

# **Global Methane Initiative**

## **Municipal Solid Waste Subcommittee Meeting**

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3 December 2013



# Introductions

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- Municipal Solid Waste Subcommittee Co-chairs
  - Tom Frankiewicz, United States
  - Diana Milena Rodriguez Velosa, Colombia
- Administrative Support Group
  - Henry Ferland
  - John Carter
  - Sarah Greenberg
- Meeting participants introduce themselves when prompted
  - Please include name, organization, and country, if appropriate.

# Agenda

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- **Welcome**
  - Introductions
- **ASG Update**
  - Outcomes of Methane Expo 2013
  - Action Planning
  - 10<sup>th</sup> year Anniversary Activities
- **Anaerobic Digestion Modeling Research Update**
- **NAMA Development**
- **Next MSW Meeting**
  - Meeting Plans
  - Draft Agenda
  - MSW Topics

# ASG Update:

## Outcomes from Vancouver

- Outcomes from Successful Methane Expo 2013
  - Continue engaging with Climate and Clean Air Coalition
  - Financing: Continue to identify barriers and international municipal solid waste needs
  - Organize next opportunity to convene global methane community
  - Action Planning



Photo by Bayne Stanley/  
Courtesy of Environment Canada

# ASG Update: Action Planning

- Develop Country Action Plans
  - Country's current and future work in methane reduction
  - Could be part of country's climate strategy such as NAMAs
- Revised Action Planning guidance as of July 2013:
  - <https://www.globalmethane.org/landfills/index.aspx>
  - U.S. and European Commission completed

# ASG Update: 10<sup>th</sup> Anniversary

- 10 years of global methane reductions and methane education
- To highlight GMI's accomplishments:
  - 1) Develop video and pamphlet
    - Mass email to GMI membership on 21 November with overview of video and request for participation
  - 2) All Partnership-wide Meeting 2014
    - Location: will be announced soon
    - Date: most likely October or November 2014
    - Will include MSW technical and policy tracks and Subcommittee meeting

# Next MSW Subcommittee Meeting

- Tri-Subcommittee Meeting
  - Agriculture, Municipal Solid Waste, and Municipal Wastewater
- Current Planning:
  - Timeframe: 12-13 March 2014 (second week)
  - Location: Florianópolis, Brazil
- Any suggested agenda topics?

# Vancouver Follow-up: Anaerobic Digestion Modeling

- Question from Jose Henrique Penido Monteiro (Brazil) regarding default biogas production rate from MSW AD (100 m<sup>3</sup> biogas/tonne MSW)
- GMI requested AD modeling information from Subcommittee members in May 2013
- Received responses from Piotr Klimek (Poland) and Janya Sang-Arun (Japan)
- GMI also performed a limited internet literature search to help answer the question

# Vancouver Follow-up: Anaerobic Digestion Modeling

- Institute for Global Environmental Strategies (IGES) Model
  - 592 m<sup>3</sup> biogas per tonne organic material (dry) at 60% methane
- Regional Information Service Centre for South East Asia on Appropriate Technology (RISE-AT)
  - 100 to 200 m<sup>3</sup> biogas per tonne MSW organics at 50-70% methane
- California Integrated Waste Management Board
  - 100 to 150 m<sup>3</sup> biogas per tonne MSW (wet) at 50-70% methane
- Published biogas yields from 14 full-scale reactors
  - 40 to 180 m<sup>3</sup> biogas per tonne MSW organics (average = 112 m<sup>3</sup>/tonne)
- Several variables may affect this rate:
  - Wet or Dry MSW feedstock?
  - Batch or Continuous reactor?
  - Single step or Multi-step?
  - Co-digestion with animal manure?

# Vancouver Follow-up: Anaerobic Digestion Modeling

## Questions for Subcommittee:

- Should GMI continue research into MSW-specific AD modeling resources?
- What would be useful to the Subcommittee?

# NAMAs in Waste Sector: Summary and Status

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- At least 18 countries have waste sector NAMAs under development
- 3 primary types of NAMAs: strategy, policy and project (or “hybrids”)
- Funding/organizational support include: unilateral, supported, credited
- No formal/sector guidance for NAMAs
- Existing NAMA tools and resources are not specific to waste sector

