisciplinary concepts embedded within Dr. Kavlock's presentation. She reminded attendees that innovation also can result from garnering environmental knowledge held by traditional cultures and societies. She questioned the extent to which ORD works with tribal communities to share these types of ideas. Dr. Kavlock responded that ORD has a Tribal Council to investigate traditional environmental knowledge and remarked about the importance of using information technology to structure existing information in a way that is organized and readily accessible. Dr. Di Chiro asked whether ORD was involved with the citizen science workshops; Dr. Kavlock replied that he was not aware of any participation.

Dr. Mitchell asked Dr. Kavlock how the NACEPT could assist ORD in accomplishing its work. Dr. Kavlock replied that advice on the community programs would be appreciated. Ms. Corman added that the challenge facing the organization is how to identify objectives and priorities and get the science to support progress in that direction.

Ms. Kendall was encouraged by the unexploited opportunities held within statutes and regulations, explaining that it might be an interesting way to promote cultural thinking in permit and regulation writers. Ms. Corman agreed, saying that EPA has been successful in providing companies not in compliance of permits with alternatives: either decrease the level of pollutant emission or choose to use an alternative green chemical.

Public Comments

Mr. Ross called for public comments and none were offered.

Perspectives on the Development of Sustainability Metrics I
Ronald Meissen, Senior Director of Sustainability, Baxter International Inc. (Baxter)

Dr. Meissen described three new books related to sustainability, which were shown to the group and few copies handed out to interested members.

Acting as if Tomorrow Matters: Accelerating the Transition to Sustainability by John Dernbach (2012)
The Nature Principle: Reconnecting with Life (Nature) in a Virtual Age by Richard Louv (2012)
2052: A Global Forecast for the Next Forty Years by Jørgen Randers (2012)

The book 2052 commemorates the 40th anniversary of the publication of the book "Limits to Growth" first published in 1972. The new book 2052, with current state-of-the-art modeling and contributions by about 35 experts on various sustainability topics project key trends 40 years into the future.

He then explained Baxter's basic sustainability priorities launched in 2007. Baxter is a leading supplier of healthcare products for hospitals, employs 48,000 individuals and has more than 60 manufacturing facilities in 27 countries. About sixty percent of the company's sales occur outside the United States,

reflecting Baxter's global presence and sustainability perspective. Recently some of Baxter's medical products have received the "Carbon Trust" certification, which is an innovative response to some customers concerns about a product's carbon footprint and the company's commitment to reduce product related greenhouse gas (GHG) emissions in addition to GHG emissions from Baxter operations. Dr. Meissen described Baxter's executive-level Sustainability Steering Committee that was formed in 2006 and launched in 1997. At that time, Baxter was a leader with its environmental program and associates were proud to be part of the environmental team. . The Sustainability Steering Committee – with a focus on accelerating the integration of sustainability into the organization - is tasked with setting companywide sustainability strategy and goals to support long-term sustainability priorities. The present 10 Committee executives are not sustainability experts, but they are in positions of authority within their company function to advance sustainability. The Committee members represent many business groups and functions, such as environment, health and safety (EHS), finance, corporate communications, ethics and compliance, manufacturing, human resources and supply chain.

Baxter's Sustainability Steering Committee meets quarterly and for most of the day each time they meet. Baxter's nine sustainability priorities, developed by the Committee, relate to Baxter's employees, operations and products and the world. Sustainability priorities relating to people include promoting a safe and healthy workplace, an inclusive and diverse workplace, and ethical conduct and legal compliance. Regarding operations and products, Baxter strives for a green supply chain, reductions in its carbon footprint, reductions in its natural resource use and enhanced product stewardship. To contribute to the sustainability of the world, Baxter strengthens access to healthcare through product development and strategic product donations as well as the company's commitment to education, especially math and science. Each Steering Committee member typically sponsors one Baxter sustainability priority but all collaborate to promote the numerous sustainability goals. Importantly, each goal has a goal owner and progress is evaluated every 3 months. Baxter sustainability goals, fist established in 2008, are reassessed and occasionally modified to maintain close alignment with Baxter's global sustainability strategies.

Baxter's sustainability supply chain program incorporates sustainability principles into Baxter's purchasing programs with Baxter's largest suppliers. There are now 20 specific sustainability criteria used to evaluate Baxter's largest suppliers and used as reference with Baxter's other suppliers. Baxter staff may visit select suppliers, have conference calls or hold supplier meetings to review and measure Baxter's supplier sustainability performance. Each year Baxter publishes a company Sustainability Report, which is posted on Baxter's Website. Baxter's ongoing sustainability activities over many years have resulted in recognition such as in 2011 Newsweek ranking Baxter as the 4th Greenest Company in the U.S.

Discussion

Dr. Edith Parker (University of Iowa) asked how Baxter ensured that suppliers were answering the surveys honestly. Dr. Meissen replied that Baxter relied on the honesty of the suppliers in answering the annual surveys. As previously noted Baxter has meetings or conferences calls with select suppliers throughout the year. Mr. Kerr asked whether buyers were given incentives to focus on purchasing environmentally friendly options, and Dr. Meissen noted the buyers have individual performance objectives to address sustainability factors with their dealing with suppliers.

Mr. Learner pointed out that Baxter's sustainability program has existed throughout the tenure of two Baxter CEOs and commented that the company's sustainability reputation helps attract key talent/personnel, build long-term value for the company. In response to a question from Dr. Abruña regarding the impact of the vision on Baxter production staff, Dr. Meissen replied that employees have responded positively. Dr. Di Chiro asked whether the sustainability measures would continue in the absence of Dr. Meissen, given his environmental knowledge and experience. Dr. Meissen believed that given Baxter's matrix of sustainability expertise, others would continue with Baxter's sustainability initiatives in his absence.

Mr. Yalmaz Siddiqui (Office Depot) noted the three separate categories of Baxter's sustainability priorities (social, environmental and world) and questioned whether EPA also should categorize its sustainability priorities as metrics are developed. Conversely, it might be better to develop integrated metrics to measure all three categories. Dr. Meissen replied, based upon his experience, each organization should move forward from its current (sustainability) position, focusing on what is right for that organization at that time and in its current environment. For example, EPA's strength involves protecting human health and the environment. If a metric affects both elements, it is not necessary to categorize the sustainability priorities separately.

Perspectives on the Development of Sustainability Metrics II
Sara Kendall, Vice President, Corporate Affairs, Sustainability and EHS, Weyerhaeuser Company

Ms. Kendall emphasized the importance of focusing on the sustainability journey as a company. Weyerhaeuser, for example, is a large integrated forest products company that owns 20 million acres of forested timberland in North America and initiates the chain of supply for products such as wood for buildings, cellulose fiber, diapers and newspapers. The company focuses on providing superior sustainable solutions to the world based on a renewable and regenerated natural resource. Weyerhaeuser manages a significant natural resource through the work of 12,000 employees while generating $6 billion in sales.

The majority of the company is focused on timberland resource solid products used to construct buildings. After cutting rectangular planks, residual wood goes into pulp, cellulose products and energy production such that 98 to 99 percent of every log is used. Innovative products such as cellulosic biofuels, plastics, clothing and ice cream all derive from Weyerhaeuser's forests.

Weyerhaeuser was founded in 1930 and was the first forest company in the Nation to plant trees to maximize each acre of forest. Employees are focused on maintaining the ecosystem that supports their livelihood. Wildlife specialists and foresters are on staff to understand and properly manage the ecosystem.

This publically traded company has produced environmental reports since the 1990s, and in 2001 it developed an annual sustainability report. Weyerhaeuser's sustainability strategy includes adopting greenhouse gas and water reduction goals. Recently, corporate leadership noted that some subsidiaries demonstrated high sustainability practices whereas others did not. A focused effort involving senior leaders and middle management agreed on a vision that provides sustainable solutions for the world. The focus of the sustainability vision rests on the pillars of performance, people and the planet. Weyerhaeuser tries to envision what society will need in the future; for example, new ecosystem services and biofuels divisions likely will mature into revenue-producing businesses to provide shelter and green energy. It is important to keep looking ahead as the 70 to 80 million trees planted by the company do not give a return for 45 years. Weyerhaeuser produced a roadmap for 2020 and used that vision to develop milestone goals and benchmark tools to evaluate the company and its competitors and identify gaps. Each milestone relating to the 2020 roadmap is assessed in annual sustainability reports with transparent metrics.

