



# Methane to Markets

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## Partnership Overview

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# Overview

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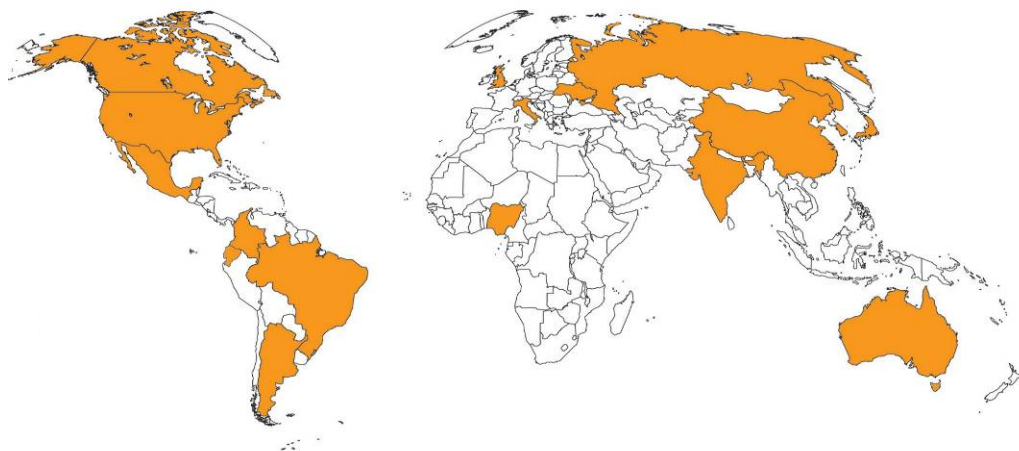
- M2M Snapshot
- Why focus on methane?
- M2M Structure and Activities
- Agriculture Sector
- Objectives of this Expo and Subcommittee meeting

# Methane to Markets Partnership Overview

- Advances recovery and use of methane as a valuable clean energy source and encourages development of **cost-effective** methane recovery and use projects

- 20 Partner Countries

Argentina	Japan
Australia	Korea
Brazil	Mexico
Canada	Nigeria
Colombia	Poland
China	Russia
Ecuador	Ukraine
Germany	United Kingdom
India	United States
Italy	Vietnam



- Private companies, multilateral development banks and other relevant organizations participate by joining the **Project Network**
  - *over 500 organizations now participating*

# Cost-Effective Projects Recover and Use Methane

## Coal Mines



## Oil and Gas Systems



## Landfills



## Livestock Waste

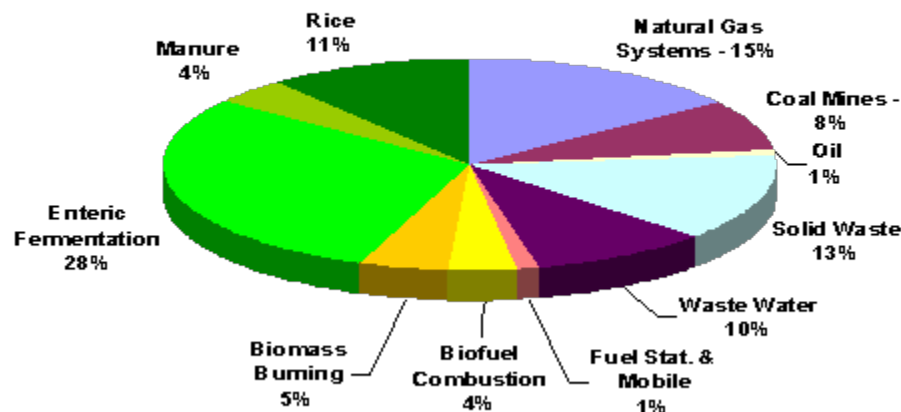
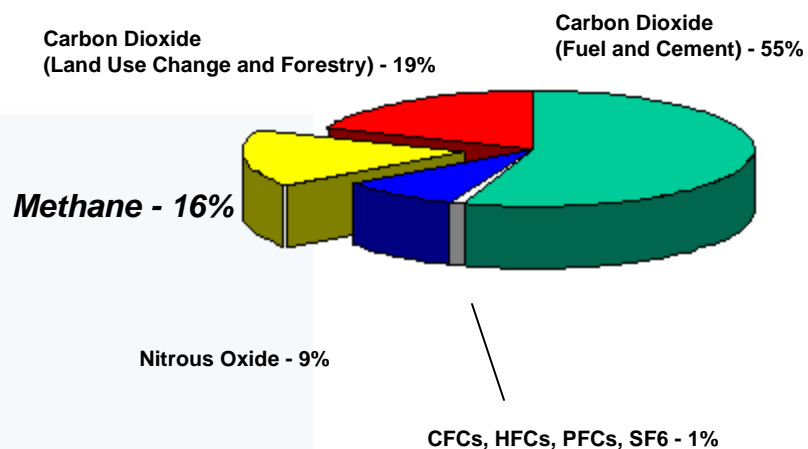


