

Methane to Markets

Meeting the challenges of Livestock and the Environment: National and International Initiatives

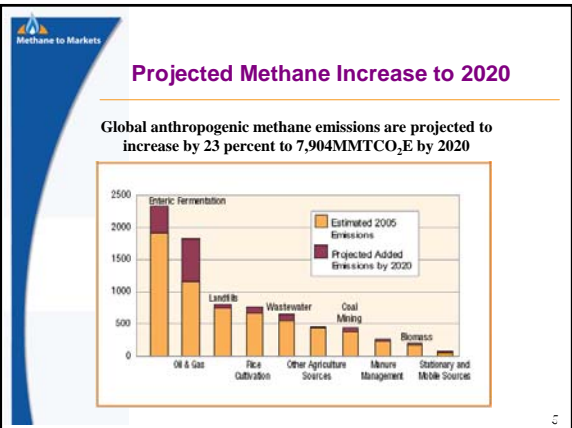
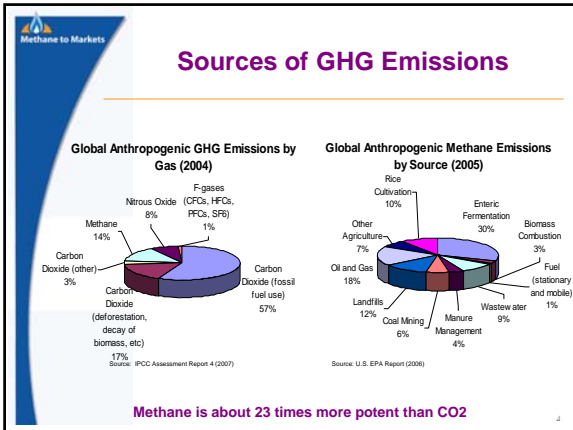
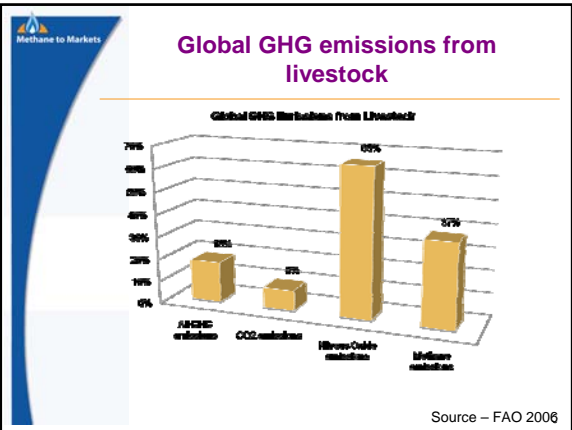
Jeremy Eppel
 Deputy Director, Food and Farming,
 Department for Environment, Food and Rural Affairs (Defra), UK
 and
 Co-chair, Agriculture Sub-Committee, Methane to Markets

International Conference on Water Pollution Reduction and Climate Change Mitigation
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Methane to Markets

Overview

1. Global impact of livestock emissions
2. Why is Methane important?
3. The Methane to Markets Partnership
4. UK Initiatives on livestock and the environment
5. China-UK collaboration on sustainable agriculture



Methane to Markets

Methane to Markets Partnership

- Public-private partnership started in 2004 with 14 Partner governments, now 29 partners accounting for more than 65% of global anthropogenic methane emissions
- Encourages development of **cost-effective** methane recovery and use opportunities in

Coal Mines

Oil & Gas Systems

Landfills

Agriculture

M2M Partner Governments

Account for more than 60% of total global anthropogenic methane emissions

- Argentina
- Australia
- Brazil
- Bulgaria
- Canada
- Colombia
- Chile
- China
- Euro. Comm.
- Ecuador
- Finland
- Georgia
- Germany
- India
- Italy
- Japan
- Korea
- Kazakhstan
- Mexico
- Mongolia
- Nigeria
- Pakistan
- Philippines
- Poland
- Russia
- Thailand
- Ukraine
- United Kingdom
- United States
- Vietnam

How Does Methane to Markets Work?

- Breaks down the barriers to project development by:
 - Bringing relevant stakeholders together
 - Building capacity and transferring technology
 - Reducing project risk by funding pre-feasibility and feasibility studies
 - Developing tools and resources to address informational barriers
- Separate from and complementary to the UNFCCC flexibility mechanisms (e.g CDM etc)

Agriculture in Methane to Markets

- M2M focuses on methane from livestock manure management and utilization of anaerobic digesters.
 - Livestock manure management offers the most viable, short-term opportunities for methane recovery and utilization.
 - These opportunities can be realized using currently available technology and offer benefits in terms of improved environmental quality.
 - The Agriculture Subcommittee last year included AD projects utilizing agri-food waste
- Significant potential from manure sources
 - 230 MMTCO₂, or 4% of global anthropogenic totals
 - 80% comes from the production of swine and cattle

