



METHANE TO MARKETS PARTNERSHIP LANDFILL SUBCOMMITTEE MEETING

8th Session of the Landfill Subcommittee Buenos Aires, Argentina 18 June, 2008

Draft Meeting Minutes for Review

Summary

The 8th Session of the Landfill Subcommittee was held in conjunction with the International Solid Waste Association (ISWA) Beacon Conference on Sanitary Landfills.

The session proceedings are posted on the [Methane to Markets Web-site](#).

The main agenda items included:

- Country Specific Profiles and Strategic Plans
- Options to increase Project Network (PN) participation
- Reports from Partner Countries and PN members
- Updates to the Landfill Subcommittee action plan
- Refining the role of Partner Country Delegates
- Recent activity on the International Landfill Database (ILD)

The subcommittee meeting agenda and related attachments are posted online on the [Methane to Markets Web-site](#).

Opening Remarks and Introductions

Co-chair Gabriel Blanco opened the meeting and thanked all the attending delegates for contributing their time to this important day of discussion. Mr. Blanco briefly discussed the schedule and goals of the meeting.

Mr. Blanco then introduced Dr. Naxareno Castillo Marín, director of Climate Change at the Secretariat of Environment and Sustainable Development for Argentina, who provided a formal opening of the meeting. Mr. Marín highlighted that Argentina has eight Clean Development Mechanism (CDM) projects approved by the executive board and he recognized the Partnership as a complement to the work done by United Nations Framework for Climate Change (UNFCCC). Mr. Marín provided a brief overview of how the Argentina Secretariat of Environment is working to reduce emissions of greenhouse gases within the waste management sector and then he opened the floor for each attendee to introduce themselves (see Annex 1 for a complete list of meeting attendees).

Report from Administrative Support Group (ASG)

Mrs. Erin Birgfeld, ASG director, provided an update on Partnership members. As of July 2008, the Partnership has 25 Partner countries and 782 PN members. Most recently, the European Commission joined the Partnership in September 2007, and Mongolia, Pakistan, the Philippines, and Thailand joined in March 2008. She added that the Steering Committee is currently reviewing Partnership applications from Finland and Kazakhstan. Within the PN, 482 of the 782 network members either have expertise or expressed interest in the landfill sector.

Ms. Birgfeld also reviewed highlights of the 2007 Partnership Expo in Beijing. These highlights included over 750 attendees, an Expo area that displayed over 90 project opportunities, of which 47 were in the landfill sector. She added that any progress made on these projects is being tracked in the [Partnership Project Tracking Database](#). As a result of the successes at the 2007 event, she noted that the ASG is currently looking for hosts for the next Expo, which is expected to be held in late 2010.

Ms. Birgfeld announced plans for the next Landfill Subcommittee meeting. This is tentatively scheduled for late January 2009 in Mexico in conjunction with the three other sectors and the Steering Committee. She noted that the Steering Committee is focused on tracking and documenting progress in an accomplishments report, updating or creating country-specific action plans, and conducting outreach to PN members and other interested stakeholders. She outlined the Steering Committee's expectations of the landfill sector at the next Steering Committee meeting. As part of these expectations, the landfill subcommittee should be prepared to report on: 1) progress made on country-specific strategies for landfills; 2) how to recognize and encourage PN involvement within the landfill sector; 3) a summary of accomplishments and activities conducted in support of landfill methane recovery projects for inclusion in the Partnership-wide accomplishments report.

In closing, Ms. Birgfeld noted that the ASG continues to actively outreach on behalf of Methane to Markets at key international meetings. She added that Methane to Markets will be holding a side event at the upcoming UNFCCC Council of Parties meeting in Poland.

Country Specific Strategies

At the request of the Steering Committee, the Landfill Subcommittee developed a country specific strategy template. The subcommittee created a template to help delegates draft their country specific strategies. In order to avoid replicating previous efforts, this template modified the existing landfill profile template to add a new section outlining specific strategic activities the country is involved in to promote landfill gas recovery and use.

Mr. Blanco reviewed each of the eleven sections of the template (see Attachment 1 to the agenda) and asked the subcommittee to provide comment on the content and structure of the template. Ms. Rachel Goldstein, U.S. delegate, proposed an amendment to the template for developed nations. She proposed to add a section to outline international strategies, activities and support for landfill methane recovery and use. This new section could also be helpful for drafting the Partnership-wide accomplishments report. She noted that while Section 8 of the template is useful to outline domestic strategies and activities for encouraging landfill gas recovery and use, the new section could outline how the country plans to, or is actively providing, support in other Methane to Markets countries. Mr. Blanco noted that Argentina is using its experience in the solid waste and landfill methane CDM projects to assist other countries in Latin America and suggested that the amended section should not be limited to developed nations. Ms. Goldstein also asked a question on whether or not the format of the template must be standard across all countries. Ms. Birgfeld responded that the template is meant to be a guide on the appropriate level of detail and not a meant to mandate a particular format or content. She added that the suggested topics provided in the template are examples of how to characterize the solid waste management and landfill gas industries, but countries are encouraged to draft a strategy in a format they are comfortable with.