Ms. Kendall clarified her role, which is to drive sustainability principles throughout the business. The company employs both top-down and bottom-up approaches to achieve sustainability goals; foundational values underlie all actions. She explained that developing the sustainability strategy was complicated at first because each word was discussed and agreed upon. The sustainability strategy and vision is completely integrated with Weyerhaeuser's mission—people in specific departments such as homebuilding can see how the vision applies to their efforts, and everyone from factory workers to executive leadership relates to the goals. A recent survey showed that sustainability, including a commitment to safety, was a deciding factor when employees chose to work at Weyerhaeuser.

Weyerhaeuser's final sustainability plan consists of 19 commitments and 42 targets. Some of the goals, such as greenhouse gas reduction, are large and performance related. Every capital project is analyzed from a planet sustainability perspective. Weyerhaeuser also started a community investment program to set precedence for community robustness. This program allows communities to decide where to invest the funds. Notably, Ms. Kendall said that forms, templates and processes allow people a way to consider their behavior and develop sustainable alternatives.

Discussion

Dr. John asked about the impact of Weyerhaeuser's sustainability initiatives on the supply chain. Ms. Kendall replied that Weyerhaeuser is at the beginning of the supply chain; the company supplies more than it is supplied. Every product that the company produces comes with a certification and pollutant footprint, and every mill is evaluated on sustainability measures.

Mr. Learner noted that if EPA developed an exciting view of sustainability like Weyerhaeuser and Baxter, innovative and talented people would be attracted to the Agency. Ms. Taylor added that Siemens works closely with universities, and many recruits inquire about Siemens' sustainability program. Ms. Kendall remarked that, because three-quarters of Weyerhaeuser's business is related to housing, hiring has slowed during the past few years; however, recruitment is occurring in rural locales and Weyerhaeuser's sustainability story assures community citizens that the company is a responsible steward of the land and wildlife. Hunting is permitted on much of the forest lands, and the company is tracking metrics on 18 timberland ecosystem services goals. Weyerhaeuser sells licensing to hunting clubs and thus tracks metrics; clubs have specific requirements for ecosystem quality, making it easy to track and report.

Ms. Kendall commented that, as an employer, she would hire a forester or processor who cares about sustainability rather than a person who has a degree in sustainability. Ms. Taylor agreed about the multidisciplinary nature of sustainability and the importance of being able to apply sustainable principles in various careers.

Perspectives on the Development of Sustainability Metrics III
Alison Taylor, Vice President, Sustainability-Americas, Siemens Corporation

Ms. Taylor described how, similar to EPA, the challenge for Siemens is to apply sustainability to a diversity of businesses. In contrast to the focused companies of Baxter and Weyerhaeuser, Siemens provides a variety of services. Wind turbines, natural gas and clean coal technologies, water purification and light rail services represent Siemens' diverse portfolio.

Siemens has implemented environmental and design standards for many years. Although Siemens employs 60,000 U.S. citizens, as a European company, it has made a lot of progress with respect to European regulations such as the emissions trading system. Siemens applies European policy and design regulations to its U.S. products despite the lack of similar legal requirements in the United States.

Ms. Taylor noted that it can be difficult to think creatively about situations. For example, a hospital salesperson will not necessarily stop to think about the potential energy audit that Siemens could perform. Ms. Taylor related this to the challenges in finding flexibility to introduce sustainability principles within the CAA and Clean Water Act (CWA). She also noticed similarities in the mission and vision statements developed by the NACEPT and Siemens.

Sustainability is more than being green; sustainable business strategies also are important. Ms. Taylor noted that the three pillars of environment, economy and social sustainability were enlightening as the company realized that attracting employees had as much economic as social impact. As another example, corporate governance and compliance has both environmental and economic impacts.

Siemens publishes materiality analyses annually and delves into megatrends affecting its sustainability strategy. Worldwide, Siemens employs 475,000 employees in 190 countries. The company's business leaders and stakeholders selected key sustainability ideas and factors to analyze in their development of a sustainability strategy. Siemens also provides questionnaires to its suppliers about labor practices, water use and so forth to ensure that it uses sustainable suppliers. Mutual discussions occur regarding how to develop a more efficient project or packaging solution. Compliance and reporting are integrated into Siemens annual sustainability report.

Siemens' global targets for carbon dioxide and emission reductions were established in 2005, and numeric progress indicators show that Siemens already has achieved some of the targets. In the second iteration of target development, absolute targets will replace relative targets to help achieve goals for energy efficiency and watershed stress, among others. Siemens intends to put stringent water-use requirements in facilities located in water-stressed areas, and site locations will be chosen after evaluating the local environment and its ability to withstand production. Key performance goal categories include carbon savings of products used in the marketplace, employee diversity and retention, education expenditures per employee, health and safety.

Siemens is categorized as "diverse industrials," and it measures well compared to other companies in that portfolio, particularly with regard to how the company treats employees and the environment. Siemens aims to increase the points in the sustainability ratings year after year, but already is at a very high level.

Discussion

In response to a question, Ms. Taylor said that Siemens' environmental portfolio includes wind turbines, and Siemens intends to increase the number of products in its environmental portfolio. Ms. Taylor noted that it is difficult to ensure alignment with the sustainability vision across different businesses. Performance responsibility is the purview of top leaders, who attend meetings to set targets and goals. The challenge is how to harmonize different strategies at the regional level.

Dr. John noted that the European regulatory and political enterprises are more developed than those in this country. In the United States, there are no financial incentives for renewable energy, whereas Europe has a very robust incentive system. Europeans encourage sustainability and are more public-transit oriented.

Perspectives on the Development of Sustainability Metrics IV
Bridgett Luther, President, Cradle to Cradle Products Innovation Institute

Ms. Luther remarked that new technologies do not appear in a vacuum without support. Cradle to Cradle takes a long-term view focusing on framing, products and innovation. Founded by William McDonough and Michael Braungart, the firm is a nonprofit organization providing third-party certification. The McDonough Braungart Design Chemistry designed the certification mark to encourage a large-scale transformation as a gateway to sustainability. Cradle to Cradle helps companies achieve their certification by evaluating the processes and products. The company considers material health and reutilization, renewable energy, water stewardship and social responsibility to ensure that companies design products that retain value at end-of-use. A sustainably designed chair, for example, can be separated into aluminum, steel and cloth components to be turned into other products. Certified products are compostable or recyclable, and the companies commit to powering processes with 100 percent renewable energy. Cradle to Cradle offers multiple levels of certification and is scaling the certification process worldwide.

Ms. Luther said she previously focused her efforts on improving water quality in North Carolina, and noted that solutions remain evasive. Many different entities produce their own lists of banned chemicals,

complicating the situation. She noted that a laboratory at Stanford University recently developed a polymer with a salinity trigger for dissolution to decrease the amount of plastic in the ocean.

Cradle to Cradle focuses on renewable energy and disappearing metal resources. Carbon neutral does not go far enough—companies should aim for zero emissions. Companies are still thinking "cradle to grave" and need to realign their thought processes. Even eco-efficient design is not enough; designs also must be eco-effective. The Cradle to Cradle Continuous Improvement Strategy Chart optimizes processes over time to emulate natural cycles. Emulating natural cycles of biological nutrients with technical nutrients allows the possibility of a world where all consumption is positive.

Ms. Luther suggested that EPA should reconsider its approach to the supply chain as its rules affect the end result, not the process. If products are toxic, EPA has a law to reduce toxic substances, but attention should be focused earlier in the process. EPA developed an innovation platform based on what other companies have done, but significant change is needed to offset worldwide degradation; the incremental approach is too risky considering the magnitude of the problem. Ms. Luther stated that a regulation is a signal of design failure and proposed ideas for EPA's consideration. Adopting Cradle to Cradle principles means using substitutes for harmful chemicals, improving biodegradability, using carbon positive energy and managing inputs, not outputs. She suggested that EPA consider closed-loop and upstream solutions rather than relying on regulations at the end of the line. The Agency should design for reuse and recyclability; consider end of use, not end of life; and create renewable energy strategies. The Cradle to Cradle principle states: "Our goal is a delightfully diverse, safe, healthy and just world, with clean air, water, soil and power—economically, equitably, ecologically and elegantly enjoyed."

