



## **METHANE TO MARKETS PARTNERSHIP LANDFILL SUBCOMMITTEE MEETING**

*10<sup>th</sup> Session of the Landfill Subcommittee Long Beach, California, USA, 21 September, 2009*

### **Meeting Minutes**

#### **Summary**

The 10<sup>th</sup> Session of the Landfill Subcommittee was held in conjunction with the Solid Waste Association of North America (SWANA) WASTECON event in Long Beach, California. The complete subcommittee agenda, enclosures to agenda, and session proceedings are posted on the [Methane to Markets Web-site](#).

The main agenda items included:

- Outcomes from the September 2010 Steering Committee Meeting
- Methane reduction projects in the wastewater sector
- Project development activity reports from Partner Countries and Project Network members
- Planning for 2010 Partnership Expo

#### **Opening Remarks and Introductions**

Mr. Blanco reviewed the agenda items for the meeting, which were divided into two parts. The first part of the meeting addressed administrative issues and an update from the Administrative Support Group (ASG). The second part of the meeting was devoted to planning for the 2010 Expo.

#### **Review of January 2009 Minutes**

Mr. Henry Ferland presented an overview of the 2009 meeting minutes from the Monterrey Mexico meeting with a focus on five charges from the Steering Committee:

1. Tracking project activity and milestones. Mr. Ferland highlighted a recent methane reduction project success story published in the *La Republica* newspaper in Colombia. This article is now featured on the Methane to Markets *Facebook* page. He encouraged all members to submit press releases and project updates to the ASG so that the Partnership can track methane reduction project activity related to the Partnership.
2. Partnership-wide accomplishments report (PAR). Mr. Ferland indicated that the ASG has asked all Partner Countries to provide updates on accomplishments within their own country in order to develop a consolidated report.

3. Partner Country updates, including status of country profiles and strategic plans. Mr. Ferland indicated that no new strategies have been submitted for the landfill sector since the January 2009 meeting. To date, strategies have been submitted for nine Partner Countries in the landfill sector.
4. Project Network recruitment and engagement. Mr. Ferland emphasized that the ASG has been focusing its Project Network recruitment activities on international financial institutions (e.g., Inter-American Development Bank, World Bank).
5. Submit project opportunities and develop technical and policy sessions for the 2010 Expo. Mr. Ferland provided a detailed overview of the Expo preparation activities in another presentation.

### **ASG Updates since January 2009**

Mr. Ferland provided an overview of the current Partnership members and recent administrative activities that have occurred since the January 2009 meeting.

As of September 21, 2009 the Partnership now has 31 Partner Countries and over 900 Project Network members. The newest member is the Dominican Republic. Two other countries expressing keen interest in joining the Partnership are Norway and Indonesia. Mr. Ferland added that if Indonesia joins, it would be the final country of the top 10 anthropogenic methane emitting countries to join the Partnership.

Next, Mr. Ferland provided an update of four new Partnership Communication Tools:

#### *1. Web-site:*

The new Partnership Web-site was launched in September. This new site is designed to contain content generated by users and it provides enhanced flexibility for translating Web-site content into native languages and searching the site's Proceedings documents. The redesigned site also features several "Web 2.0" functions including Facebook and Twitter. The site also re-organized the Partner Country page to centralize all information about a country, regardless of its sector, to a common country-specific home page that houses action plans, projects, contacts, and documents prepared by that country.

Mr. Ferland encouraged Delegates and Project Network members to submit ideas for highlighting methane projects success stories to feature a specific country, a Project Network organization, or a specific project. Currently the Web-site is spotlighting Mexico as the feature country, ENI-Italy is the feature Project Network member, and the Jinchung China Coalbed Methane project is the featured project.

#### *2. Methane International Newsletter:*

Mr. Ferland indicated that the current circulation of this Web-based newsletter is now 1,500 recipients. The newsletter is now in a Web-based format that is integrated with the new Web-site.

### *3. Partnership Accomplishments Report*

Mr. Ferland indicated that after two series of reviews, the PAR content is currently being finalized with the goal of printing and delivering the report during the United Nations Climate Change COP-15 December meeting. Mr. Ferland noted that the PAR will be used to educate the international climate industry about the Partnership activities and organization's goals, highlight successes of the Partnership, and discuss the future of the Partnership.