Figure 1: Estimated Global Methane Emissions from Livestock Manure Management, 2005. Total = 236.57 MMTCO₂e

Country	Percentage
United States	17%
India	10%
China	9%
Germany	8%
France	8%
Spain	4%
All Others	22%
Mexico	1%
Philippines	1%
Australia	1%
Argentina	1%
Ukraine	1%
United Kingdom	1%
Canada	1%
Italy	1%
Russia	1%
Pakistan	1%
Turkey	1%
Brazil	1%

M2M in Asia

- Asia accounts for ~50% of world's standing pig population
- Large effort through Livestock Waste Management in East Asia Program
 - World Bank and FAO
 - M2M also supports
- M₂M active in:
 - Korea
 - China
 - Philippines
 - Thailand
 - Vietnam
 - India
 - Mongolia

Pig density (heads per Km²): 0 to 20, 20 to 100, 100 to 500, More than 500. Green dots denote project activity.

Co-Benefits of Methane Reduction in Agriculture

- New Energy Sources
 - Mitigation makes methane available for local energy purposes, thereby strengthening energy security
- Environmental Quality
 - Local water quality improvements due to improved management of agricultural wastes
 - Reduction of local emissions of VOCs
- Odour reductions

M2M: Key Achievements

- On track to achieve goal of delivering annual GHG reductions of 180 MMTCO₂e by 2015.
- Tracked the development of more than 140 methane emissions reduction projects in Partner countries.
- Held more than 40 meetings and workshops in 13 countries around the world.
- Organized the 2007 M2M Project Expo in Beijing, China – 750 attendees from 34 countries, including NDRC Vice-chairman Xie Zhenhua
- Has served as a complement to the Kyoto Mechanisms, providing technical assistance and capacity building necessary for long-term project success.

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M2M: Future Events

- **Agriculture Subcommittee Meeting**
 - Being held in conjunction with a this conference
 - 3-4 September 2009, Guangzhou, China
- **2nd Project Expo**
 - 2-5 March 2010, New Delhi, India
- **All meeting info to be posted on:**
www.methanetomarkets.org/events/index.htm

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UK Initiatives

Climate Change

- **Climate Change Act 2008**
 - commits UK to 80% reduction in all GHG emissions by 2050
 - 3 Carbon budgets to reduce emissions by 22 -34% between 2008 and 2022
- **Low Carbon Transition Plan 2009**
 - Emissions reduction in agriculture sector by 3Mt CO₂e a year from projected levels for 2018-2022
- **Anaerobic Digestion: Shared Goals, Task Group, and Implementation Plan**

Water Quality

- Water Framework Directive
- Nitrate Vulnerable Zones Action Plan
- Catchment Sensitive Farming

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UK Low Carbon Transition Plan 2009

- Sets aim of 3MtCO₂e reduction from agriculture by 2020
- Seeks voluntary action plan from farming industry by Spring 2010 to deliver this
- Highlights significant scope for GHG reductions from manure management, including AD, and from livestock feeding and breeding practices
- Supports R+D and improvement of emissions inventory

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UK Government support for Anaerobic Digestion

- Shared Goals – February 2009
- Implementation Plan by early 2010 based on recommendations from AD Task Group
- Financial support for AD as a form of renewable electricity (Renewables Obligation; Feed-in tariffs)
- Support for renewable heat from 2011
- £10m programme to demonstrate 'state of the art' use of AD technology
- "Information portal" on AD to be delivered by end 2009

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UK Market-led Initiatives (I) - Milk Roadmap

- Initiative of UK dairy sector
- Launched in May 2008
- Takes whole life cycle approach to environmental impact of dairy industry.
- Aim is ambitious:
 - Look at all impacts, not just carbon
 - Minimise these where possible
- now driving Producer and Processors' environmental agendas.
- Milk Roadmap being used as a model in other EU countries and the USA, and for UK red meat sector



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UK Market-led Initiatives (II) Publicly Available Specification (PAS 2050)

- Launched in October 2008 in London
- Joint initiative between BSI British Standards, the Carbon Trust, and Defra
- A standard method for assessing a product's carbon Footprint on a full life cycle basis
- Growing take up by major retailers for food products: starting to drive livestock producer behaviour



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UK-China Collaboration on Sustainable Agriculture

- MOU and Joint Work Programme on Sustainable Agriculture agreed by China and UK Ministers
- Sustainable Agriculture Innovation Network (SAIN) - new and exciting platform for UK-China collaboration
- Overall aim is to contribute to a resource efficient, low carbon economy and an environmentally friendly society
- Issues being addressed include improvements to soil and crop nutrient management, biomass, gas, liquid biofuels and organic fertiliser production, and climate change mitigation and adaptation, and “circular agriculture”