Discussion

Mr. Ross asked Mr. Learner how those principles could fit into EPA statutes. Mr. Learner replied that they cannot rewrite the CAA, but they can work within the statute. It is important to focus on what EPA can do, instead of what the Agency is constrained to do.

Perspectives on the Development of Sustainability Metrics V
William Ross, Jr., NACEPT Chair, Visiting Professor of Environmental Sciences and Policy and Duke Cancer Institute, Duke University

Mr. Ross discussed sustainability from the perspective of state governments. He pointed to the Duomo in Florence, Italy, as an example of innovation. The Duomo was designed and built by Filippo Brunelleschi at a time when nothing similar had been accomplished. In creating the largest freestanding dome, Mr. Brunelleschi created a perfect design solution.

The North Carolina state government is involved with sustainability innovation. The Green Square facility houses the Nature Research Center and the North Carolina Department of Environment and Natural Resources (DENR). The facility, built with technologically advanced structures, is LEED® certified and was designed as an educational tool to promote sustainability. More than 300,000 people have accessed the site since April 2012. There is a three-story globe that houses exhibit space for museum programs. No more water leaves the site than would if it were forested rather than built, and the granite used in construction was quarried from a location very close to the site.

North Carolina began the Environmental Stewardship Initiative (ESI) 10 years ago. The initiative encouraged members to reach compliance and then go beyond compliance to sustainability. Organizations range from private sector companies to public waste treatment facilities to a company that fixes damaged helicopters for the Department of the Army. Some members are recognized environmental stewards. Mr. Ross emphasized that it is good to have the government involved in regulatory responsibilities but it is important that the government also recognizes companies for their sustainability efforts. In 2010, ESI members reported reductions of 46 tons of air emissions, more than 41 million gallons of water and

10,245 tons of landfill waste. These reductions realized more than $3.27 million in cost savings. North Carolina's Clean Smokestacks Act demonstrates an instance of sustainability being written into law to reduce emissions in coal-fired power plants. The air has been measurably cleaner and health has improved since the enactment of this law.

Mr. Ross noted that sustainability programs attract talented employees to these organizations, which empowers them to achieve their goals. The Southeastern Regional Partnership for Planning and Sustainability (SERPAS) is an initiative to build partnerships between government, natural resource and environmental agencies, which collaborate to plan sustainability projects to move toward mutually beneficial goals. This important example of "breaking down silos" improves communication without compromising each entity's individual mission. Projects include restoring longleaf pine along its historic range and protecting endangered species. SERPAS is a model for innovative value-added collaboration in which EPA and others could become involved.

Discussion

Mr. Kerr noted that criticisms of Mr. Brunelleschi's plan for the Duomo did not deter his efforts. He had a vision, convinced people it could be done, and developed both the plan and the machines to implement it.

Dr. Parker asked how many organizations were associated with the ESI, and Mr. Ross replied that more than 50 entities were partners, of which 14 were recognized as going beyond compliance.

Ms. Luther asked how North Carolina had partnered with the DOD, which has a large budget, and suggested that EPA could learn from that process. Mr. Ross stressed that all of the partners became convinced that ESI was worth pursuing.

Mr. Kerr noted that the DOD employs a systematic long-term visioning process. He suggested that systematic forward thinking would be useful for EPA. In response to Dr. Di Chiro's remark about the size of EPA's budget relative to the DOD's budget, Mr. Ross emphasized that the important point was to convince unconventional partners to work together to leverage different resources.

Sustainability Workgroups Breakout Session

The two NACEPT workgroups—Breakthrough Objectives and Strengths—met to discuss the drafting of NACEPT sustainability advice letters and to prepare presentations for the following day.

3- to 5-Year Breakthrough Objectives Workgroup Breakout Session
Dr. DeWitt John, Mr. Robert Kerr, Ms. Bridgett Luther (Co-Chair), Dr. Judith Mazique, Dr. Mark Mitchell, Dr. Olufemi Osidele (Chair), Dr. Edith Parker and Mr. Yalmaz Siddiqui

Dr. Osidele reminded the Breakthrough Objectives Workgroup members that EPA's charge to the NACEPT is to recommend breakthrough objectives for the next 3 to 5 years by backcasting from EPA's sustainability vision. He explained that his presentation incorporated perspectives submitted by all Workgroup members.

Dr. Osidele described the four vital steps the NACEPT recommended in its first advice letter to EPA on how to incorporate sustainability at the Agency. The steps called for the establishment of: (1) a bold Agencywide sustainability vision; (2) a set of sustainability principles; (3) several 3- to 5-year breakthrough objectives; and (4) several mid-term goals out to 2020. He said there has been much discussion of needing a vision from which to backcast the necessary steps for achieving it.

The NACEPT is charged with defining measurement systems to assess progress, creating tools for qualitative and quantitative benefits, defining approaches for sharing progress with the public, and

suggesting other new approaches necessary to implement the breakthrough goals that the NACEPT recommends. The breakthrough goals are the priority focus of the Breakthrough Objectives Workgroup. The Workgroup discussed the best way to develop and frame the breakthrough objectives. Dr. John said he felt constrained in identifying breakthrough objectives for air and was uncomfortable with the framework. He noted that Mr. Perciasepe had said that the goal is to "align" EPA with sustainability efforts taking place elsewhere. He suggested that "align" implied affiliating with breakthrough companies and communities; the breakthrough objectives for EPA would reflect the company and community approaches.

Dr. Osidele stated that Dr. John's question, "What assets can EPA bring to the table?" was a very good point that enables this Workgroup to connect with the other NACEPT workgroup examining EPA's strengths. The members discussed the three pillars of sustainability (e.g., environmental, economic and social). The breakthrough objectives should bolster all three, through external collaborations and other approaches.

Mr. Cooper (EPA) said that he has seen three or four EPA sustainability documents over the years that are all the same in the sense that none of them clarify how an EPA staffer should do his or her job. In his view, all the issues of sustainability relate to economic activity; thus, sustainability is about use of resources such as water or forests without degradation, or use with restoration. He urged a concrete vision statement that could be implemented by Agency staff. Workgroup members appreciated his perspective.

The Workgroup discussed additional information needs, which include the need for EPA to provide a clearer high-level vision of sustainability that the NACEPT can use for backcasting when developing breakthrough objectives. The Workgroup mapped the linkages between EPA's strategic plan goal areas, the NAS Green Book and other EPA planning documents. Based on that map, breakthrough objectives were drafted. The objectives for water addressed nutrient loadings and runoff, critical watersheds, and protecting human health. For air quality and climate, Dr. John had proposed some draft objectives. For chemicals and pollution prevention, Mr. Kerr and others had made suggestions.

Dr. Osidele solicited comments regarding the draft presentation. One participant thought the Workgroup was not articulating breakthrough objectives clearly, and in the absence of a clear sustainability vision, the group was "rudderless." That left two options: (1) wait until EPA creates a vision before developing breakthrough objectives; or (2) promulgate the Workgroup's idea of what the EPA sustainability vision statement could be, and develop breakthrough objectives based on that draft vision statement. It is unclear how long it would take for EPA to put forward a vision. The Agency has developed some sustainability publications but there is no clear vision statement with enough detail to provide guidance for the Workgroup. One member said that Mr. Perciasepe's message was that the Agency is seeking help in framing a vision. To help deflect criticism, EPA needs NACEPT support before it can publicly establish an Agencywide vision. The Workgroup agreed to attempt to draft a vision statement because it is important for EPA to go beyond incremental measures.