# Why focus on Methane?

- A potent greenhouse gas (GHG) with 100-year global warming potential of 23; atmospheric lifetime of ~12 years
- The 2nd most important GHG accounting for ~18% of total climate forcing
- A primary constituent of natural gas and a valuable, clean-burning energy source

## Global GHG Emissions in 2000

40,702 million tonnes carbon dioxide equivalent (MtCO<sub>2</sub>e)



# Significant Benefits of Methane Recovery and Use Projects

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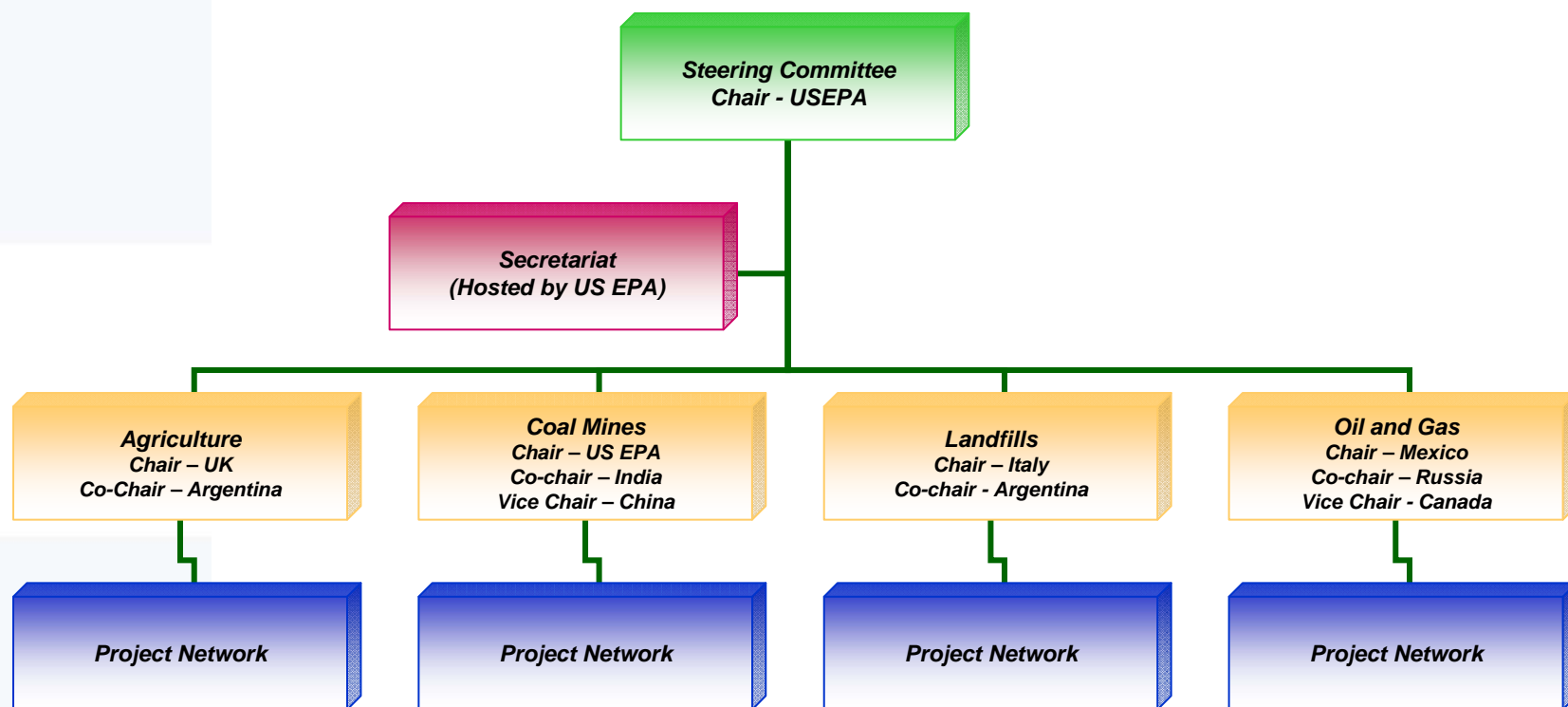
## ***BENEFITS OF METHANE PROJECTS***