### *4. Outreach Events*

Mr. Ferland announced that the ASG is planning a side event at COP-15 to market the Partnership and the 2010 Expo. He notified all delegates that the ASG is currently looking for speakers from countries planning to attend the COP and willing to speak about their country-specific interactions with the Partnership. Mr. Ferland added that the Steering Committee and ASG are trying to determine if elevating the Partnership to an observer status at future UNFCCC meetings without losing the independence and flexibility of a voluntary Partnership. After this COP-15 event the next Partnership-sponsored event will be the New Delhi Partnership Expo, Steering Committee, and Landfill Subcommittee meetings.

### **Outcomes of September Steering Committee Meeting**

Mr. Ferland briefed the subcommittee about the recent Steering Committee meeting which was held in Washington, DC, USA on September 10-11, 2009. There were 14 Partner Countries represented at the meeting, and a delegate from Norway observed the meeting.

Mr. Ferland reminded the delegates that the original terms of reference (TOR) for the Partnership are set to expire in November 2009. The Steering Committee was asked to observe the first five year term of the Partnership and let those observations and lessons learned influence the future organization of and sectors covered by the Partnership under a new TOR.

The Steering Committee extended the TOR for approximately 1 year, until a new signing ceremony can be scheduled. Mr. Ferland indicated that the Partnership anticipates coordinating a signing ceremony with one of the 2010 COP-16 preparation meetings in Mexico sometime after March 2010. A red-line strikeout version of new TOR language will be developed for discussion at the 2010 India Expo Steering Committee meeting. Based on comments received at the Expo the language will be finalized for an official ministerial signing ceremony. In an effort to encourage enhanced multilateral commitments to the Partnership the ASG is planning to work with Partner Countries to coordinate an announcement for country-specific funding commitments to the Partnership in conjunction with the 2010 signing ceremony.

The Steering Committee decided to focus on enhancing the commitments of all Partnership Countries with direction to require Country Action Plans from all developing nations. There was some discussion on what incentive structures or funding opportunities could be provided to countries that complete these Country Action Plans.

Mr. Ferland asked for comments about these administrative actions before continuing on to other outcomes from the Steering Committee. Mr. Blanco proposed that if the next Landfill Subcommittee was to be held in conjunction with India Expo, the administrative meeting should not be held in conjunction with the technical and policy sessions planned for the event. Ms. Lopez supported this Expo itinerary as well.

Ms. Goldstein asked if the Steering Committee discussed methane avoidance (e.g. composting) as a topic of interest or focus? If so, should methane avoidance topics be considered for the technical/policy tracks at the upcoming Expo? Mr. Ferland indicated that there was some consensus from the Steering Committee that the Partnership could move beyond capture and use and be a hub for technical information on methane prevention. There was not formal directives or emphasis made on the topic of methane avoidance

The Steering Committee also considered three project types to potentially expand the Partnership including rice cultivation, enteric fermentation, and wastewater treatment plants (WWTP). Mr. Ferland indicated that the Steering Committee did not reach any consensus to adopt these topics under the new TOR, but they agreed to continue to research and poll members on their interest in these topics. During the September meeting, many Partner Countries were concerned that emissions and reductions from these two sources are very difficult to measure.

For WWTP, Mr. Ferland indicated that the Steering Committee voted to expand the Partnership to cover WWTP projects. Mr. Ferland provided a brief history of why WWTP projects were under review by the Partnership. In early 2009, Chile brought the topic of WWTP projects to the January 2009 Steering Committee meeting in Monterrey, Mexico. During this meeting, they discussed their current activities and projects that are capturing and using the WWTP gas. Next, the Steering Committee developed a [white paper](#) discussing this topic, identifying major barriers to project development, and analyzing global emissions from WWTP. Given the availability of demonstrated technologies to reduce methane emissions from WWTP gas, and the prevalence of WWTP in many Partner Countries, the Steering Committee recognized that these projects to have the potential to achieve methane capture and utilization projects in the gas near term.