The Workgroup proceeded to draft a sustainability vision statement for EPA, with each member separately drafting his or her version as a basis for the Workgroup to develop a draft vision collaboratively. Dr. Osidele read the proposed draft vision statements and Workgroup members provided comments. He noted that all of the various statements point to the need for transforming EPA away from end-of-pipeline regulation toward an innovative, collaborative organization that advances sustainability's three pillars. One member commented that the vision of an EPA transformation away from end-of-pipe regulation toward collaboration and innovation is necessary; otherwise, the NACEPT would be simply encouraging the Agency to continue on its current path.

A member commented that not all state environmental agencies seek to move beyond the floor of compliance with legal and regulatory requirements. A Workgroup member suggested that an important part of the vision statement would be language indicating that EPA will advance its vision by serving as

the world's premier environmental science subject matter expert, working with industry and agencies and other such goals. Other specific language was discussed for inclusion in the draft vision statement. Dr. Osidele reiterated that the Workgroup's vision-drafting exercise was aimed at creating a picture of the goal for EPA's sustainability efforts followed by proposals for how to achieve the vision. The draft vision statement that emerged from the discussion follows:

> *EPA's sustainability vision is to build from its strengths as a compliance and regulatory agency to become the world leader as an innovative, collaborative organization that accelerates America's journey to sustainable development.*

The Workgroup agreed that the statement's second half requires further consideration that will be conducted via email.

Strengths Breakout Workgroup Breakout Session
Dr. Fernando Abruña, Dr. Giovanna Di Chiro, Ms. Sara Kendall, Dr. Patricia Gallagher, Mr. Howard Learner, Dr. Ronald Meissen (Chair) and Ms. Alison Taylor (Co-Chair)

The Strengths Workgroup discussed the status of the effort to draft a sustainability letter to the EPA Administrator. Mr. Ross explained that the Workgroup was to draft the recommendations to present to the larger group the next day. The feedback and wisdom of the full Council would be considered in the drafting of the actual recommendation letter. Ms. Jones-Jackson said that she thought Ms. Corman would prefer to have NACEPT's advice sooner rather than later, but added that there is no deadline for the advice letter. Ms. Jones-Jackson will confirm whether Ms. Corman can share results of the Listening Sessions with the NACEPT.

Ms. Kendall asked whether the Council should produce advice letters or a large report/series of white papers as it has done in the past. Ms. Jones-Jackson replied that an advice letter would more quickly satisfy EPA's needs than a longer, meticulously crafted report, but the format is not prescribed. Ms. Jones-Jackson observed that the charge to the Council was to determine what actions EPA can take to better incorporate sustainability into programs and decision-making processes.

The Workgroup members discussed the presentation for the following day that would summarize the Workgroup's key thoughts about EPA's sustainability strengths. Ms. Taylor presented a pre-populated PowerPoint based on the document that was developed collectively by the members. The presentation began by reiterating Dr. Paul Anastas' sustainability statement: "Sustainability is our true north. The work that we do—the research, the assessments, the policy development—is part of ensuring that we have a sustainable society; a sustainable civilization." Ms. Taylor also presented the charge question addressed by this Workgroup: "What strengths can EPA leverage to successfully deploy, across the Agency, sustainability strategies drawing upon both the NAS report recommendations and also approaches to sustainability and recommendations from other sources and stakeholders? Are there internal or external challenges—barriers and gaps—that EPA will need to address, manage and overcome to successfully deploy sustainability strategies drawing upon both the NAS report recommendations, and also, approaches to sustainability and recommendations from other sources and stakeholders? If yes, (a) identify the significant internal challenges and then recommend strategies to address, manage and overcome them; and (b) identify the significant external challenges and the stakeholders involved, and then recommend strategies to address manage, and overcome them and contribute to EPA's successful rollout of its defined sustainability strategy while engaging with key stakeholders."

The Strengths Workgroup had met on April 19, 2012, to brainstorm on the strengths in EPA programs. Those notes were refined into subgroup efforts focused in four areas: (1) Community Engagement/ Inclusion; (2) Companies, Nongovernmental Organizations (NGOs), Cities, States and Other Entities; (3) Green Buildings; and (4) EPA Leadership, Coordination and Developing Capacity.

Ms. Kendall expressed concern about naming specific external programs, such as LEED®, for fear of unintentional endorsement. Dr. Abruña noted that this concern was addressed in the text prepared by the Workgroup. Ms. Kendall also noticed that the level of detail from the Green Building subgroup was substantially finer than the details in the other subgroup recommendations, and she suggested that the language should be more general. Dr. Di Chiro reminded the Workgroup that the purpose of this breakout session was to refine the existing draft and make the sections more consistent.

Ms. Taylor remarked that EPA's sustainability journey was evolving over time, but one important goal was to identify room for sustainable principles within the majority (80%) of the Agency that is concerned with regulations. It would be useful for the Workgroup to discuss creative ways that statutes and laws can provide opportunities. For example, green building could be integrated into existing mandates, and construction permits could be issued under the CAA. Ms. Taylor cautioned that the Council should focus on what EPA could do within its current mission. The statutes can be relatively inflexible, and ultimately, it will be important to recommend actions that EPA legally can pursue. The National Environmental Policy Act (NEPA) could be investigated in the context of thinking about the origins of the environmental movement, environmental laws and broad philosophical perspectives.

The Workgroup agreed that the OGC analysis would be an important resource in considering where sustainability might be introduced into existing legislation, but also will work towards producing recommendations outside regulatory statutes, as the non-regulatory component (20%) of EPA provides a large area for improvement. Dr. Meissen reiterated that the most important goal is to have the Administrator determine that the advice is rational, helpful and actionable.

The Strengths Workgroup summarized each subgroup topic. The Community Engagement subgroup focused on determining the strengths of EPA's community engagement and inclusion efforts, as well as challenges, recommendations and opportunities. Dr. Di Chiro explained that the subgroup focused on the strengths and challenges in the following five areas: statutory/policy, expertise/knowledge, communications, programmatic and resources. Referring to a three-legged stool graphic, Dr. Di Chiro noted the irony that the pillars tend to look like silos, which EPA is trying to avoid.

Dr. Abruña explained the Green Building subgroup topic. A challenge is the lack of coordination across EPA's green building-related programs. In theory, EPA's related programs (e.g., sustainable sites, water and indoor air quality) could be integrated into a green building certification program. For example, EPA's WaterSense program meets the water criteria outlined in many green building certification programs. Workgroup members liked the idea of EPA integrating some of its existing programs into a new certification program. Mr. Learner and Ms. Taylor noted that there are opportunities to leverage existing programs to encourage green building and make the built environment more sustainable.

The Workgroup discussed whether Green Building should be placed under a subgroup topic to maintain consistency with the high-level subgroups that are less detailed. Ms. Taylor suggested placing the Green Building topic under the EPA Leadership subgroup. The Strength Workgroup members concurred with this suggestion, so Green Building was placed under the Leadership heading along with Coordination of Leadership. The remaining three subgroups are: (1) Companies, Nongovernmental Organizations (NGOs), Cities, States and Other Entities; (2) Community Engagement/Inclusion; and (3) EPA Leadership, Coordination and Developing Capacity.

The Strengths Workgroup considered additional information that would be useful to help them form recommendations. In addition to OGC's analysis of areas where statutory authority can encompass sustainability, the Workgroup would like to receive:

- ✧ More information about the development timeframe for EPA's sustainability plan.
- ✧ A copy of the draft sustainability plan or Listening Session input.
- ✧ A better understanding of ORD's efforts in sustainability.

- ✧ The rationale for the termination of EPA's Smart Growth program.
- ✧ An understanding of budgeting for community outreach.
- ✧ A list of common acronyms.

Dr. Di Chiro stated that prioritization is a key aspect of the budget, and Mr. Learner added that Congressional appropriation also plays a role. A participant noted that it was ironic that many of the programs that the Workgroup identified as strengths no longer existed.

Regarding the coordination of leadership, Ms. Taylor stated that the focused mission of EPA encourages the alignment of the behavior and efforts of EPA staff and leadership. One strength is that many programs are implemented in different regions; however, a challenge is the development and execution of missions within silos. There is an opportunity to coordinate leadership through a sustainability steering committee empowered to coordinate sustainability efforts, execute sustainability accountability and pursue opportunities. The Interagency Working Group is a resource that can be leveraged to improve sustainability reporting.