# Summary of Existing Waste Sector NAMAS

| Country                   | Description  |
|---------------------------|--|
| <b>Bangladesh</b>         | Integrated Solid Waste Management in Dhaka; community-based composting   |
| <b>Chile</b>              | Industrial and Municipal Solid Waste   |
| <b>Colombia</b>           | Waste Management (Cities of Cali and Argos)  |
| <b>Costa Rica</b>         | Solid Waste Management   |
| <b>Dominica</b>           | Support the implementation of the Low Carbon Climate Resilient Development Strategy  |
| <b>Dominican Republic</b> | Waste NAMA in the tourism sector   |
| <b>Ethiopia</b>           | Urban Solid Waste Management   |
| <b>Indonesia</b>          | Municipal Waste Management   |
| <b>Jordan</b>             | City wide mitigation programme of Greater Amman Municipality   |
| <b>Kenya</b>              | Landfill Gas Methane Capture   |
| <b>Pakistan</b>           | Integrated Municipal Solid Waste collection and Waste to Energy NAMA for Pakistan's cities   |
| <b>Peru</b>               | Developing a Solid Waste Inventory and Identifying NAMA Options  |
| <b>Philippines</b>        | Catalyze private investment in methane capture and utilization technology in the waste sector through increased regulation, incentives, capacity building and innovative financing |
| <b>Mexico</b>             | Biowaste Management  |
| <b>Thailand</b>           | Waste and Wastewater Management  |
| <b>Tunisia</b>            | Biowaste treatment from agriculture, food production, restaurants and hotels, sewage and wood waste.   |
| <b>Uruguay</b>            | Development of a programme to promote alternative use of waste, specifically for energy production   |
| <b>Vietnam</b>            | Capacity-building for development of waste NAMAs   |

# Next MSW Subcommittee Meeting

- Tri-Subcommittee Meeting
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- Current Planning:
  - Timeframe: 12-13 March 2014 (second week)
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- Any suggested agenda topics?

# Global Methane Initiative

## Brazil Agriculture, Municipal Solid Waste and Wastewater Meeting

### Potential Agenda – Draft 11/13/13

| Day 1         |  |
|---------------|--|
| 8:30 – 9:00   | Registration   |
| 9:00 – 10:00  | Plenary and Cross-Sector Session <ul style="list-style-type: none"> <li>• Welcome from Hosts</li> <li>• ASG Update</li> <li>• Nationally Appropriate Mitigation Actions (NAMAs) Discussion</li> </ul>  |
| 10:00 – 10:15 | Break  |
| 10:15 – 12:00 | Municipal Solid Waste Subcommittee & Technical Sessions <ul style="list-style-type: none"> <li>• Methane Abatement</li> <li>• Greenhouse Gas Reduction from Waste Sector</li> </ul>  |
| 12:00 – 13:00 | Lunch  |
| 13:00 – 15:15 | Municipal Solid Waste Subcommittee & Technical Sessions, continued <ul style="list-style-type: none"> <li>• Case Studies and Project Development – Lessons Learned</li> <li>• Subcommittee Business Meeting</li> </ul>   |
| 15:15 – 15:30 | Break  |
| 15:30 – 17:30 | Municipal Wastewater Subcommittee & Technical Sessions <ul style="list-style-type: none"> <li>• Biogas Modeling and Measurement</li> <li>• Biogas Energy Recovery</li> </ul>   |
| Day 2         |  |
| 08:30 – 09:00 | Registration   |
| 09:00 – 10:00 | Agriculture Subcommittee & Technical Sessions <ul style="list-style-type: none"> <li>• Policies and Incentives Promoting Anaerobic Digestion</li> <li>• USA, EU (Germany, Denmark, Sweden, ??, México, Thailand, Malaysia, India??)</li> </ul>   |
| 10:00 – 10:15 | Break  |
| 10:15 – 12:15 | Agriculture Subcommittee & Technical Sessions, continued <ul style="list-style-type: none"> <li>• Case Studies and Lessons Learned from husbandry intensive farming - Anaerobic Digestion Projects – (USA, EU, BRA, México, Thailand, Malaysia???)</li> </ul>  |
| 12:15 – 13:15 | Lunch  |
| 13:15 – 15:45 | Agriculture Subcommittee & Technical Sessions, continued <ul style="list-style-type: none"> <li>• Case Studies and Lessons Learned from Agroindustrial facilities (slaughterhouses, paper mill companies, sugar cane Brazil, others??) Anaerobic Digestion Projects (USA, EU, BRA, México, Thailand, Malaysia???)</li> </ul> |
| 15:45 – 16:00 | Break  |
| 16:00 – 17:45 | Cross-Sector Session <ul style="list-style-type: none"> <li>• Project Financing Options</li> <li>• Update on Climate and Clean Air Coalition (CCAC)</li> <li>• Planning for Partnership-Wide Meeting</li> </ul>  |

# Thank you

Thank you for your participation today.  
Hope to see you at the next meeting!