Mr. Ferland summarized the options discussed for including WWTP projects under the Partnership. He noted that some subcommittee members considered WWTP projects most similar to agriculture projects with respect to the technologies used to collect methane emissions. However, others on the Steering Committee indicated that aside from the technology similarities the proximity of landfills and WWTP, government agencies involved in overseeing and regulating public infrastructure and owners of landfills and

WWTP tend to be closely related. These members suggested that the landfill subcommittee could be replaced with an urban or sanitation infrastructure subcommittee that would cover both solid waste and WW infrastructure. The Steering Committee suggested asking the technical subcommittees for their feedback on where this fits and also a WW task force will be considering these suggestions and incorporating into a document. Representatives from the U.K. and Mexico volunteered to lead the task force.

Mr. Blanco opened up the floor to the delegates for their own input on how or if WWTP should be included in the landfill sector and solicited volunteers to serve on the WWTP task force.

Ms. Dana Murray of the SCS Engineers indicated that many recent conferences have been focused on the topic of Global Biogas. She added that the 2010 SWANA Wastecon event will be held concurrently with the American Public Works Association Conference, which is a trade association for many public infrastructure services, including WWTP.

Mr. Joao Alves of CETESB indicated that his group is familiar with emissions of both landfills and WWTP since the UNFCCC greenhouse gas emissions inventory is divided according to chapter. The "Waste" chapter for the UN inventory covers data for both landfills and WWTP. He added that the initial inventories had prioritized data from landfills in the country, given their larger share of methane emissions. Mr. Alves added that Brazil has recently worked with the World Bank to estimate the methane mitigation costs from landfills and WWTP. Brazil found that cost to capture methane from WWTP would cost \$US 50/metric tone of CO<sub>2</sub> equivalent (mtCO<sub>2</sub>e) while the cost to capture methane emissions from landfills would cost \$US 1/mtCO<sub>2</sub>e. The study concluded that it is not currently cost effective to capture methane from WWTP. Mr. Alves added that perhaps the Partnership could help promote technology transfer and innovation to reduce the cost of methane capture from WWTP.

Mr. Lapyan Chan of OWT H.K. asked about the relative global contributions of methane emissions from landfills compared to the emissions from WWTP. Mr. Ferland replied that according to the 2006 U.S. EPA Global Anthropogenic Emissions Report, the two largest sources of non-CO<sub>2</sub> greenhouse gas emissions in the waste sector are landfills and WW. The report estimates that global methane emissions from landfills will be 794 in 2010, while global WWTP methane emissions will total 594 mtCO<sub>2</sub>e.

Ms. Rachel Goldstein, United States, asked if combining methane from WWTP with landfills would provide some opportunities for economies of scale by having one point of destruction and feeding the flare/destruction equipment from two, often adjacent, methane generating facilities. Ms. Goldstein did have an example of a United States projects in Toledo, OH where gas from both a WWTP and a landfill will be used to generate electricity. Ms. Goldstein added that since both WWTP and solid waste are predominantly managed by local governments, the affected stakeholders for both of these sectors may be similar. She added since delegates to the subcommittee are often at a federal or ministerial office, the WWTP task force should investigate if similar ministries represent both WWTP and solid waste issues for each of the Partner Countries.

Ms. Sandra Lopez, Colombia indicated that waste management in Colombia integrates both WWTP and solid waste topics.

Ms. Agnieszka Tarach, Poland indicated that as a member of the European Union (EU) Poland is covered under EU regulations for waste management facilities. She added that under the EU directive on waste, large WWTP covered by the same set of regulations and regulatory bodies that govern EU landfills.

Mr. Yang Haiying, China, indicated that both the local infrastructure stakeholders and the federal and provincial government authorities are common between solid waste and WWTP.

Mr. Brian Guzzone, Ameresco, indicated that from a private sector perspective, inclusion of WWTP projects in the Partnership would be beneficial. Based on his experience, many countries are experienced with the Clean Development Mechanism (CDM) opportunities at landfills but that experience is lacking for WWTP projects. Some education is needed on aerobic vs. anaerobic technologies for WWTP, methane mitigation cost estimates, and project feasibility studies. Mr. Guzzone agrees that WWTP are typically government run facilities that are often under the same operating division of the government such as a public works division, public health division, or sanitation department.