Dr. Meissen commented that coordination would build on the laboratory of sustainability innovation. A lot of innovations happen in communities and companies; EPA could build on those efforts. Dr. Di Chiro commented that EPA acts as a clearinghouse for different programs to access community listservs, databases and organizational information. Additionally, EPA is uniquely poised with a common structure supported by common people, yet there is diversity in the programs. Another strength is the HUD-DOT-EPA Partnership for Sustainable Communities interagency collaboration.

Ms. Kendall expressed appreciation for Ms. Taylor's efforts in creating the draft presentation. Drs. Gallagher and Di Chiro agreed to format the Workgroup's slides in advance of the morning presentation.

Following a brief review of the schedule for the next day's plenary session the meeting was recessed for the day.

FRIDAY, AUGUST 3, 2012

Welcome
Ms. Cynthia Jones-Jackson, Acting Director, OFACMO, EPA;
Mr. Mark Joyce, Acting DFO for NACEPT, OFACMO, EPA; and
Mr. William G. Ross, Jr., (NACEPT Chair) Visiting Professor of Environmental Sciences and Policy and Duke Cancer Institute, Duke University

Mr. Ross called the meeting to order at 8:30 a.m. and thanked the Council members for their hard work during yesterday's meeting. Ms. Stephanie McCoy (EPA) explained reimbursement procedures for travel and distributed expense report forms and meeting evaluation forms to the NACEPT members. Ms. Jones-Jackson presented to Mr. Ross the official letter from EPA Administrator Jackson regarding his role as the NACEPT's new Chair. She then presented the official letter from the Administrator to Dr. Mazique, the new Council member.

Mr. Ross asked Mr. Joyce to provide context for the NACEPT as it moves forward in developing its next set of advice letters to the Agency. Mr. Joyce said that the session was an opportunity for the two workgroups to provide their current thinking on the priorities they identified and to request any additional information they need to complete the advice letters. The session also provided opportunity for the Council members to offer their input before the recommendations are prepared. He said that it is important for the NACEPT to remember that the advice it transmits to the EPA Administrator is most helpful if it is detailed, specific and as actionable as possible. General policy statements or statements of opinion are not as helpful as explicit guidance on what the Agency should be doing in certain areas.

Mr. Joyce added that the corollary to that perspective is that there are constraints to what the Administrator and the Agency can do. There are 78 congressional appropriations and authorizing committees that have authority over some aspect of EPA's operations, and Congress guards its prerogatives. Appropriations committees often are very specific about what should not be funded and are quick to inform the Agency if they think it is transgressing the intent of Congress. In developing advice, the NACEPT members should bear in mind the Agency's current statutory authorities and funding levels. Within that framework, EPA is looking for the Council to be creative in offering advice to help the Agency operationalize sustainability in all of its efforts.

Dr. Meissen asked about EPA's expectations regarding the timeframe for the Council to deliver its advice. Mr. Joyce responded that there is no firm deadline for the NACEPT's advice, so the Council should take the time to prepare well-thought out recommendations. Ms. Kendall asked if EPA has a firm sense of what it wants the Council to provide, such as advice letters versus white papers or reports. After some discussion, Mr. Joyce said that, as the Council deliberates on the two letters, it could choose to incorporate both into one advice letter. The letter(s) must be approved in a public forum, such as a teleconference or videoconference, to comply with the Federal Advisory Committee Act (FACA).

Mr. Learner said that the Council would be abetted in its efforts if EPA provided a timeline and directive on advice letters or a report so that members understand what the Agency is seeking and when. Mr. Joyce responded that he will converse with Ms. Corman, Ms. Ramona Trovato (EPA) and Mr. Hooks regarding the schedule. Mr. Learner suggested that November 1, 2012, might be a good target date, with the possibility of revisiting that date after the Council's morning discussions, and Mr. Joyce concurred.

Ms. Kendall commented that other work on sustainability is moving forward, and the Council would benefit from previewing EPA's sustainability plan as part of an iterative process. Mr. Learner proposed that Mr. Joyce contact Ms. Corman and others after the meeting to develop a timeline that takes into account EPA's sustainability plan. In addition, Mr. Joyce should determine if a letter or report is expected from the Council. These steps would help satisfy the request for actionable advice from the NACEPT.

Sustainability Workgroup Reports

Mr. Ross explained that the purpose of the discussion was for the full Council to hear from the sustainability workgroups and provide an opportunity for the members to pose questions, offer comments and provide feedback to the workgroups.

Discussion of the Draft Advice Letter From the NACEPT Breakthrough Objectives Workgroup
DeWitt John, Thomas F. Shannon Distinguished Lecturer in Environmental Studies, Bowdoin College;
Robert L. Kerr, Co-Founder and Principal, Pure Strategies, Inc.;
Bridgett Luther (Co-Chair), President, Cradle to Cradle Products Innovation Institute;
Judith Mazique, Assistant Professor and Program Director of Environmental Health, College of Pharmacy and Health Sciences, Texas Southern University;
Mark A. Mitchell, President, Mitchell Environmental Health Associates;
Olufemi Osidele (Chair), Senior Research Engineer, Geosciences and Engineering Division, Southwest Research Institute;
Edith Parker, Professor and Head, Department of Community and Behavioral Health, College of Public Health, University of Iowa; and
Yalmaz Siddiqui, Senior Director, Environmental Strategy, Office Depot

Dr. Osidele said that the presentation was intended to be a summary progress report of the Workgroup's efforts and he welcomed Council feedback. He noted that in the first advice letter, the NACEPT supported EPA's adoption of recommendations in the NAS sustainability report. The letter recommended four critical steps for EPA: (1) adopt a sustainability vision; (2) adopt sustainability principles;

(3) establish 3- to 5-year breakthrough objectives; and (4) establish several examples for 2023. He mentioned that there are multiple visions of sustainability, and a person looking far ahead would have to determine what immediate steps should be taken to reach those visions.

He discussed the charge question to the Workgroup, highlighting three key statements pertaining to the need for a sustainability vision, backcasting from the vision, and recommending actions for the next 3 to 5 years. He also described the four questions dealing with sustainability measurement systems, tools to address the three pillars of sustainability, approaches to share the results, and new approaches that may arise in an evolving process through time.

Dr. Osidele noted that a breakthrough objective is an objective the Agency is capable of achieving, based on discussions with the Strengths Workgroup on current EPA capabilities, but extends beyond current capabilities and strengths. He described a number of Breakthrough Workgroup activities. The Workgroup held conference calls starting in April 2012. It developed an overview of the strategic planning process and met with staff from the Office of the Chief Financial Officer (OCFO). The initial two meetings focused on evaluating existing planning documents, advice letters and the EPA strategic plan to identify gaps and commonalities, along with EPA's five strategic goal areas. The Workgroup also interviewed EPA staff members.

Based on its meetings and interviews, the Workgroup made a number of observations. Dr. Osidele highlighted some of the observations:

- ✧ EPA should develop a national strategy and Agencywide sustainability principles. EPA has begun implementing sustainability recommendations, but the major gap is that sustainability is not addressed explicitly in its strategic plan. EPA should use its next strategic planning process to incorporate a cross-cutting sustainability strategy at the highest level in the Agency.

- ✧ EPA should add a sixth strategic goal specifically for sustainability and provide a way to tie strategic plan elements to any reporting or performance measurement system.

- ✧ EPA should seek to identify gaps and inconsistencies between the NAS report, the EPA strategic plan and other Agency planning documents. The objectives should be designed to harmonize and integrate environmental economic and social goals to fulfill strategic plan goals.

- ✧ The Agency should focus on high-level programs and outreach as a first priority, then focus on more specific goal areas, such as air and climate change.

- ✧ EPA should consider successful public-private partnerships in light of its strategic plan goals, and identify local enforcement programs where sustainability could be incorporated, as shown in examples from Region 9.