Mr. Blanco then asked the delegates if they would have the authority and resources to develop a strategy for presentation to the landfill subcommittee at its next meeting. Mr. Urquizo, acting delegate for Ecuador, noted that the strategy would have to be developed by more than one ministry in Ecuador. He noted that the Ecuador Ministry of Urban Development and Housing

(MIDUVI) has a report with data on solid waste management but they currently do not have a section of the report discussing landfill gas recovery. MIDUVI may be able to provide information on landfill gas, or he asked if perhaps the contract with U.S. Environmental Protection Agency (U.S. EPA) could help develop a section on landfill gas strategy for Ecuador. Ms. Goldstein also asked if the ASG had resources to consolidate multiple documents into a single strategy document. Ms. Birgfeld suggested that the preparers of the strategies might flag sections of their strategies that they do not currently have data or discussion prepared for and would be interested in seeking assistance in developing these templates. She added that the preparers might also provide the ASG with citations and electronic copies of any supporting documents so that the ASG to consolidate texts. Ms. Birgfeld also noted that since the ASG is currently sponsored by the U.S. government, the ASG wanted to avoid being perceived as drafting a strategy for another country. As a result, the ASG would not come up with original content for other countries strategies.

Mr. Brian Guzzone, with Ameresco, asked about what role the PN could have in these strategies. Mr. Blanco replied that the PN would not have a role in preparing the strategies; instead, he envisioned that these strategies would be a useful resource for learning more about a country's solid waste management and landfill gas sectors and how a private company may support any international activities sponsored by a government.

Mr. Urquizo asked about a due date for the strategy. Mr. Blanco proposed that the ASG re-distribute the country specific landfill profile and strategy template, with the proposed amendment to solicit any final comments on the template by August 4, 2008. The ASG, along with the co-chairs will discuss these comments and then post the final template on the Methane to Markets Web-site. Given that the strategies will need to be reviewed by the Steering Committee before the next meeting, Mr. Blanco requests that each country e-mail their completed strategies to the ASG by October 31, 2008. Ms. Goldstein emphasized that if a delegate would like to request assistance from U.S. EPA on their strategy, these requests could be better accommodated the earlier they come. If countries cannot provide their strategy documents in English, Mr. Urquizo offered to provide Spanish to English translation of these documents so that the ASG can review and consolidate the documents to report to the Steering Committee.

Country Specific Strategies

Each country had an opportunity to discuss recent activities in their solid waste management and landfill gas sectors. Some countries also chose to present an updated country specific landfill profile and strategy.

Argentina

Mr. Blanco provided a brief overview and update on the national plan for solid waste management in Argentina. The plan was created in 2006 and it provides technical and financial assistance to provinces and municipalities that create strategic plans for solid waste management. The Secretariat of Environment is directing this effort and several universities and private sector are providing input. The first objective of the plan is to remove or convert open dumps and establish sound practices for solid waste management. The second objective of the plan is to support biogas collection and destruction. At present, two or three municipalities are receiving subsidies for constructing sanitary landfills and removing open dumps. Mr. Blanco noted that these subsidies are funded through a World Bank loan with an estimated value of 50 million US dollars. Mr. Blanco added that the World Bank is finalizing funding in Brazil and Mexico for similar national plan strategies.

Mr. Guzzone asked how the private sector could participate in the Argentina national plan. Mr. Blanco replied that after the Secretariat of Environment approves a plan from the province or municipality, a bidding process occurs for various stages of the project (e.g., recycling programs, dump closure, engineering/design of new landfills). Funding for the winning bid on each project component is provided through subsidies from Argentina federal government to municipalities.

Brazil

Ms. Josilene Ferrer provided an update on behalf of the Environmental Sanitation Technology Company (CETESB) of the State of São Paulo with respect to recent activities and projects involving landfill methane. Currently CETESB is updating the national greenhouse gas inventory for Brazil. This inventory includes a section on methane emissions from Brazil's solid waste management sector. Ms. Ferrer also provided an update on Brazil landfill gas energy project opportunities. As of 2008, there was over 160 MW of electric generating capacity proposed in 20 project design documents submitted to the Brazilian Designated National Authority. Additionally, Brazil opened a stock market for trading greenhouse gas emission reductions in September 2007. Ms. Ferrer also noted CETESB will have a Web-site to include documentation and instructions for using the *Biogas* landfill gas model by the next landfill subcommittee meeting. Ms. Ferrer suggested that perhaps a link could be made from the Methane to Markets Web-site to the new Biogas Web-site. Ms. Birgfeld suggested that the ASG could include this update in a Methane to Markets newsletter and on Brazil's country Web-page on the Methane to Markets Web-site.

