

14th Session of the Landfill Subcommittee
The Park Inn Hotel
Krakow, Poland
14 October 2011

Minutes

Landfill Site Tour and Technical Session: 12-14 October 2011

On 12 October, attendees participated in a site visit to the "Barycz" Landfill outside of Krakow. More than 35 attendees visited to see a state-of-the-art integrated solid waste management facility. The landfill gas (LFG) energy project generates 1.3 megawatts (MW) using four internal combustion engines and sells the power to the local utility.

Presentations from the Landfill Sector technical sessions can be found on the [GMI event website](#).

Landfill Subcommittee Meeting: 14 October 2011

Summary

The Global Methane Initiative (GMI) Landfill Subcommittee conducted its 14th session in Krakow, Poland on 14 October 2011 in conjunction with the GMI Partnership-wide meeting. The Landfill Subcommittee meeting discussed activities for the remainder of 2011, such as finalizing and distributing an international LFG best practices guide as well as planning major activities for 2012

The [subcommittee meeting agenda](#) is posted online on the GMI website.

The Landfill Subcommittee was attended by 13 delegates from Argentina, Brazil, Bulgaria, Colombia, Ethiopia, Finland, Germany, India, Indonesia, Mexico, Poland, Serbia, and the United States, as well as 27 members of the Project Network and other conference attendees. A list of delegate attendees is included as [Annex 1](#) to these minutes.

Presiding over the meeting was:

Co-chair Gabriel Blanco, Universidad Nacional del Centro de la Provincia de Buenos Aires, Argentina
Acting Co-chair Sandra Lopez, Ministry of Environment, Housing and Territorial Planning, Colombia
Acting Co-chair Rachel Goldstein, team leader of U.S. EPA's Landfill Methane Outreach Program (LMOP), United States.

Co-chairs Gabriel Blanco, Rachel Goldstein and Sandra Lopez began by thanking everyone for participating in this new meeting format held in conjunction with the landfill technical sessions. They welcomed first-time and repeat delegates as well as many members of the Project Network and conference attendees. Mr. Blanco noted that the new one hour format encourages more active

participation and interaction between the Delegates and attendees. Mr. Blanco provided an overview of the agenda and called for adoption of the minutes of the 13th Meeting of the Landfill Subcommittee.

Update from the Administrative Support Group

Mr. Henry Ferland, with U.S. EPA, introduced himself as the ASG Co-Director and provided an [update on the ASG's activities](#) since the 13th Landfill Subcommittee meeting held via webinar and teleconference.

- There are 41 Partner Countries to date and membership continues to expand.
 - Norway was approved to join GMI as a new Partner during this meeting in Krakow.
 - Norway will not participate in the Landfill Subcommittee at this time.
- The ASG has several ongoing activities.
 - The ASG continued to provide outreach via the website and newsletter. Mr. Ferland specifically encouraged the landfill sector to provide updates to the website and article ideas for the *Methane International* publication.
 - The ASG is working to update the sector-specific GMI fact sheets, which will include case studies and project highlights.
 - The ASG is working on improving the GMI project tracking and reporting system.
- GMI will hold a GMI Partnership Expo in Vancouver, Canada in early 2013.
 - The event will have the same basic framework as the previous Expos (e.g., concurrent sector-specific sessions, site visits, exhibition hall, project opportunities and successes).
- There will be a new Subcommittee focusing on municipal wastewater.
 - In the interim, the U.S. will chair the Subcommittee while additional leadership and members are identified.
 - The ASG encourages those interested in serving as co-chairs or members to contact them at asg@globalmethane.org.
 - The Municipal Wastewater Subcommittee's first task will be to develop a sector-specific action plan.
- The ASG distributed [guidance](#) to help Partners develop country-specific action plans.
 - The ASG is requesting that Partner Countries designate an official representative to serve as the point-of-contact for the country-specific action plan. Subcommittee members should work with the point-of-contact to ensure that landfill sector information is included.
 - The ASG is tasking countries to complete their action plans by the GMI Partnership Expo in Canada in early 2013.
- GMI is looking toward the future.
 - There were discussions on the organizational structure of GMI, including the ASG and Steering Committee Chair.
 - There were discussions on ideas for financial mechanisms to better support methane project development.
 - GMI is following international developments on short lived climate forcers (SLCFs) and will keep Partners informed.