Dr. Osidele provided some perspective for developing breakthrough objectives. The first question was: What are the best ways to develop and frame specific breakthrough goals? This pertained to the scope of the goals, whether they should be goals for the Agency or external to the organization. The second question asked: What assets can EPA bring to the table? This question overlaps with the NACEPT Strengths Workgroup. It calls for assessing EPA's strengths and how they can be brought to bear to develop breakthrough objectives. The third question was: How should EPA regional and headquarters offices manage their work to frame and achieve breakthrough goals on sustainability? This refers, for example, to collaborations within the Agency and many concepts within EPA that the Workgroup has been discussing. The last question was: For what specific issues or topics should EPA set breakthrough objectives for sustainability?

The Workgroup formulated criteria for developing breakthrough objectives: "In keeping with the adopted definition of 'breakthrough objectives,' NACEPT's recommendations must highlight new and/or more effective directions the Agency should take toward sustainability." In addition, "the objectives should offer sustainable approaches to key environmental issues, using EPA's Strategic Goals and Cross-Cutting Fundamental Strategies" and "should fully harmonize the three pillars of sustainability—social (including human health), environmental, and economic." Dr. Osidele stressed that there is a great deal of emphasis on the three pillars of sustainability in the Workgroup's thinking.

Dr. Osidele explained that Workgroup members had spent time developing a collaborative sustainability vision for the Agency. The first step was to agree that the Workgroup needed to develop a bold Agencywide sustainability vision. The members imagined what they would say about EPA's sustainability vision if they were to have 5 minutes to describe it to EPA Administrator Jackson. They reached agreement on common points that need to be captured in EPA's sustainability vision statement. Dr. Osidele read the draft statement: "EPA's sustainability vision is to build from its strengths as a compliance and regulatory agency to become the world leader as an innovation-oriented, collaborative organization that accelerates America's journey toward meeting the needs of the present without compromising the ability of future generations to meet their own needs." The statement tries to bring together all of the key words identified through extensive Workgroup discussion.

Dr. Osidele described the Workgroup's additional information needs for going forward. These include documents or statements expressing EPA's sustainability vision. The Workgroup found various statements but none contained EPA's sustainability vision. If such a document exists, the Workgroup would like to use it in drafting its advice letter. The Workgroup also would like to conduct additional consultations with EPA headquarters offices, regional offices and national laboratories to garner further perspectives from Agency staff members, as well as more interactions with state environmental agencies and private businesses and industry. Lastly, the Workgroup favored more coordination with the NACEPT Strengths Workgroup. There is some overlap between the Breakthrough Workgroup's efforts and those of the Strengths Workgroup; therefore, more interaction is needed to avoid duplication and to create synergies between the two workgroups.

Dr. Osidele presented the Workgroup's reference documents, noting that the reference list is a good starting point. Lastly, he acknowledged EPA staff members for all their support.

Discussion

Ms. Luther clarified that the groups worked on five subtopics: air and climate, water, communities, chemicals and environmental regulations. Dr. Osidele explained that the members thought they needed to begin with a vision, which would establish the overall EPA direction and provide the cohesion that the Workgroup believes is missing. For that reason, the Workgroup prepared the draft EPA sustainability vision statement for consideration by the NACEPT.

Ms. Kendall said that she appreciated the Breakthrough Workgroup's specific steps for establishing breakthrough objectives. Ms. Luther noted that the Workgroup already has conducted a detailed review of EPA's sustainability report in five areas; with the direction provided by a draft vision, it is easier to evaluate objectives for specific topics.

Dr. John commented that a review of EPA's existing and anticipated air programs (those the Agency does not have yet but presumably will in the future to deal with clean energy and climate change) reveals that the key question is: How much will it cost to reduce U.S. carbon emissions and who will pay for it? A breakthrough objective would begin to lay out those issues. The national objective would call for impacts to be equitable within the United States and would point out economic growth opportunities in tackling the issue, thereby explicitly capturing sustainable social equity, economic and environmental quality goals expressed in numbers.

Mr. Learner asked how the EPA Administrator would act on such an objective. Dr. John noted that the draft sustainability vision stipulates that EPA will build from its strengths to become a world leader as an innovation-oriented, collaborative organization. EPA already has a leadership role within the federal government—for example, in the Agency's Partnership for Sustainable Communities collaborative work with the DOT and HUD—and other collaborative opportunities exist. A goal might be that 5 years from now five metropolitan areas with identified impacts on EJ communities have committed to reducing their greenhouse gas emissions by a specific percentage.

Mr. Learner responded that because of the CAA's history and the Supreme Court's decision in *Massachusetts v. EPA*, the Agency currently is moving forward with a rulemaking for greenhouse gases applied to new and existing sources. Although the rulemaking is highly controversial, EPA has said that the law is clear and, unless Congress changes it, the Agency is required to proceed. EPA cannot use a cap-and-trade system, which would fit into the model Dr. John described, because it lacks statutory authority to do so. It is clear from court rulings that EPA must proceed under a fairly narrow set of prescripts as defined by the CAA, and is being challenged in some ways for taking a more flexible approach. Somehow, the NACEPT must determine how to identify innovative and collaborative approaches appropriate for EPA that mesh with the Agency's compliance and regulatory actions, which comprise 80 percent of EPA's actions, and present challenges to the Agency's flexibility.

Ms. Taylor agreed with Mr. Learner's summary of EPA's dilemma. She stated that the NACEPT can provide useful advice to the Agency on how to address this dilemma; the Council can draw from its diverse in-the-field experience to offer EPA suggestions on how to proceed. Siemens has produced an index ranking 27 cities around the world on every continent, and 21 of those have climate plans, none of which are government mandated. That provides a rich body of information regarding other government agencies' activities, absent any regulatory or statutory authority and under more constrained budgets than EPA's. Siemens also identified others who are working on indices, providing a tremendous source of information that should be included on NACEPT's list of additional information sources. Ms. Taylor said that she believes the two NACEPT workgroups should collaborate on one advice letter to EPA.

Mr. Ross noted that the Council seemed to be approaching a consensus to combine the two advice letters. Ms. Kendall agreed that commonality existed between the two workgroups and suggested that the Breakthrough Workgroup should identify specific areas where EPA could take some action. Ms. Kendall thought that EPA should develop its own vision statement because the Agency must adopt it with conviction. The NACEPT can recommend that EPA's vision reflect its mission, strengths and the goal of sustainability, all of which are contained in the draft statement.

Ms. Luther offered comments about environmental regulations. She noted that it is difficult for EPA's Office of Enforcement and Compliance (OECA) to pursue innovation because it is governed by regulatory forces; nevertheless, OECA has created excellent public-private partnerships—Green Power, Methane to Markets and especially Green Chill, which moves from the regulatory arena to an initiative that makes significant differences without the use of laws and regulations. Ms. Luther recommended further conversations with OECA on what the Office regards as the next Green Chill-like partnership.

Mr. Ross solicited Dr. Parker's views on the discussion. She expressed appreciation for the enormity of the task of making EPA, a regulatory agency, more nimble and responsive to sustainability. Dr. Parker suggested that the NACEPT focus on the organizational aspect of its task.

Mr. Ross noted that Mr. Perciasepe spoke the previous day about collaborative processes and partnerships; the NACEPT might wish to include a breakthrough objective for that idea. Mr. Kerr agreed that collaboration is the key point. EPA would be able to draw on the many ongoing efforts to collaborate with NGOs, businesses and others. Given resource constraints, EPA could have a substantial impact by

contributing to those efforts. For example, EPA has made a major contribution to DfE through technical expertise that has required very little time or resources.

Dr. Mitchell expressed concern that the draft vision statement was not specific enough to provide guidance to the Agency. He agreed there should be collaboration, but noted that industry has always had access to EPA whereas the community has not. It must be emphasized that the community also needs access to collaborative efforts.

Mr. Ross called for a 15-minute break to enable the Breakthrough Workgroup to process the comments received and for the Strengths Workgroup to prepare for its presentation.