Ms. Ferrer also provided a brief summary of the June 2008 workshop hosted by U.S. EPA and CETESB. The workshop had over 200 attendees, including students, municipal representatives, private landfill managers, public works directors, and financial staff from contracting offices. Mr. Guzzone asked Ms. Ferrer if presentations will be made available and Ms. Ferrer responded that the presentations will be available on the Methane to Markets Web-site, although many of the presentations will be in Portuguese.

China

Ms. Goldstein presented a brief update on China on behalf of the Ministry of Construction. Ms. Goldstein noted that the Chinese delegate, Mr. Xu Haiyun, recently presented a paper on solid waste management in China. Ms. Goldstein noted that several parts of this presentation could be transferred to a country-specific landfill profile and strategy. Ms. Goldstein also noted that China has recently updated a 1997 landfill policy that requires leachate treatment and includes guidelines for installing landfill gas collection systems at certain landfills.

Canada

Although Canada was unable to attend the meeting, Alain David and Andy Bowcott of Environment Canada submitted an updated profile to update statistics from the 2003 inventory to the most recent 2005 inventory. Canada also included a new section to discuss their national strategy for promoting methane emission reductions from landfills. The ASG presented this strategy on behalf of the Canada delegation and a summary of the updated sections is shown below.

Since the 2003 inventory, methane emissions from landfills in Canada are increasing. At the same time, Canada is diverting more wastes from landfills. Most provinces and territories have waste diversion policies, strategies, and/or targets in place. The profile details province-specific policies.

The amount of landfill gas being collected and either used for energy or flared decreased from 2002 to 2005. The number of sites with landfill gas energy projects increased from 16 to 21 while the total electric generating capacity from landfill gas has decreased from 80 MW to 65 MW. The profile noted that five landfills known to have gas collection systems did not report to the 2005 inventory, which explains part of the decrease between 2002 and 2005.

The old profile focused on national policies and regulations for solid waste management landfill gas, and renewable energy. The updated profile outlines provincial level regulations and guidelines. Recent policies include a new regulation in Quebec Province that went into effect in January 2006 to require certain landfills to have a gas collection system in place. Additionally, a 2007 British Columbia Energy Plan included a fund for encouraging heat and electricity from biomass resources, including landfill gas. Similarly, Quebec announced the Biogas Program in 2008 to fund landfill gas capture and/or use projects at landfills that are not required to do so by regulation.

The new section on Canada's strategy for promoting reductions in landfill gas emissions was centered on the greenhouse gas regulatory framework known as "Turning the Corner". This framework will help achieve Canada's commitment to reduce greenhouse gas emissions by 20 percent below 2006 levels by 2020. Turning the Corner includes an offset program for domestic projects that can achieve reductions in greenhouse gases. The strategy outlines methods for determining eligibility of an offset project. Landfill gas capture projects are expected to be approved as offset projects under this framework. A guide for protocol development is anticipated to be released in summer 2008.

Ecuador

Mr. Urquiza presented an updated profile of the solid waste management and landfill gas potential in Ecuador. In summary, ten municipalities have sites that can be classified as sanitary landfills. Six of these ten municipalities have a large enough population to provide a waste stream large enough to consider landfill gas recovery and possible use. U.S. EPA has already completed two pre-feasibility studies at Guayaquil and Pichacay landfills. In 2008 and 2009, U.S. EPA will conduct a follow-on feasibility study in Guayaquil, select three additional sites for pre-feasibility studies, create a user's manual for the Ecuador LandGEM model, and provide technical assistance to municipalities in order to promote project development. Mr. Urquiza suggested that landfill sites in Loja and Ambato are the next best candidate sites for detailed evaluation.

Mr. Urquiza also provided a brief update on other financial support from the Inter-American Development Bank (IDB) and World Bank. IDB has supported MIDUVI to convert open dumps in Ecuador. The World Bank has supported MIDUVI in an initiative called Paraguays. Mr. Urquiza suggested that a meeting between representatives from Paraguays and U.S. EPA would be beneficial as part of the upcoming trip to Ecuador.

India

Ms. Goldstein provided an update on recent solid waste and landfill gas activities in India, on behalf of the India delegate. Ms. Goldstein noted that the International Energy Agency is currently supporting a study of LFG in India. She also noted that the India Ministry for New and Renewable energy has agreed to provide a favorable tariff for electricity generated from landfill gas.

United States

Ms. Goldstein presented a summary of the draft U.S. landfill profile and strategy for landfill gas recovery and use. She presented updated statistics on U.S. landfills, recycling, and landfill gas recovery and use. As of 2008, there are 450 landfill gas energy projects in the U.S. Further, the Landfill Methane Outreach Program (LMOP) estimates that an additional 540 landfills in the U.S. are candidates for LFG recovery. Additionally, the total number of landfills in operation in the U.S. has decreased from 8,000 in 1988 to 1,754 in 2006. This decrease is coupled with an increase in the average landfill design capacity.