Mr. Blanco took note of these comments and overwhelming support for integrating the landfill and WWTP project sectors. He recommended that the Landfill Sector believes it is appropriate to link WWTP projects under the Landfill Subcommittee.

Henry Ferland encouraged that all those interested in having this topic incorporated in the LF technical subcommittee to consider supporting this opinion by participating in a task force to provide the formal suggestion to the steering committee about where WW should be housed under the new Partnership TOR and what the scope of the WWTP project sector should be.

### **Update on International Landfill Database (ILD)**

Ms. Goldstein presented an update of the data contained in the Web-based ILD tool that was developed for the Partnership by the U.S. EPA. Currently the database has 992 users with active accounts and there are 533 landfills entered for ten of the Methane to Markets Countries. In addition, the ILD links to existing landfill databases in Brazil and the United States. Ms. Goldstein added that EPA is working to incorporate data from over 60 landfill projects listed or registered with the UNFCCC Clean Development Mechanism. In addition, the tool is planning to include a new data field to link to any Partnership-sponsored feasibility studies or other supporting documents about the landfill in order to provide users with an easy reference to more detailed data about a particular landfill.

Ms. Goldstein also used this opportunity to introduce the tool to some of the newer Partner Country delegates at the meeting that may be unfamiliar with the tool. She emphasized that the Partnership prioritizes its funding and follow-up activities and studies in a country by first completing an inventory of landfills to assess methane reduction potential. She added that some of the recent grants EPA has awarded to Partner Countries were used to develop an inventory of landfills within a country.

The presentation outlined instructions for how to use the ILD are provided on the Partnership Web-site. Ms. Goldstein opened the floor for questions and comments about the ILD.

Mr. Lapyan Chan indicated that many types of data collected for the ILD are time sensitive. Further, at landfills with large fluctuations in annual waste acceptance rates or changes in permits, the data can become out of date quickly. Can the ILD application include a year or date field to represent the point in time represented by the total waste-in-place or annual waste acceptance rates? Ms. Amanda Singleton, ASG support took note and will research options for including some date notation, or possibly a file attachment containing multiple years of waste acceptance data in the ILD.

Ms. Sandra Mazo-Nix suggested two improvements to ILD terminology and had a question about translating landfill names. First, the term “average waste depth” is sometimes interpreted as the depth of the waste below grade instead of the total thickness of the waste. She suggested that a data definition be developed for this term, and inquired whether or not an example or caveat of how this term should be reported could be made within the ILD itself. Second, Ms. Nix indicated that the ILD has a field to enter “State/Province” but that the ILD data collection form and the New Delhi Landfill Project Submission Template do not contain a field for State/Province. She noted that many countries have multiple cities with the same name and that a state/province field should be added to the template. Ms. Goldstein agreed and indicated this was an oversight on the template forms that will be corrected. Next, Ms. Mazo-Nix inquired on whether or not the landfill name should be entered in English or in the native language of the country. In Latin America, often the name of the landfill is often expressed by stating “Landfill of XXX City” which could translate to “Relleno de Sanitario de XXX Ciudad”. Ms. Goldstein indicated that the name that is most well known for the landfill should be entered, regardless of language. For example, you may want to enter the name of the landfill to be consistent with existing records for landfill projects listed in the UNFCCC Clean Development Mechanism database. If a language other than English is used at the name of the landfill, the name of the landfill should be provided using the Latin alphabet.

### **Country-Specific Updates**

Mr. Blanco asked each delegate to provide an update on the status of their Landfill Sector Action Plan, recent landfill project development activities within their country, and an update of what projects could potentially be showcased at the 2010 Expo in New Delhi.

*Argentina* – Mr. Blanco indicated that the national strategy for waste management is supported by a loan from World Bank. At this time several consulting firms are working on design of waste management facilities. One or two facilities are in the project implementation/construction phase to construct new waste infrastructure. Mr. Blanco indicated that private companies can learn more about how to participate by visiting the Ministry of Environment Web-site in Argentina. Mr. Blanco also indicated that Argentina plans to present a total of 6 to 8 landfills at the 2010 Expo, including 3 to 5 new landfills that were not previously showcased in Beijing.