Partner Country and Project Network Updates

Country Updates

Argentina. Mr. Blanco announced that the federal government recently opened a bidding system to purchase up to 100 MW from biogas electricity, including LFG. Under this system, project owners will bid a price for the electricity. He also reported a new energy tariff is available to encourage development of renewable energy projects including LFG.

Brazil. José Penido of COMLURB (Urban Cleaning Service of the City of Rio de Janeiro) gave a [presentation](#) on the status of Brazil's GMI activities and their focus on reducing greenhouse gas (GHG) emissions from the waste sector. Mr. Penido reported on national statistics (e.g., population, numbers of municipalities, waste generated and disposed) and the number of operational, under construction and planned LFG flaring and utilization projects in Brazil.

The importance of the Clean Development Mechanism (CDM) in the development of LFG projects was also discussed. A solid waste management law was adopted in 2010 requiring all municipalities to close open dump sites (approximately 5,000 sites) and construct and maintain sanitary landfills (i.e., regional sites). However, since there are 4,000 municipalities with 20,000 inhabitants or less, there may be some difficulty in carrying out the law due to the upfront investment in closing existing dump sites and opening new sanitary landfills in a short timeframe. He added that if operating and maintenance costs are not covered, the designed sanitary landfills quickly turn into open dumps, which can reduce the ability to collect the LFG.

Mr. Penido also reported a new carbon credit insurance program in Brazil in partnership with Munich Re, a reinsurer company. The policy covers the loss of revenue if the project does not generate the forecasted number of emission credits which should increase investor confidence in projects. Finally, he stated the governments of Japan and Brazil entered into a bilateral agreement to invest in clean energy projects in exchange for credits to meet part of Japan's greenhouse gas emissions targets.

Bulgaria. Mr. Grigor Stoyanov of the Bulgaria Ministry of Environment and Water reported on their recent landfill data survey to all municipalities. He added that Bulgaria currently has one operational LFG energy project and the potential for additional projects. He also noted that the country is currently heavily invested in closing older dump sites and in favor of developing regional sanitary landfills with LFG recovery to satisfy European Union directives.

Colombia. Ms. Lopez updated the subcommittee on the status of project development for landfills and other recent Partnership activities in Colombia's landfill sector. The Ministry has been working with U.S. EPA and it recently completed the [Colombia Landfill Gas Model](#) and several trainings were conducted for interested stakeholders. In addition to these recent activities, Ms. Lopez also summarized the CDM projects currently under development.

Ethiopia. Mr. Daniel Fikreysus of Community Development and Research reported that a questionnaire was recently sent to municipalities throughout Ethiopia to collect waste data. The purpose of the data collection effort is to establish basic waste characteristic to help identify capacity building and project development opportunities. The data will be entered into the GMI International Landfill Database and made available to the public. The survey results will be shared at a joint landfill and agriculture methane workshop in November.

Finland. Mr. Jukka Salmela, Helsinki Region Environmental Services Authority, provided an update on the waste generated in Finland and the country's transition from landfills to other waste management options. He reported on a recent levy increase for waste disposal to discourage landfilling. He added that a ban on the landfilling of waste is also being discussed as the country increases its focus on waste-to-energy and composting, in part due to a feed-in-tariff that supports anaerobic digesters.

Germany. Ms. Marlene Sieck of the German Federal Environment Agency reported the German government is complying with European Union laws governing waste management and is closely focused on increasing the percentage of recycled and reused wastes. One issue the government is currently considering is designating the ownership of the waste stream. For example, in establishing a waste recovery center does the municipality or private sector own the collected waste? The answer to this will

determine which party pays for management of the waste and any potential revenues that result from the sale or reuse of the materials.

India. Mr. Pratapsingh Asnani of Urban Management Consultants reported on recent India LFG project activity. India enacted legislation in 2000 that requires organic waste to be diverted from landfills, but few municipalities have made significant progress in implementing the new rules. The government is providing funding to support the development of proper solid waste management facilities but with 7,925 municipalities with some form of disposal site there's concern that closure of all of the sites will be a challenge. He reported that as of October 2011, 44 sanitary landfills have been constructed and 343 are under construction. In addition, 341 compost and 33 waste-to-energy (WTE) facilities are operational and another 23 WTE facilities under construction. The government is encouraging integrated solid waste management practices with a goal of reducing waste going to landfills by 25 percent. In response to a question, Mr. Asnani reported growing interest in examining existing candidate dump sites for direct use opportunities, in part with GMI assistance.