- Reduced greenhouse gas emissions
- Increases energy efficiency at oil and gas facilities
- Reduced waste of a valuable fuel and important local energy source and
- Improved industrial safety and productivity
- Improved air quality, water quality and reduced odors
- Economic growth and energy security

## ***BUT BARRIERS EXIST...***

- Lack of awareness of emission levels and value of lost fuel
- Lack of information on and training in available technologies and management practices
- Traditional industry practices
- Regulatory and legal issues
- Limited methane markets and infrastructure
- Uncertain investment climate

# M2M Organization and Structure





# Global Emissions from Agriculture (Animal Waste)

- Methane is produced and emitted during the anaerobic decomposition of organic material in livestock manure
- Globally, livestock manure contributes ~222 MTCe of methane emissions
- Three groups of animals account for >80% of total emissions (swine, non-dairy cattle, and dairy cattle)
- M2M Countries represent 65% of global emissions from the Manure Management sector





# M2M Focus on Agriculture

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- When M2M launched, agriculture was not included– a Taskforce was created to investigate whether it should be added as a 4<sup>th</sup> subcommittee
- Taskforce recommended including Agriculture at the November 2005 M2M Partnership meeting in Buenos Aires
  - UK and Argentina nominated as co-chairs
- First subcommittee meeting and M2M AD workshop hosted by Defra in November 2006 in Berkshire, UK
  - Workshop report and subcommittee meeting minutes online
  - Action Plan completed and updated
- Second subcommittee meeting and M2M AD workshop hosted by INTA in May 2007 in Buenos Aires, Argentina
  - Workshop report and subcommittee meeting minutes online
  - Action Plan updated

# Agriculture Action Plan

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- Promote economically viable anaerobic digestion of animal wastes through identifying and overcoming barriers to project development.
- The Action plan was developed over the past two years and identifies actions to overcome barriers in the following categories:
  - Awareness
  - National Capacity
  - Technology
  - Finance and Economics
  - Project Identification and Development
  - Policy

# Action Plan (continued)

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- Key Activities
  - Develop country profiles for each M2M country
  - Advertise conferences, training opportunities on the M2M website
  - Share information on proven technologies
  - Address finance issues through workshops
  - Identify case studies and examples of best practice
  - Develop M2M standards for calculating baseline methane/ GHG emissions from AD projects
  - Each country to recruit members to the Project Network
  - Consider additional regional and country outreach activities.
  - Each country to identify and promote projects/investment opportunities

# Objectives of M2M Partnership Expo

- Highlight methane capture and use technologies and services in a trade show format
- Showcase project opportunities to potential investors
- Parallel sector tracks covering technical, policy, financing, and regulatory issues related to project development.



***Beijing, China***

***30 October – 1 November 2007***

# Objectives of this Agriculture Subcommittee Meeting

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- Identify challenges and solutions to implementing anaerobic digestion of agricultural waste.
- Promote practical implementation of anaerobic digestion projects in agriculture.
- Discuss the next steps for the Agriculture Subcommittee.