Ms. Goldstein also presented an update on key policy trends and other drivers (e.g., voluntary carbon markets, state and regional mandates for greenhouse gas reduction, and renewable energy credits) of landfill gas projects in the U.S. She noted that there are numerous stakeholders in the domestic solid waste and landfill gas industries including municipalities, large and small private waste management companies, state and local governments, project developers, and electric utilities and cooperatives. Since many of these stakeholders are Partners with LMOP, the strategy section was written from the LMOP perspective. Ms. Goldstein emphasized two specific items listed in the U.S. strategy: 1) managing landfill and landfill gas energy project data, and 2) conducting Project Expo events to showcase landfill gas project opportunities. Ms. Goldstein noted that the LMOP database is publicly available on the program Web-site, and provides a mechanism to generate interest in and evaluate the U.S. landfill gas sector. Ms. Goldstein added that LMOP gets hundreds of database requests per year, including requests from the press, general public, and project developers. The Project Expo events have also been a successful component for furthering domestic landfill gas energy project development. LMOP has transferred this “Expo” concept to several international events including the 2007 Methane to Markets Partnership Expo in Beijing and the 2007 Latin America Project Expo in Guayaquil, Ecuador. LMOP also featured many international sites at its 2008 LMOP conference and Project Expo in Washington DC.

Ms. Goldstein also summarized the strategy and activities the U.S. government is doing to support international work under Methane to Markets. Ms. Goldstein noted that these activities were summarized in a new section of the country specific strategy template. This new section will help other Methane to Markets countries identify the types of support available from the U.S. government and better match country-specific needs with offers of support. This section will also help track accomplishments under the Methane to Markets Partnership, which may be helpful for writing both the U.S. and Partnership-wide accomplishments reports. Looking forward, the U.S. plans to continue supporting technical reports and studies to assess the feasibility of landfill gas recovery at specific landfills. The U.S. will also emphasize training modules on landfill operation and maintenance practices to promote better landfill gas recovery efficiencies. Ms. Goldstein noted that the U.S. launched the ILD in 2007, and it will continue to host the web server, conduct maintenance, update data, and provide user support for this tool.

Landfill Subcommittee Action Plan

Mr. Blanco presented the current contents and organization of the landfill subcommittee action plan as well as recent comments received on the scope of the landfill subcommittee.

Prioritizing Action Items

During the last iteration of action plan review, Steve Hamilton of SCS Engineers suggested that the action items be prioritized according to our ability to implement the item given our schedules and resources, and its likely impact on removing or lowering the barrier to project development.

Recognizing that the subcommittee has limited time and resources, Mr. Blanco reviewed the five items in the action plan table (see Attachment 2 to the agenda) and asked attendees to comment on how they would prioritize the items listed in the table and the following suggestions were provided:

- Ms. Goldstein put priority on data collection because it is listed as an action item under two of the five barriers (barriers #1 and #4). She also noted that both the ASG and U.S. EPA get numerous requests for data on international landfills.
- From a PN perspective, both Mr. Michelsen and Mr. Guzzone noted that lack of country-specific information on items such as landfill technical data and policies and regulations affecting solid waste management, landfill gas, and renewable energy are the number one barrier to project development. He added that since the Partnership has spent resources to develop databases, Web-sites, list-servs, and tracking systems, it is well positioned to improve the amount of and delivery of information on these topics.
- With respect to the stated barrier on finance, Mr. Michelsen disagreed that there is a lack of financing for these projects. He noted that the barrier is delivering finance mechanisms to municipalities and helping municipalities to understand the components of these financial transactions. Mr. Blanco clarified that municipalities with smaller landfills are having problems with financing projects. He added that the finance barrier should be limited to small entities. Mr. Guzzone added that if the Partnership's role becomes more focused on the smaller projects, the Partnership should engage multi-lateral organizations to identify financing resources.
- Mr. Guzzone stated that he felt the Partnership had addressed access to existing LFG technical documents, tools, and resources, although the bibliography needs updating periodically. Mr. Michelsen noted that SCS could support a review and update of the searchable bibliography of on-line resources, if this barrier is still considered a priority.
- Mr. Urquizo asked what was being done about countries with inactive delegates or inactive participation. Ms. Birgfeld replied that the ASG spends significant resources to establish new contacts as governments switch over. She also recognized that travel is difficult and expensive for many countries. However, she added that a conference call is practical for only one-hour sessions, not longer periods of time. Perhaps the one-hour sessions may occur at the end of the meeting to summarize the main items discussed, or given the time zone considerations, perhaps a conference call could be scheduled within one week of the subcommittee meeting. Ms. Ferrer noted that in the case of Brazil, as well as many other countries, the delegates must balance Methane to Markets priorities and deliverables (e.g., country profile and strategy, data collection) with domestic priorities from their own government. Ms. Ferrer wanted to know if Methane to Markets can provide financial or technical assistance to help implement some of the Partnership-driven tasks? Ms. Birgfeld responded that the Partnership can help a Partner Country advertise for a job opening on the country page of the Methane to Markets Web-site. At this time, the Partnership does not have funding available to compensate temporary employees.