*Brazil* – Mr. Alves indicated that his organization is finalizing the GHG inventory for landfills in Brazil and it will be released in October. He reported that as of early September, 45 projects are in the CDM pipeline and 20 of those are in the state of Sao Paulo. With respect to the action plan, he indicated that the delegated national authorities are not permitted to use action plans to reduce greenhouse gases. Mr. Alves also presented the performance of Brazil CDM projects compared to the original estimates of their CDM credit and energy potential. Mr. Alves also noted that CETESB has been working on several methane research topics in the waste sector including a project to collect waste composition data since 1970 in order to develop variation estimates for the degradable components of waste disposed in Brazil and a project that estimates the cost of methane abatement from various sources. Mr. Alves also indicated that there are often two owners of many of the landfill in Brazil, one of the owners may be a municipality but the other owner is often a private entity. He suggested that U.S. EPA, CETESB, and the various landfill owners in the state of Sao Paulo meet to discuss cooperation for landfill methane projects in the future. He added that the state of Sao Paulo is considering a local law for methane abatement from waste facilities.

*China* – Mr. Yang Haiying indicated that China recently completed an inventory of waste infrastructure including over 420 landfills, waste incinerators, and WWTP facilities. He added that in response to economic crisis, there is stimulus package that is providing funding for design and construction of landfill/waste infrastructure in China. Ms. Goldstein of the U.S. EPA added that through her cooperative efforts with Mr. Xu Haiyun of the China Ministry of Construction, five additional sites that were assessed since the Beijing Expo will be featured at the upcoming Expo in New Delhi.

*Colombia* – Ms. Lopez indicated that she and her colleagues are preparing their landfill profile and strategic plan. Other project development activities include the preparation of a Colombian landfill database that will be shared with the Partnership. She also added that a landfill gas (LFG) model for Colombia is under development. For New Delhi, she expects 4 to 6 sites to be displayed in the Project Expo. There were recently two new landfill assessment reports finalized by U.S. EPA and four more sites are currently under evaluation.

*Poland* – Ms. Agnieszka Tarach indicated that one project is in process, and a second project will have an agreement signed within a month. Further, one additional project is currently under investigation for a pre-feasibility study.

*United States* – Ms. Goldstein indicated that the United States now has over 500 LFG projects. She indicated there have been no further updates made to the national LFG project strategy since the last Subcommittee meeting. She added that her group is currently working actively in Argentina, Brazil, Colombia, China, India, Mexico, Philippines, Poland, Russia, Thailand and Ukraine to conduct landfill assessment studies to estimate the potential for methane capture and utilization.

#### Report on Countries Not Present at Meeting

*India* – Ms. Goldstein presented updates on recent India LFG project activity. She indicated that the LFG flare recently began operation in Mumbai at the Gorai landfill. The Asian Development Bank will be purchasing carbon credits. Ms. Goldstein added that two recent studies (Pune, Ahmedabad) could be displayed at projects at the New Delhi project Expo. Further, U.S. EPA is evaluating four more landfills with SCS Engineers in October 2009. Depending on the outcome of these evaluations, these sites may also be potentially displayed at the Expo.

*Philippines, Thailand, and Vietnam* - Ms. Goldstein added that she is working with OWT H.K. to evaluate sites in these three countries and she expects landfills from each of these countries to be showcased in the Project Expo.

#### **Overview of New Delhi, India Expo**

Mr. Ferland presented an overview of goals of the 2010 event and provide context for those not in attendance at the 2007 Beijing Expo about the role of the Landfill Subcommittee members in planning for this event.

The 2010 event will have a mixture of technical topics that are specific to each of the four sectors of the Partnership as well as plenary sessions that will focus on cross-cutting topics and overarching global climate change policies.

He then highlighted four roles that each delegate will have to ensure participation from each Partner Country:

##### *1. Partner Country Exhibits*

Mr. Ferland indicated that every country in attendance will receive a free space in the exhibit hall to present their country's methane project activities and government agencies involved in the project development process. He encouraged the landfill subcommittee delegates to work with ASG liaison in their country to ensure that landfill sector activities are well represented in the exhibit along with other country activities.