Discussion of the Draft Advice Letter From the NACEPT Strengths Workgroup
Fernando Abruña, Architect, Sustainable Architecture, Abruña and Musgrave, Architects;
Giovanna Di Chiro, Director of Environmental Programs, Nuestras Raices, Inc.;
Patricia Gallagher, Associate Professor, Provost's Fellow in Sustainability, Department of Civil, Architectural and Environmental Engineering, Drexel University;
Sara Kendall, Vice President, Corporate Affairs, Sustainability and EHS, Weyerhaeuser Company;
Howard Learner, NACEPT Vice-Chair, University Professor, Environmental Science and Policy, George Mason University;
Ronald Meissen (Chair), Senior Director of Sustainability, Baxter International Inc.; and
Alison Taylor (Co-Chair), Vice President, Sustainability-Americas, Siemens Corporation

Dr. Meissen thanked Mr. Joyce, Mr. Ross and Ms. Jones-Jackson for their assistance, noting that every meeting brings a better perspective of EPA and how the NACEPT should focus its recommendations.

Dr. Meissen explained that some of the Workgroup members were not present at this meeting but had contributed to the development of the Workgroup's presentation. He noted that the presentation demonstrates a high-level overview of the Workgroup's recommendations, which hopefully will provide synergistic opportunities with the Breakthrough Workgroup's recommendations.

Ms. Taylor remarked that the Breakthrough Workgroup's vision was an excellent way to gain perspective. She restated Paul Anastas' and the NAS Green Book quotes, noting that sustainability is consistent with EPA's mission and is a great strength of the Agency. Ms. Taylor noted that, although EPA focuses on environmental sustainability, it is important to remember the other two pillars—the economy and social sustainability components.

The suggested charge question to the Strengths Workgroup was repeated, and Ms. Taylor explained that the Workgroup approached the task by brainstorming about EPA's strengths and which to focus on. The Workgroup members first gathered ideas of existing EPA programs related to sustainability, including popular programs such as Brownsfields and ENERGY STAR. Each identified strength was analyzed further according to the challenges and opportunities provided by this strength.

Ms. Taylor described the conclusions of the External Stakeholder subgroup, noting that EPA has considerable strength working with external stakeholders with respect to sustainability strategies. EPA could leverage its convening power and credibility to build on the innovative programs of corporations and academia to learn from those connections. Additionally, EPA has a broad geographic presence, regional perspective and experience working with regions and communities. The Agency understands the challenges of drought in the West and industrial waste in the East. Because of its experience working with local and state entities, EPA's expertise, understanding of challenges and credibility in working across the United States is a benefit. EPA also has a proven success record in education and there is an opportunity to develop a sustainability curriculum to educate the current and future workforce. EPA can manage complex data and help external stakeholders manage data. Challenges associated with external stakeholders include concern that EPA's mission does not extend to sustainability issues. Many

corporations enjoy the status quo and do not want EPA to introduce more regulations. Because companies are becoming more globally focused and supply chains reach beyond U.S. boundaries and EPA's purview, the question arises of how EPA can have influence outside of the boundaries of its own jurisdiction. Finally, the current budget constraints and uncertain political environment also raise challenges.

The Strengths Workgroup described action opportunities for EPA, including disseminating best practices within the public and private sectors building on its reputation as a convener. EPA could collaborate better in developing a sustainability curriculum to reach and inspire students with interesting graphics and dynamic learning programs. Continuing to partner with cities to promote best practices and share ideas and resources to move forward is another action opportunity for the Agency. Developing a sustainable enterprise model for other agencies and outside stakeholders was another suggestion.

Dr. Di Chiro explained that many of the Strengths Workgroup members have experience with community engagement and inclusion. She mentioned that the social justice component often becomes an afterthought, and concentrating on EJ aligns with the goals of Administrator Jackson. EJ communities deal with the burdens of a sustainable society. Social technologies are very important in terms of promoting sustainability; they help organize skills to accomplish specific tasks.

The Community Engagement and Inclusion subgroup started from the "theory that genuine sustainability requires a focus on three pillars, and that active *community engagement* and meaningful *community input* plus an investment of *resources* improves sustainability." From this starting point, the subgroup asked how EPA can best engage communities to advance its dual commitments to sustainability and environmental justice. Dr. Gallagher described the five topic areas within Community Engagement and Inclusion: (1) statutory/policy; (2) expertise/knowledge; (3) communications; (4) programmatic; and (5) resources. The subgroup discussed strengths, challenges and opportunities for each topic. ORD's SHC program provides a good example of the vast expertise and knowledge within EPA. There is traditional ecological and environmental knowledge within tribal communities, and local knowledge within communities, to be collected and distributed. EPA, however, should conduct more research on the cumulative risk assessment research. Challenges include limited channels for community input to effectively influence governmental decisions. There is a lack of informed opportunities to engage in the process of planning, decisions and investments. It is critically important for EPA to continue funding programs that reach out to communities.

Dr. Meissen described the Strengths Workgroup conclusions regarding EPA Leadership, Coordination and Developing Capacity. EPA has control over and influencing power on many topics, such as green buildings. Dr. Abruña mentioned that high-performance green buildings provide many benefits in terms of education and health care. He explained how many EPA programs relate to green buildings. Some EPA programs are very similar to the main themes addressed in common green certification programs such as sustainable sites, water, energy efficiency, materials and indoor air quality. For example, EPA's Air Plus program is related to indoor air quality. Although EPA has many programs that address those five themes, currently there is no coordination between those programs related to green building. A coherent national or federal certification program could be developed to build on these similar strategies and interest to create a robust system to develop green buildings across the Nation.

Dr. Meissen described strengths within EPA's Coordination of Leadership. The EPA regions implement the same programs in different parts of the country, which is a great strength and opportunity. There is an opportunity to build on sustainability innovations both within and external to EPA. With all of the sustainability initiatives, harmonizing to support those programs would continue to build momentum. Ms. Kendall remarked that establishing a sustainability steering committee within the Agency and taking the concept to other agencies would help improve the momentum. The Interagency Workgroup could add sustainability as a topic to address.

The Strengths Workgroup identified additional information needs that would facilitate the drafting of its advice letter to the EPA Administrator. Most useful would be access to the OGC analysis of areas where statutory authority, including NEPA, can encompass sustainability; a better understanding of the level of detail in the advice offer to EPA and the timeframe of development of the sustainability plan; access to the draft sustainability plan and summary of the Listening Sessions; a better understanding of ORD's sustainability programs; a list of common acronyms; and identification of the programs that are under the most pressure from a budgetary standpoint.

Ms. Taylor mentioned that the purpose of this presentation was to catalyze the Council's thinking about EPA's strengths and to identify opportunities that need to be considered more carefully.

Discussion

The Strengths Workgroup solicited feedback about the identified strengths, challenges and action opportunities. Mr. Ross suggested adding "collaboration with other federal agencies" to the action opportunities list. He noted that Mr. Perciasepe had described examples of how EPA is reaching out to other agencies, and that should be pursued further.

Mr. Learner asked Mr. Joyce and Ms. Jones-Jackson whether it would be useful for the NACEPT to encourage EPA to continue funding particularly valuable programs. Mr. Joyce replied that promoting the continued funding of a few significant programs would be worthwhile. Ms. Jones-Jackson added that EPA's budget is planned 2 years ahead of time; having the advice of advisory committees is very beneficial and can be cited as justification to maintain funding.

Mr. Siddiqui noted that sometimes the act of creating a report crystallizes behavior in alignment with the vision or goals. He supported the creation of an annual scorecard that reports EPA's achievements. Ms. Jones-Jackson acknowledged that the idea was reasonable and fit well with Administrator Jackson's priorities.

Dr. Osidele, as a member of the previous NACEPT session that addressed challenges faced by vulnerable communities, suggested that the Council peruse the case studies and extensive reports previously prepared to garner any valuable insights to inform the current advice letter. He agreed with Ms. Kendall that presenting examples of specific programs risks the appearance of endorsement. Examples should be selected and used carefully to support the broader message.

Mr. Siddiqui asked whether the suggestion was to create an alternative to LEED®. Dr. Abruña responded that was not necessarily the objective, but a basic certification process could be developed. Ms. Jones-Jackson suggested that this could occur in collaboration with EPA partners such as HUD and DOT.

Public Comments

Mr. Ross called for public comments and there were none.