Based on the group discussion, Mr. Blanco noted that the following changes to the Landfill Subcommittee action plan:

- The plan will be revised to prioritize barriers #1 and #4 together as most important

- Next, barriers #2 and #5 will be reworded to emphasize a focus on small to medium municipalities and access to financing, not lack of financing.

Scope of Landfill Subcommittee

During the October 2007 Landfill Subcommittee meeting, attendees raised a few questions on the scope of the subcommittee activities. These questions were discussed again at this meeting to reach a consensus and identify any further action.

The first question was whether or not the subcommittee should include methane avoidance in its scope. This question came about because India, Canada, and other Partner Countries have instituted methane avoidance regulations, targets, and guidelines as part of their overall strategy for reducing methane emissions from landfills. Mr. Blanco asked meeting attendees to state their interest in expanding the scope of this subcommittee to cover methane avoidance. No delegates expressed an interest. Mr. Blanco stated that the subcommittee already seems busy with other topics and suggested that we rank the existing barriers in our action plan instead of widening our scope of work. He added that the delegates on our subcommittee have extensive expertise in landfills and landfill gas energy, but minimal expertise in composting and other methane avoidance strategies. Mr. Guzzone suggested that a white paper may be helpful to present the pros/cons of including methane avoidance in the scope of the subcommittee work.

Hearing no further interest in the topic of methane avoidance, Mr. Blanco suggested that the co-chairs and ASG send a list-serv with the pros/cons of including methane avoidance in the scope of the subcommittee work, gather comment from delegates on whether or not to pursue and if so, develop action items for this topic. If responses indicate that we should pursue methane avoidance, Mr. Blanco also suggested polling Partner Countries that are pursuing regulations or guidelines for diverting organic waste, such as India and Canada, so that they may be able to provide experts on methane avoidance to help develop action items on this topic.

The second question was whether or not the landfill subcommittee should support flare only projects, when the methane is not used for energy recovery. Green Gas International, a member of the PN, had provided comment in favor of supporting flare-only projects. Her comments emphasized that the subcommittee should encourage all project stakeholders (e.g., landfill owners, municipalities, ministries, and project developers) to review all options for energy recovery as part of the project development process; however, the feasibility of energy recovery is very site specific. She added that energy recovery brings additional risks and costs associated with gas quality, training, grid connection, and energy recovery equipment. Jim Michelsen, of SCS Engineers, and Brian Guzzone, of Ameresco supported a phased approach to energy recovery projects. In a phased approach, a flare-only project is installed at the landfill. After the flare portion is running successfully and developers can obtain better data on landfill gas quality and quantity, and begin a second phase to evaluate, construct, and install energy recovery at the site. This phased approach will reduce the risks and allow time for landfill operators to gain long-term experience with operating a landfill gas collection system. Mr. Blanco also agreed with the need to encourage energy recovery, but not mandate energy recovery in order to get support from the Partnership. Attendees at the meeting reached consensus on modifying the action plan to adopt a phased approach for encouraging energy recovery at landfills.

Award for Service

Before breaking for lunch, Mr. Blanco presented Dr. Atilio Savino, former co-chair of the Landfill Subcommittee with a plaque from the Methane to Markets Partnership. This award

recognized his years of service from 2004 until 2007 as co-chair of the Landfill Subcommittee. Dr. Savino now supports the Landfill Subcommittee as a leader of ISWA, a member of the PN.

Encouraging Participation of Project Network

The Steering Committee has charged the Landfill Subcommittee with identifying ways to encourage higher levels of participation from the PN. Ms. Birgfeld provided an overview of a white paper (see Attachment 3 to the agenda) that discusses incentives for the PN. Options to consider include:

- Issuing meeting invitations to PN members from the host meeting countries.
- Conducting the Subcommittee meeting in conjunction with technical workshops.
- Acknowledging PN member attendance at the meetings.
- Providing formal recognition of PN members through incentives such as awards or highlighting PN members on the M2M Web site.
- Providing informal recognition of PN members by enhancing the PN portion of the M2M Web site or developing case studies or showcase projects.

Ms. Birgfeld recognized that this meeting was located alongside an ISWA event, and that the landfill subcommittee has made this a priority when planning the recent meetings. Ms. Birgfeld also asked PN member if there was a way to dedicate a portion of the subcommittee meeting agenda to topics more interesting to the PN?

Ms. Ferrer agreed with co-locating a meeting with a related event, but she suggested that the meeting should be held either immediately before or after, instead of during the event. This would avoid requiring the delegates and PN members to miss important technical sessions and networking opportunities associated with the related event.