##### *2. Call for Projects*

Mr. Ferland thanked all of the delegates for their country project updates and indicated that based on these discussions, the landfill sector would have a strong portfolio of project opportunities on display at the Expo. He added that 2010 Expo will feature its Expo poster display area to showcase both methane project success stories, as well as to highlight projects in search of development. Mr. Ferland added that the template for submitting projects is currently posted on the Partnership [Web-site](#) and the deadline for submitting projects is November 15, 2009. Alternately, Mr. Ferland suggested that landfills whose data are completed in the International Landfill Database may submit their landfill record to the ILD and request that an Expo poster be developed based on the data in the ILD. Mr. Ferland indicated that since some of the undeveloped projects from the 2007 Beijing event may be re-displayed as opportunities at the 2010 Expo, the same poster template will be used to display the new projects.

### *3. Technical and Policy Agendas*

Mr. Ferland indicated that a call for papers has been submitted to the international methane community with a response deadline of November 15, 2009. We currently have 10 abstracts submitted for the landfill sector and he added that all of the presentations will be made in English. The landfill subcommittee will need to rank the topics of most interest to them and identify where there are gaps in these knowledge areas based on the abstracts submitted to date. Mr. Ferland indicated that the committee could solicit speakers on these preferred topics from their home countries. Mr. Ferland noted that the 2007 event had 6 technical and policy topics for the landfill sector seminars. He added that since India is the host country for this event, the event will try to emphasize several speakers about India methane project case studies and challenges to project development in India.

### *4. Marketing the Expo*

Mr. Ferland indicated that the ASG will provide electronic copies of the Expo brochure to each ASG liaison and country delegate. The ASG will also be attending global conferences and the December COP-15 to market the event. He urged all delegates to help advertise the event and promote event or travel sponsorship to companies within their own countries.

Mr. Ferland closed his overview with encouraging all delegates to plan to attend the meeting in March and indicated that the remainder of today's meeting will be devoted to prioritizing the landfill sector activities and speakers at the New Delhi Expo event.

### **Expo Technical Presentation Topics**

Mr. Gabriel reviewed the six speaker categories that were presented during the 2007 Beijing Expo and summarized the technical topics received to date from the call for Abstracts.

## Six Topics Presented During Beijing Expo

### *Topic 1: LFG Modeling*

Mr. Blanco believes based on Latin America experiences, LFG modeling is still important. He suggested that this session focus on the main factors impacting the models.

Mr. Alves commented that the northeast region of Brazil is comparing the IPCC and EPA LFG models. They have done on-site measurements to help understand Brazil-specific conditions. The conclusion is that the IPCC model overestimates the LFG generation from landfills. This comparison study may be of interest for the modeling panel.

Ms. Goldstein indicated that since the China Expo the EPA has developed a new China and Ecuador gas model and provided an update to the Mexico model. She added that a Ukrainian model is under development and may be ready in time for the Expo. She suggested that new developments in country-specific models could be presented as part of this session.

The committee concluded that a modeling session should be included in the 2010 technical and policy track for the landfill sector.

### *Topic 2: Energy Use of Biogas (Project Type Unspecified)*

Mr. Blanco indicated that this session could use case studies of projects that are flaring or recovering energy. He added that the session could highlight grants that have promoted certain innovative uses such as the LFG-fueled medical waste incinerator in Argentina, or the infrared heaters in Ukraine. Mr. Ferland added that this session may also invite speakers from successful projects that participated in the previous Expo such as the flaring project at Dona Juana landfill in Colombia.

There was discussion on separating innovative uses from simpler project success stories (e.g. flare-only projects).

### *Topic 3: Policy/Regulatory Barriers*

Mr. Alves indicated that the major policy barrier is uncertainty of the CDM post-2012 and the difficulty of getting projects approved through the CDM. Since this Expo will be after the next COP meeting, he suggested speakers from UNFCCC Exec. Board may be useful panelists for this topic.

Mr. Alves also added that another CDM policy barrier is the ability to convert a LFG flaring project to an energy recovery project. He added that CDM methodologies prohibit transferring projects from flare to energy recovery and suggested to recruit a speaker from the CDM methodology or CDM validation perspective.

