

2. Introduction (English)



Methane to Markets

Landfill Gas to Energy Projects, China



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Landfill Methane Outreach Program



Agenda

- Introduction
- Goals of the Workshop
- Methane to Markets Overview
- Landfill Gas to Energy In China

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Workshop Introduction

- Funded by a Methane to Markets Partnership Grant
- Provided by the team of:
 - California State University of Fullerton (CSUF). Presented by Mr. Jeff Kuo, Professor of Civil and Environmental Engineering
 - GC Environmental, Inc. (GCE) - Presented by Ms. Farideh Kia, Vice President
 - Mr. Xu Haiyun, Chief Engineer, Urban Construction Design and Research Institute, Ministry of Construction
 - Dr. Zhang Guangming, Professor of Municipal Engineering, Harbin Institute of Technology
 - Ms. Rachel Goldstein, US EPA

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Goals of the Workshop

- Increase awareness of landfill gas to energy options
- Reduce methane emissions from landfills by using the landfill gas as energy
- Increase understanding of landfill operations and management to best support environmental and energy goals
- Increase understanding of the incentives and financing options for beneficial use of landfill gas
- Build a network of landfill operators for continued education about landfill gas to energy in China

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Methane to Markets Partnership Overview

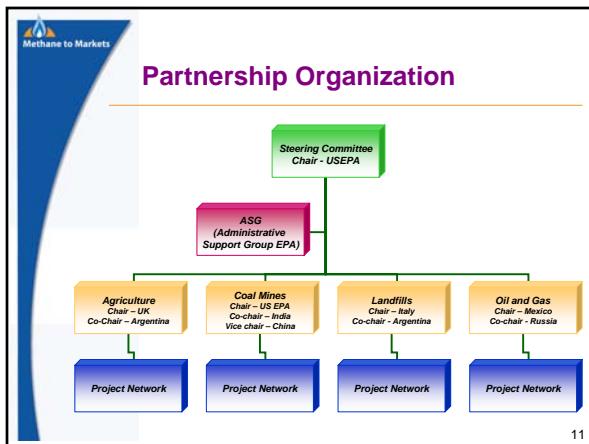
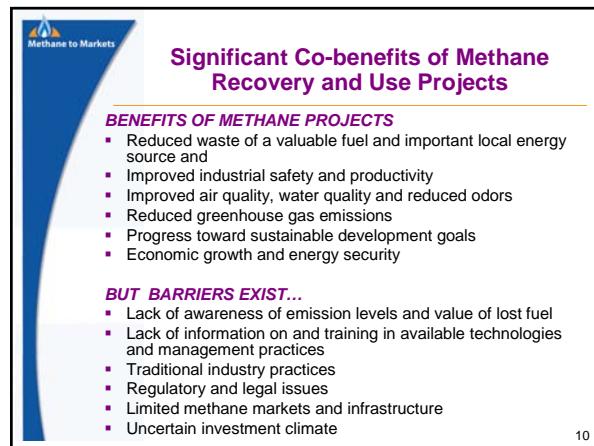
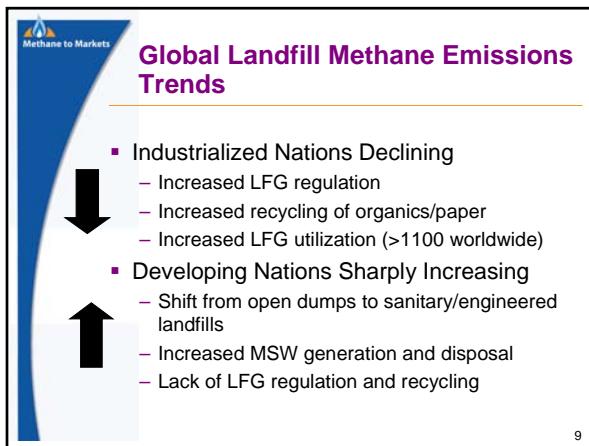
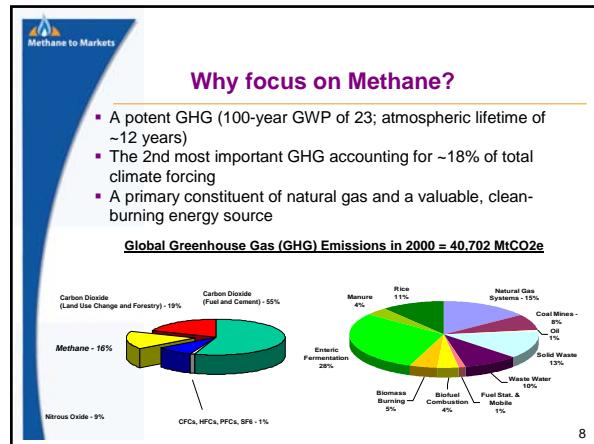
- Advances recovery and use of methane as a valuable clean energy source
- Encourages development of **cost-effective** methane recovery and use opportunities in
 - coal mines, landfills, oil and gas systems and agriculture (manure waste management)
- Private companies, multilateral development banks and other relevant organizations participate by joining the **Project Network** – over 650 organizations now participating
- 20 + Partner Countries
 - Argentina
 - Australia
 - Brazil
 - Canada
 - Colombia
 - China
 - Ecuador
 - European Commission
 - Germany
 - India
 - Italy
 - Japan
 - Korea
 - Mexico
 - Nigeria
 - Poland
 - Russia
 - Ukraine
 - United Kingdom
 - United States
 - Vietnam



Applications from Mongolia, Thailand, the Philippines, and Pakistan

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2. Introduction (English)



USEPA's LFG in China Workshops (2008)

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The Project Network

- Project network members are private firms, development banks, NGOs or other governmental and non-governmental entities with an interest in methane recovery and use projects
 - Private sector and broad stakeholder involvement is central to the success of the Partnership
 - Provide technical input and expertise
 - Participate in all activities and meetings
 - Identify and implement activities and projects
- Currently about 650 organizations
- Organizations can join on-line at www.methanetomarkets.org

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Methane to Markets '07 Landfill Accomplishments

- Partnership Expo (Beijing, China)
 - Featured 40 landfills (15-yr = 17,553,000 MTCO₂e)
- Prepared 8 Pre-feasibility Studies and 25 Assessment Reports
- Latin American Project Expo (Ecuador hosted)
- Awarded 12 grants totaling \$1.4 million
- Conducted 5 LFG Training Workshops
- Launched International Landfill Database

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Why China?

- China is a founding country of the Methane to Markets Partnership
- The population in China is approximately 1,300,000,000
- Estimated refuse generated per person is 0.6-1 lb/day
- Estimated annual waste is between 129,200,000 and 215,400,000 ton per year
- Estimated methane generation is between 4,800,000 and 13,400,000 m³/year

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U.S. Involvement: China-Landfill Sector

China

- Hosted the Methane to Markets Partnership Expo
- 11 landfill opportunities highlighted at the Expo
- Assessment studies of three landfills
- Pre-feasibility studies of one landfill



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For More Information

www.methanetomarkets.org

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For More Information.....

- www.methanetomarkets.org
- www.epa.gov/lmop
- www.epa.gov/cmop
- www.epa.gov/agstar
- www.epa.gov/gasstar

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