Indonesia. Mr. Mohammad Helmy of the Indonesia Solid Waste Association gave a [presentation](#) on the status of Indonesia's GMI activities and their focus on reducing greenhouse gas (GHG) emissions from the waste sector. Approximately 46 percent of the waste generated in the country is deposited in some form of disposal site; over 25 percent is combusted (informally) and 11 percent is recycled or composted. In 2008, the government enacted a national law requiring emphasis on reduce, reuse and recycle and extended producer responsibility to reduce the amount of waste disposed and improve human health and the environment. He reported only six cities have installed or plan to install LFG projects but large opportunities and challenges exist given that 28 cities with a population over 1 million currently maintain open dumps or uncontrolled disposal sites.

Mexico. Mr. César Chavez of SEMERNAT gave a [presentation](#) on the status of Mexico's GMI activities and their focus on reducing greenhouse gas (GHG) emissions from the waste sector. Mr. Chavez reported on the numbers of operational, under construction and planned LFG flaring and utilization projects, including CDM as well as other activities (e.g., feasibility studies, current and upcoming tenders).

Poland. Mr. Piotr Klimek of the Polish Oil and Gas Institute (INIG) shared a [presentation](#) and provided an update on LFG energy activities in his country. As a member of the EU, Poland is required to comply with an EU directive applicable to certain landfills to collect LFG and use it to produce energy. Of Poland's 340 landfills, 81 capture LFG for energy, generating over 48 MW. Large growth in LFG energy projects since 2004 (17 MW installed) was likely a result of several incentives (e.g., subsidies for installing gas capture systems and adoption of a green tariff to encourage renewable energy). Current activities include improving data and awareness of the country's LFG energy potential. INIG also completed a project development handbook, [Landfill Gas Energy Technologies](#) to help stakeholders evaluate LFG energy projects and choose appropriate energy recovery technologies. INIG also created an [LFG energy portal](#) which documents regional work in Poland related to LFG capture and use.

Serbia. Ms. Olja Stanic of the Serbia Ministry of Environment, Mining and Spatial Planning reported on Serbia's solid waste sector and GMI activities. In April 2010, a new National Solid Waste Management law was enacted and 26 regional sanitary landfills will be established, including 12 by the end of 2013. These facilities include materials recovery facilities, composting plants and transfer stations. The new law also requires capture and combustion of LFG but does not require energy recovery. In September, GMI along with Serbia's Ministry of Environment, Mining and Spatial Planning and the Faculty of Technical Sciences at the University of Novi Sad co-hosted the [Serbia Landfill Biogas Workshop](#). Presentations covered GMI activities, Serbia's Methane Action Plan, current research on landfills being conducted at the University of Novi Sad, and technical and financial considerations for LFG energy project development.

United States. Ms. Goldstein, U.S. EPA, provided an update on the regulatory scheme affected landfills. She noted that the reporting requirements and air regulations for landfills are changing and she anticipates that additional requirements for flaring and capture of LFG will go into effect in the future. She also added that landfills have begun reporting their emissions and U.S. EPA will analyze the data and [report on the landfill sector greenhouse gas emissions](#) in January 2012. She also reported that there are now 560 operational LFG energy projects in the United States.

Best Practices Guide

Ms. Goldstein provided an overview and status update of the International Best Practices Guide. The Guide is in first draft and contains six chapters and 15 case studies. Ms. Goldstein is seeking peer reviewers from both the Delegates and Project Network to provide review and comment of the guide before its publication, which is scheduled for late 2012. If interested in peer reviewing the Guide, please contact Mr. Chris Godlove with U.S.EPA (godlove.chris@epa.gov) before March 2012.

United Nations Framework Convention on Climate Change (UNFCCC) Methodology Update

Ms. Clare Lonergan of the UNFCCC provided an update about a newly revised draft LFG methodology ([ACM001](#)) available for public comment. The public comment deadline is ten days from the end of the Krakow conference and version 12 of this methodology is now valid from 25 November 2011.

Renaming of the Landfill Subcommittee

Mr. Blanco and Ms. Goldstein sought input from the Delegates and attendees on a potential change in the name of the Landfill Subcommittee to reflect the newly expanded GMI scope. In the new GMI Terms of Reference, the Initiative adopted abatement in addition to mitigation of greenhouse gas emissions across the sectors. To date, the Landfill Subcommittee's focus was on efforts to mitigate landfill methane emissions by the capture and combustion of LFG. The newly expanded scope reflects new opportunities to abate methane emissions from the solid waste sector prior to or in conjunction with landfilling (e.g., compost, anaerobic digester, gasification). The co-chairs opened the discussion to the participants and several names were discussed but no decision was final. Revised subcommittee names include incorporation of the word waste, municipal solid waste sector, and waste management sector. The co-chairs will seek additional input from the broader landfill sector and will report the list of names for consideration during the next subcommittee meeting.