Mr. Alves also introduced a pending announcement from the government of the state of Sao Paulo which would enact a law to destroy methane from landfills. Since this law would remove the voluntary nature of LFG destruction projects, it would remove or restrict the ability for these projects to receive financing from the CDM.

Ms. Goldstein suggested that a common policy barrier for electricity projects may be interconnects agreements with local utilities. Although a common barrier, the options for the agreement may differ widely from country-to-country and may be a difficult topic for an international audience.

The subcommittee concluded that they will review this session and identify whether or not adequate speakers are available to present on these topics. There was some concern that timing and uncertainty of the outcomes at the December COP meeting may make it difficult to have speakers from the UNFCCC.

#### *Topic 4: Lessons Learned*

Ms. Murray suggested that the lessons learned could focus on site operations, design, training, and equipment instead of lessons learned during the LFG project development itself. Since site operations play a vital role in the performance of LFG projects, this session could discuss why projects have not lived up to expectations and provide suggestions for improvements at the site that could improve the LFG collection rates.

Ms. Lopez indicated that often LFG projects can contribute to stabilizing the sites and improve the safety of landfill operations. Perhaps these lessons learned session could focus on the safety co-benefits of a LFG project. Mr. Alves agreed that the relationship between projects and site safety would provide a useful perspective to policy makers in the audience. He added that there was recently a very steep slope breakout causing a safety hazard at a Brazilian landfill.

Ms. Lopez also added that a discussion about enhancing gas recovery through improved leachate management practices would also be relevant to the Expo since so many of the Partner Countries are located in areas with heavy precipitation.

Since site operators are often not the attendees of this meeting, the committee discussed whether the Expo is the appropriate venue for discussions about site operations. If this topic is to be covered it was decided that the panelists of this session should focus their discussions to an audience that would be making policies for landfill operations in their country.

#### *Topic 5: Project Finance*

Given that it has become increasingly challenging to get a project registered under the CDM, a discussion of alternative carbon markets may be useful. Ms. Goldstein suggested inviting CAR to speak about international offset project opportunities for agriculture and landfill sectors.

Ecosecurities, a Project Network member indicated that someone from their office could discuss trends in commodities, markets, and carbon trading if the panel would be interested. He added that the firm recently opened a new office in New Delhi.

The subcommittee concluded a session on project finance would be important to include in the technical and policy agenda.

#### *Topic 6: Small Projects*

Ms. Goldstein indicated that many of the larger landfills are already under contract or development for methane recovery or use. Further, the newest Partner Countries are no longer the largest methane emitters and have much smaller landfills when compared to some of the landfills in the original set of Partner Countries. Because of these reasons, a session devoted to how smaller projects can be successful may be of interest.

Mr. Alves noted that Brazil tried to implement a programmatic CDM for smaller projects, but the process to get the small process through registration was costly and cumbersome. He asked if the Partnership could develop a protocol for getting small projects through the CDM process.

#### *Summary of Abstracts Received to Date:*

In addition to the topics presented during the Beijing Expo, Mr. Blanco also provided an overview of topics suggested during the 2009 Mexico Meeting and summarized the abstracts submitted to date. The three landfill specific topics of interest during the Mexico meeting were alternative uses of LFG (e.g., district heating or vehicle fuels), leachate treatment and management, and action items after a pre-feasibility study. All of these items have been discussed in the context of the Beijing Expo topics. Enclosure 1 summarizes the abstracts submitted to date, according to the categories discussed during the Mexico meeting.

#### *Brainstorming Other Topics:*

Methane Avoidance/Landfill Alternatives: Mr. Alves commented that landfill space is very limited, especially in larger metropolitan areas. As a result, the government is focused on alternatives to landfills, such as waste incineration, composting, and other waste reduction and methane avoidance strategies. Would the partnership want to include these other waste topics as part of the Expo?

Ms. Goldstein suggested that before landfill alternatives should be added to the technical agenda, the subcommittee and steering committee needs to decide if these alternative waste sector topics are within the scope of the Partnership. Mr. Ferland indicated that at this time, no decision has been made to adopt methane avoidance or biomethanation as part of the landfill sector.

Wastewater and Landfilling: Ms. Goldstein suggested one possible session might focus on examples of projects where LFG and WWTP gas are combined and recovered for beneficial use.