Mr. Guzzone emphasized the importance of partnering each meeting with other waste sector events. He also liked the idea of combining the administrative portions of the meetings with technical sessions, trainings, or speaking roles for the PN. He questioned whether or not the ASG and subcommittee chairmen had the time and resources to coordinate technical sessions and trainings for semi-annual meetings. He also agreed with targeting invitations to PN members located in the host country, and providing more recognition of PN members in the Methane to Markets newsletter.

Ms. Goldstein cautioned that presentations should be technical in nature and not an advertisement. She also suggested that the names and/or logo of PN members could be posted on the Web-site if they attended the landfill subcommittee meeting.

Mr. Blanco recognized that some PN members and Partner Country representatives face logistical and financial constraints for traveling to semi-annual meetings. He suggested that regional meetings that bring together stakeholders with a common interest and language may be more realistic. Mr. Urquizo suggested that we still need a periodic (annual) meeting to provide direction to each region and that the second meetings could be regional in nature. Ms. Birgfeld presented some concern on whether or not the ASG could cover the costs and logistics associated with more than two meetings per sector per year. Mr. Blanco suggested that the ASG may need to adopt a cost-sharing structure with the host country if the committee were to move to a regional structure. Given the absence of delegates and PN members from China, Korea, Japan and others in Asia, Ms. Goldstein offered to pilot a regional meeting at the next major conference in that Region, the ISWA East meets Waste. Ms. Birgfeld would like to recommend this to the Steering Committee before implementing a regional meeting structure.

Mr. Blanco asked if there are any draft criteria available to review for a PN award system. Ms. Goldstein replied that U.S. EPA provided award criteria to the landfill subcommittee after the 7th Landfill Subcommittee meeting. She will share this information with the chairmen. Mr. Blanco asked about what relationship an award such as “project of the year” should have with Methane to Markets Partnership. For example, would projects have to be selected from the Partnership grantees, would they have to a minimum amount of PN members constructing or developing the project? Additionally, should the awarded project be under construction, operational, or in development in order to be eligible. Ms. Goldstein noted that the LMOP award criteria require the project to be operational by the deadline for submitting the award application. In addition, LMOP Partners must be involved in the project. The levels of involvement vary from landfill owners, project financiers, equipment suppliers, and state organizations that may have provided grant funding. Mr. Urquizo stated that an operational project located in a Methane to Markets Partner Country could serve as the most basic criteria.

Mr. Guzzone asked if other sectors had commented on the process for selecting and distributing awards or providing informal recognition. Ms. Birgfeld stated that the ASG and other sectors thought it would be beneficial to distribute the awards during large events, such as the next Partnership Expo. She added that informal recognition would be more ad hoc, based on information received during subcommittee meetings.

Revising the Role of Partner Country Delegates

Focal Point

Mr. Blanco re-introduced the idea of having each Country Delegate serve as a focal point for local governments interested in landfill gas energy. As focal point, the delegate would communicate with in-country stakeholders in a native language, present information in regional meetings, help select sites for pre-feasibility studies, and disseminate information about grant requests. Mr. Blanco also suggested that the focal point could collaborate with Methane to Markets to decide on the grant awards made in their country.

Mr. Blanco suggested that the ASG write a terms of references to define the roles of a focal point. He also suggested that the focal point should not be a bottleneck in the project development process and asked for suggestions on how to avoid a bottleneck. Ms. Birgfeld suggested that a bottleneck could be avoided if you look at the focal point as a clearinghouse or facilitator of Methane to Markets information, instead of a requirement one must go through in order to do a project. Ms. Birgfeld suggested that between now and the next meeting Ecuador and Argentina could pilot the role of focal point, and present on lessons learned to the Subcommittee.

Working Groups

Mr. Blanco also presented the areas of interest for that Partner Country delegates and PN members may support. These topics were discussed in detail during the 2007 Beijing meeting. Although there are several groups listed, Mr. Blanco suggested that the subcommittee resources are limited to one or two areas at this time. The suggested areas included:

- Tracking policies on renewable energy, tax, regulatory frameworks, and CDM methodologies pertaining to landfill gas
- Creating instructions for conducting landfill gas business in each country.
- Training on landfill operations and maintenance
- Training on preparing Clean Development Mechanism (CDM) documentation
- Modeling Landfill Biogas

- Project Finance
- Promoting the use of site-specific values in the CDM approval process

After reading these topics, Mr. Blanco suggested that these topics be added to landfill subcommittee action plan. Mr. Blanco asked which of these working groups were of most interest to the group. Hearing no preference, Ms. Singleton suggested that the ASG can consolidate Section 10 of the country-specific strategies and develop a list of barriers, and offers of support in order to identify the working groups of most interest.

Project Network Update

Ameresco

Mr. Guzzone stated that this was Ameresco's first time attending a landfill subcommittee meeting and he wanted to introduce the company and its core work areas. He added that Ameresco is a very active renewable energy and energy efficiency project developer in the United States. Ameresco supports a wide variety of municipalities, state and federal governments, and private sector clients. As of October 2007, Ameresco had thirteen operational projects landfill gas energy projects, with another nine under construction. Ameresco is looking to expand their expertise in this field to the international marketplace.