Discussion of Possible Future Subcommittee Work

Mr. Blanco invited participants to submit ideas for long-term subcommittee goals and activities that will be presented at the next Steering Committee meeting. He noted the subcommittee should decide what work to focus on over the next five years. In the near-term, the subcommittee will seek volunteers to participate in planning the 2013 Partnership Expo such as developing the technical and policy agenda and submitting project ideas.

Mr. Blanco stated if any meeting participants have suggestions or proposed speaker topics to email the ASG at asg@globalmethane.org.

Review of the Subcommittee Leadership

Mr. Blanco noted there is currently one co-chair (held by Argentina) and two acting co-chairs (held by Colombia and United States). Each subcommittee may have up to three co-chairs, and Mr. Blanco nominated Columbia and the United States as permanent co-chairs. In addition, he announced he will be stepping down from his role as co-chair and will notify the ASG whether Argentina intends to maintain a

co-chair on the subcommittee. The co-chairs' tasks include helping the Partnership address issues, helping to develop meeting agendas as well as technical and policy sessions, putting forward new ideas and suggestions, and chairing the meetings. Mr. Blanco asked the Delegates to approve the adoption of Colombia and the United States as co-chairs and the Delegates agreed to the recommendation.

Summary of Action Items Discussed at the Meeting

The action items include the following:

Country delegates will:

- United States will solicit peer reviewers for the International Best Practice Guide. If you would like to volunteer as a reviewer, please contact Mr. Chris Godlove with U.S.EPA (godlove.chris@epa.gov) before March 2012.
- Submit ideas for changing the name of the Landfill Subcommittee to the ASG (asg@globalmethane.org).
- Submit ideas for the future direction of the subcommittee to the ASG (asg@globalmethane.org).
- Volunteer to participate in the 2013 Partnership Expo Task Force.
- Argentina will decide if they would like to maintain the Landfill Subcommittee co-chair position or allow another country to be nominated. A decision should be submitted in writing to Mr. Henry Ferland with the ASG (asg@globalmethane.org).
- Submit items and updates to the ASG (asg@globalmethane.org) for inclusion in the GMI website or *Methane International* newsletter.
- Consider volunteering to translate landfill sector fact sheets.
- Develop or update country action plans.
- Provide technical discussion topics and/or site visit suggestions for the next Landfill Subcommittee meeting or the 2013 Expo in Vancouver, Canada.
- Provide any suggestions for future work to the co-chairs or ASG (asg@globalmethane.org).

Mr. Blanco and Ms. Goldstein and Ms. Lopez thanked the meeting participants for their input and participation. Ms. Goldstein thanked Mr. Blanco for his extensive service and commitment to the Landfill Subcommittee and GMI. The Delegates and attendees acknowledged Mr. Blanco and thanked him for his service.

10:30 Meeting adjourned

After the conclusion of the landfill subcommittee meeting, a closing plenary session was held on 14 October included reports from each of the four Subcommittees on their activities, a report from the Steering Committee, and a closing address. These materials can also be found on the [GMI event website](#) and are included here to document next steps for the landfill subcommittee.

The Steering Committee charged the Subcommittees with the following actions:

- Work directly with the Administrative Support Group (ASG) to provide information for the GMI website, especially updates related to sector-specific resources and project success stories and any outreach activities, such as press releases.
- Utilize the *Methane International* newsletter to highlight projects, conferences, or other success stories.
- Distribute GMI outreach materials and/or make presentations at energy, environment, or industry-related conferences.
- Continue efforts to better engage Project Network members in meetings and activities (e.g., hold meetings in conjunction with industry-related events).

- Begin planning for the GMI Partnership Expo, to be held in early 2013 in Vancouver, Canada.
- Identify and create project opportunities and success stories for the Expo showcase, and identify topics/speakers and develop agendas for technical and policy workshops in each sector.
- Continue to identify how subcommittees can support and assist Partners in both the development and implementation of the GMI Partner Action Plans.
- Hold at least one in-person meeting prior to the Expo, to be supplemented with webinars as necessary.

GLOBAL METHANE INITIATIVE
LANDFILL SUBCOMMITTEE MEETING
14 OCTOBER 2011
KRAKOW, POLAND

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