Chair's Meeting Summary

Mr. Ross asked whether the Action Opportunities are candidates for Breakthrough Objectives. The NACEPT members agreed to combine the two advice letters because of the overlap and similarity between them. Each Workgroup will further refine its own product, incorporating comments from this meeting, before a smaller group with representatives from both workgroups will convene to merge the two letters. Mr. Ross, Mr. Joyce, Mr. Learner and Ms. Jones-Jackson will meet with the Workgroup Chairs to develop the final product. The NACEPT members agreed with that process. Dr. Osidele mentioned that it would be useful to show the final advice letter to one or more individuals who can speak to the feasibility of the advice and whether it lies within EPA's purview before it is submitted to the Administrator.

Dr. John remarked that each NACEPT member should write an informal paragraph describing his or her most important sustainability-related issue to ensure that everyone's most important goal is included in the final sustainability advice letter. The Council decided that each member will submit that statement to their Workgroup Chair.

Mr. Ross stated that the Workgroups should try to develop their combined sustainability letter by November 1, 2012. The goal will be to distribute the advice when it will have the maximum effect for the Agency.

Mr. Ross thanked the Council members for their attendance and participation. He was encouraged by the thoughtful and stimulating discussion and noted the progress made toward a product useful to the Administrator and the Agency. Mr. Ross also acknowledged Ms. Jones-Jackson, Ms. McCoy and Mr. Eugene Green (EPA) for their efforts in preparing for this meeting.

He mentioned that, following the adjournment of the meeting, each Workgroup will have an opportunity to meet and continue the discussions based on the morning's presentations. Mr. Joyce will distribute the final version of each Workgroup's presentations. The next NACEPT face-to-face meeting will occur during or after January 2013.

Mr. Ross asked for any final thoughts or observations. There being none, he adjourned the meeting at 12:30 p.m. EDT.

Action Items

- ✧ Each Workgroup will incorporate comments from the meeting's discussions into their advice products.
- ✧ Workgroup members will correspond via email and teleconference to continue work on the recommendations.
- ✧ Mr. Green will coordinate Workgroup conference calls as needed.
- ✧ NACEPT members will submit a paragraph detailing their personal priorities for the sustainability letter to their Workgroup Chair.
- ✧ Ms. Jones-Jackson will ask Ms. Corman whether Listening Session results can be provided to the NACEPT members. EPA's sustainability plan will be provided to the Council when it becomes available.
- ✧ After the OGC analysis is completed, the NACEPT will be granted access to the results.
- ✧ Mr. Joyce will ensure that all NACEPT members receive the final version of the Workgroup presentations.

National Advisory Council for Environmental Policy and Technology (NACEPT)
Meeting Participants

NACEPT Members

Dr. Fernando Abruña
Architect
Sustainable Architecture Abruña and Musgrave, Architects
San Juan, Puerto Rico

Dr. Giovanna Di Chiro
Director of Environmental Programs
Nuestras Raices Inc.
Holyoke, MA

Dr. Patricia M. Gallagher
Associate Professor
Provost's Fellow in Sustainability
Department of Civil, Architectural and Environmental Engineering
Drexel University
Philadelphia, PA

Dr. Dewitt John
Thomas F. Shannon Distinguished Lecturer in Environmental Studies
Bowdoin College
Brunswick, ME

Ms. Sara Kendall
Vice President
Corporate Affairs
Sustainability and EHS
Weyerhaeuser Company
Federal Way, WA

Mr. Robert Kerr
Co-Founder and Principal
Pure Strategies, Inc.
Reston, VA

Mr. Howard Learner (*NACEPT Vice-Chair*)
Executive Director
Environmental Law and Policy Center
Chicago, IL

Ms. Bridgett Luther
President
Cradle to Cradle Products Innovation Institute
San Francisco, CA

Dr. Judith Mazique
Assistant Professor and Program Director of Environmental Health
College of Pharmacy and Health Sciences
Texas Southern University
Houston, Texas

Dr. Ronald Meissen
Senior Director of Sustainability
Baxter International Inc.
Deerfield, IL

Dr. Mark A. Mitchell
President
Mitchell Environmental Health Associates
Hartford, CT

Dr. Olufemi Osidele
Senior Research Engineer
Geosciences and Engineering Division
Southwest Research Institute
San Antonio, TX

Dr. Edith A. Parker
Professor and Head
Department of Community and Behavioral Health
College of Public Health
University of Iowa
Iowa City, IA

Mr. William G. Ross (*NACEPT Chair*)
Visiting Professor of Environmental Sciences and Policy and Duke Cancer Institute
Nicholas School of the Environment
Duke University
Durham, NC

Mr. Yalmaz Siddiqui
Senior Director
Environmental Strategy
Office Depot
Boca Raton, FL

Ms. Alison Taylor
Vice President
Sustainability-Americas
Siemens Corporation
Washington, D.C.

NACEPT Acting Designated Federal Officer

Mr. Mark Joyce
U.S. Environmental Protection Agency
Office of Federal Advisory Committee
Management and Outreach (OFACMO)
1200 Pennsylvania Avenue, NW (1601M)
Washington, D.C. 20460
Phone: (202) 564-2130
Email: joyce.mark@epa.gov

EPA Participants

Daniel Amon
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 564-7509
Email: amon.dan@epa.gov

Geraldine Brown
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 564-4235
Email: brown.geraldine@epa.gov

David Cooper
U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street
San Francisco, CA 94105
Phone: (415) 972-3245
Email: cooper.david@epa.gov

Bicky Corman
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 564-4332
Email: corman.bicky@epa.gov

Noha Gaber, Ph.D.
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 564-2179
Email: gaber.noha@epa.gov

Ammy George
U.S. Environmental Protection Agency
Phone: (434) 953-3775
Email: george.ammy@epa.gov

Eugene Green
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 564-2432
Email: green.eugene@epa.gov

Ron Hoffer
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 564-7633
Email: hoffer.ron@epa.gov

Craig Hooks
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 564-4600
Email: hooks.craig@epa.gov

James H. Johnson, Jr., Ph.D.
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (703) 347-8200
Email: johnson.jim@epa.gov

Cynthia Jones-Jackson
Acting Director, OFACMO
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 564-2321
Email: jones-jackson.cynthia@epa.gov

Robert Kavlock, Ph.D.
U.S. Environmental Protection Agency
109 T.W. Alexander Drive
Research Triangle Park, NC 27709
Phone: (919) 541-2326
Email: kavlock.robert@epa.gov

Stephanie McCoy
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 564-7297
Email: mccoy.stephanie@epa.gov

Martha Otto
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (703) 603-8853
Email: otto.martha@epa.gov

Glenn Paulson, Ph.D.
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 564-6811
Email: paulson.glenn@epa.gov

Bob Perciasepe
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 564-4700
Email: perciasepe.bob@epa.gov

Aditi Prabhu
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 564-2473
Email: prabhu.aditi@epa.gov

Victoria Robinson
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 564-6349
Email: robinson.victoria@epa.gov

Tamara Saltman
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 564-2781
Email: saltman.tamara@epa.gov

Natalia Saraeva
U.S. Environmental Protection Agency
Phone: (202) 564-3007
Email: saraeva.natalia@epa.gov

Seema Schappelle, Ph.D.
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 564-3372
Email: schappelle.seema@epa.gov

Douglas Steele
U.S. Environmental Protection Agency
Phone: (202) 564-6759
Email: steele.doug@epa.gov

Margaret Walters
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 564-4107
Email: walters.margaret@epa.gov

George Wyeth
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 566-2203
Email: wyeth.george@epa.gov

Other Participants

Melissa Bernardo
American Cleaning Institute
Washington, D.C.
Email: mbernardo@cleaninginstitute.org

Julia Farber
Underwriters Laboratories
Washington, D.C.
Phone: (202) 530-6500
Email: julia.Farber@ul.com

Jenny Hopkinson
Inside EPA
Washington, D.C.
Email: jhopkinson@iwpnews.com

Marci Kinter
Specialty Graphic Imaging Association
Fairfax, VA
Email: marcik@sgia.org

Contractor Support

Jennifer McCulley, Ph.D.
The Scientific Consulting Group, Inc.
Gaithersburg, MD 20878
Phone: (301) 670-4990
Email: jmcculley@scgcorp.com