Implementing a Project after a Pre-Feasibility Study:

Ms. Lopez suggested one panel could focus on case studies and steps landfills took after completing a pre-feasibility study. This panel might demonstrate examples of how pre-feasibility studies have resulted in a project success story.

Ms. Goldstein mentioned that many landfills are interested in specific steps and activities to implement after a study is completed such as developing an RFP and evaluating proposals. However, she added that these specific details may be targeted at landfill owners or operators and that the Expo may not be the correct venue for these discussions since the anticipated Expo audience are primarily federal government officials, project developers, and consultants.

In closing the brainstorming session about topics to present during the Expo, Mr. Ferland reminded all attendees that in addition to ideas for topics, the ASG and Expo Task force are interested in names of speakers or organizations that would be good to invite on the panel. He requested that all suggestions be sent to the ASG.

The following individuals and Volunteers for Expo Task Force:

- The ASG will identify a contact within India to contribute India speakers and topics for the landfill sector. Mr. Ferland indicated that task force will need to work with the India representative to obtain a consensus on the final agenda.
- SCS Engineers, Project Network
- OWT H.K., Project Network
- Rachel Goldstein, United States
- Amanda Singleton, ASG

Mr. Blanco proposed that the ASG and Task Force will develop a straw agenda for the landfill technical and policy sessions and send the agenda out to the subcommittee for comment.

**Reviewing Abstracts:**

Mr. Ferland provided an overview of the Partnership policy for reviewing incoming abstracts. He noted that this policy is used as a tool to guide Expo Task Force review process, to provide an unbiased process for accepting speakers from the event. The review criteria are contained in Enclosure 2 of the Agenda.

Several members of the subcommittee voiced concerns about how to avoid commercialism in the panels, given that often the abstract may not fully disclose the potential commercial aspects of the presentation.

Mr. Blanco suggested including “anti-commercialism” guidelines in the speaker packets when we announce who was accepted. He added that this language may reserve the right to reject and replace presenters that submit presentations that are overly commercial. The committee agreed that it was important to convey to speakers, upon their acceptance to the panel, that presentations should be technical in nature and not serve as commercials for their goods or services.

## **Action Items**

### *Administrative Items:*

- Partner Countries
  - Submit ideas to highlight as projects or technologies for Web-site features.
  - Discuss availability of delegates to participate the M2M side event at the COP-15. Inform ASG about interest/willingness to present in this side event at the COP.
  - Inform ASG on willingness to serve on a WW task force. The ASG is seeking participation in the WW task force and a suggestion from the task force on how the WW sector should be organized within the Partnership.
  - The WW task force will investigate the ministerial organization representing landfills and WW in each Partner Country.
- Project Network
  - Submit ideas for technologies or projects to highlight for monthly Web-site features.
  - Consider submitting an abstract to speak at the Expo.

### *Miscellaneous Items:*

The U.S. will investigate upgrading the ILD to upload attachments for multiple AWARs, and providing a data associated with the waste-in-place and annual waste acceptance rate fields. In addition, they will add the province and region/state to ILD project template, and clarify the definition of landfill depth.

### *Expo Preparation Tasks:*

- Partner Countries
  - Market event within their country (e.g. distribute brochure, advertise, solicit sponsors).
  - Work with ASG – liaison to get landfill sector exposure in your Expo country booths.
  - Provide an updated status on 2007 Beijing Expo projects to the ASG.
  - Submit ideas for new projects to be displayed at the Expo. submitted by 15 November 2009
  - Consider submitting an abstract to speak at the Expo or suggest speakers from your country that would make good panelists.

- Provide comments on draft technical agenda.
- Project Network
  - Consider sponsorship or participation in the event via providing technical expertise in presentations.
  - Consider submitting an abstract to speak at the Expo.
  - Provide comments on draft technical agenda.
- Administrative Support Group
  - Summarize brainstorming session and develop a draft technical agenda based on the brainstorming session. Draft agenda will be distributed with request for comments on:
    - Names of speakers that would be meaningful to the event.
    - Names of organizations that could fill missing items on the agenda.
    - Comments on the structure of the technical sessions/draft agenda.