SCS Engineers

Mr. Michelson presented on behalf of SCS Engineers. SCS continues to support U.S. EPA work in Argentina, Ukraine, Russia, and Colombia. He added that SCS is working with municipalities and the private sector to support several CDM projects in Mexico. Most of these projects are not for beneficial use; however, Mr. Michelson noted an exception in the Mexico energy tariff that allows energy sold to a local (municipally owned) grid to receive 20 cents/kWh price for the electricity. SCS is also looking at CHP project models in Mexico. He also noted that SCS is working for AES in El Salvador to increase the methane flow at Nejapa landfill. SCS is also supporting private developers in Korea, Brazil, and China on landfill gas recovery. Additionally, SCS is supporting a brownfield re-development project at Tsinghua University in Beijing.

UNICEN

Mr. Blanco and Ms. Santalla of UNICEN announced that they won a grant from the U.S. government to add energy recovery Olavarria landfill that was previously a flare-only project. The recovered energy will fuel an incinerator for burning hospital waste. Mr. Blanco added that the landfill has gained valuable long-term experience in operating the gas collection system over the past two years. This energy project will also address a local air quality concern by moving the incinerator from the current site, which is located in a neighborhood, to the landfill. The owner of the gas, CERs, and project is the municipality. The role of UNICEN is to develop the project. Previously UNICEN had been involved in estimated the CER cycle and designing the initial phase. The goal of this grant is to replicate the use of LFG in other incinerators in the region.

International Landfill Database (ILD)

Ms. Goldstein presented an update on the ILD. Recently, U.S. EPA developed a User's Guide to provide more detailed instruction on how to enter, search, and edit data in the ILD. Ms. Goldstein also discussed several content-related issues for consideration by the subcommittee. These included:

- Should landfills with energy recovery projects be included in the ILD, the Methane to Markets Projects Tracking Database, or both?
- Should there be criteria for linking to an outside data source instead of entering the data in the ILD?
- Should there be criteria for what types of landfills should be entered in the ILD?

Mr. Michelsen suggested that useful data sources or links may include the UNFCCC project Web-site and CDM promotion offices for each Partner Country. He added that having a field to track both energy recovery and flare-only projects would allow the data to be consolidated.

Mr. Guzzone suggested that no criteria be developed to limit data entry in the ILD. At present, it is more important to get everything entered. Although project developers may be interested in larger sites only, universities and others may be interested in smaller sites for alternate reasons. Ms. Goldstein added that since the types of users vary in scope, so too may the types of requests from the ILD. Developers may use the tool to identify project opportunities, but municipalities or researchers may use the tool to locate similar project types in other countries or identify project trends. She suggested that projects under construction or in operation be entered in the ILD.

Ms. Goldstein also discussed a strategy for populating the ILD. Currently the database has detailed data on several landfills in China and Ukraine. U.S. EPA is also working to enter data from all the pre-feasibility studies it has supported to date. She asked if any of the Partner Country delegates had nominated someone to enter data on the landfills in their country. Hearing none, she suggested that one role of the focal point could be to assign a person to enter data in the ILD. Mr. Blanco responded that a focal point could serve as the data collection facilitator since many of the municipalities do not have routine internet access. He asked that paper versions of the data collection forms be made available on the ILD Web-site and distributed on the Partnership list-serv. He also suggested that the Landfill Subcommittee use every meeting or conference as an opportunity to collect data. For example, a short agenda item or a break during the agenda could be devoted to completing and submitting the landfill profile. He added that having the profile forms available in native languages would encourage more municipalities to provide data.

Ms. Goldstein also asked if the subcommittee could offer any incentives for completing the data collection forms or entering data in the ILD. Incentives may include limiting the sites eligible for a pumping trial or pre-feasibility study to some subset of landfills that provided the Landfill Subcommittee with completed data forms. Mr. Blanco suggested that a stated incentive is not necessary. Landfill owners are already filling out the form to increase their chances of receiving support.

Updates on Recent, Ongoing, and Upcoming Activities

Ms. Goldstein noted that during the 7th Landfill Subcommittee meeting delegates expressed an interest in a tool for tracking country-specific renewable energy policies for landfill gas. The International Energy Agency (IEA) has a renewable energy unit that conducts an in depth review of global renewable energy policies. This review is located on the [IEA Web-site](#). U.S. EPA provided some funding to IEA to highlight landfill gas eligibility and policies as part of their review. IEA has indicated that a first draft of the renewable energy policies tracking database is due September 2008. Ms. Goldstein expects that she will present and discuss this tool during the next subcommittee meeting.

Ms. Goldstein provided some highlights of the 2007 U.S. EPA grant solicitation for Methane to Markets. To date, three feasibility studies have been completed in Korea, and a landfill inventory was developed for Nigeria. CIFAL was also awarded a grant to conduct four workshops on Best Practices for Landfill Gas Recovery and Use. A workshop occurred in Colombia in March 2008, and another will occur in Ecuador in July 2008. She also added that the recipients of the 2008 U.S. EPA grant solicitation for Methane to Markets will be announced soon. She was proud to report that nine of the grant awards were made in the landfill sector.

Action Items

In closing, Mr. Blanco noted that the landfill subcommittee will need to report to the steering committee during the January 2009 meeting. This report should include an updated landfill subcommittee action plan and a list of subcommittee accomplishments since the October 2007 steering committee meeting. Among these accomplishments, Mr. Blanco would like to see the following items achieved:

- Draft criteria for project and PN member awards in the landfill sector
- Landfill data entered in the ILD or linked to the ILD for a majority of Partner Countries
- Country-specific strategy documents submitted by the October 31 deadline
- A list of accomplishments made by the landfill sector since the October 2007 Steering Committee meeting

Mr. Blanco also recognized that there were only 4 out of 25 countries physically present at the meeting. Given this small group, Mr. Blanco proposed to circulate a document containing specific comments/questions on the consensus reached during this meeting on the country-specific strategy and suggested revisions to the action plan and scope of the subcommittee. The ASG will e-mail PN members and Partner Country delegates the following items:

- Revised country-specific strategy template with new section for international landfill gas strategy and activities.
- Suggested revisions to the subcommittee action plan (see Attachment 2 to the agenda) as follows:
 - Prioritize barrier items #1 and #4
 - Emphasize support to small and mid-sized projects for barriers #2 and #5
 - Re-word barrier #5 to state access to finance instead of lack of finance
 - Remove barrier #3, as it was considered complete
 - Incorporate topics listed in Attachment 4 into the table of barriers and action items.
 - Reword language to state the subcommittee supports a phased approach to energy projects. The first phase is landfill gas capture and flare, which is followed by a LFG energy project phase.
- List of pros and cons for including methane avoidance in the scope of the Landfill Subcommittee action plan. If a Partner Country be interested in adding methane avoidance to the scope, the list will request volunteers to develop action items on the topic and provide expertise.

Ms. Singleton summarized additional action items that were discussed during the meeting.

Administrative Items

- ASG will consider the costs and feasibility of providing a call-in option for one-hour portions of the subcommittee meetings.

- ASG will consider the costs and feasibility of supporting a set of regional meetings within each sector to reduce travel time and costs. If feasible, the ASG will propose a regional meeting structure to the Steering Committee.
- ASG will announce on its Web-site and in a list serv the scheduled day for the Methane to Markets side event will be at the 14th Council of Parties December meeting in Poland.

Country-Specific Strategies

- ASG will incorporate any final comments received on the strategy template by August 15, 2008.
- Partner Country delegates will submit their strategies to the ASG by October 31, 2008.
- If a Partner country would like to request support on their strategy, these requests will need to be made to the ASG as early as possible. Types of support the ASG and U.S. EPA can provide include:
 - Transposing and consolidating existing strategy documents into a document that better fits the template
 - Researching certain sections or specific questions to complete the template
- ASG will consolidate all the barriers and offers of support identified in the country-specific strategies to update the subcommittee action plan and report to the Steering Committee.

Increasing PN Involvement

- Co-chairs will create criteria and a selection process for PN awards and project of the year awards. These criteria will be presented during the next meeting and discussed before deciding on whether or not the landfill subcommittee supports an award system.
- The ASG and subcommittee meeting hosts will target invitations to PN members from the host country of each meeting.
- ASG and co-chairs will continue co-locating landfill subcommittee meetings with related waste sector events
- ASG will work with the co-chairs to develop subcommittee agendas that include technical talks, and speaking roles for PN members.
- ASG will report to the steering committee that the landfill sector supports informal recognition of PN members, although no consensus was reached on specific methods of informal recognition.

International Landfill Database

- U.S. EPA will modify the ILD to track energy and flare-only projects that are under construction or in operation.
- U.S. EPA will collect and post printable data collection forms on the ILD Web-site. These forms can be used at conferences and meetings to collect data for the ILD.

- U.S. EPA will link the U.S. landfill database to the ILD and enter data from any U.S. sponsored pre-feasibility studies and assessment reports.
- U.S. EPA will post the draft User's Guide for Partner Countries and PN members to review.
- Partner Country Delegates will provide Web-sites to link to existing data sources and provide a data entry contact to collect and enter data on landfills in their country.

Role of Partner Country Delegates

- Co-chairs and ASG will draft a terms of reference for having a Partner Country Delegate serve as the focal point for landfill gas in their country.
- Argentina and Ecuador identify their country's focal points and will clarify the key roles that they would like them to play to the ASG and the subcommittee. These countries will report on lessons learned during the next meeting.

Mr. Blanco adjourned the meeting at 4:50.



Landfill Subcommittee Meeting

Buenos Aires, Argentina
18 June 2008

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