



Methane to Markets

United States Government Update: Landfill Subcommittee Activities

Landfill Subcommittee Meeting
Cuenca, Ecuador
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Methane to Markets: U.S. Commitment

- Pledge of \$53 million over five years
- To date, the U.S. has:
 - Provided more than \$5 million to support a wide range of projects and activities.
 - These investments, if fully implemented, will result in estimated annual emission reductions of approximately 5 million MTCO₂E.
 - U.S. investments have leveraged over \$235 million in public and private sector contributions.
 - Continued significant work in all four Methane to Markets sectors (agriculture, coal mines, landfills, and oil and gas).



U.S. Involvement: 2006 Landfill Highlights

- U.S. EPA co-sponsored LFG workshops and training seminars in Russia, India (with USAID), and Ukraine.
- USAID supported implementation of a LFG-fired power plant in Brazil.
 - An amount equivalent to 2.5 MMTCO₂E will be avoided from 2007 through 2012.
- United States and Mexico collaborate to energize M2M projects.



U.S. Involvement: 2006 Landfill Highlights

- Pre-feasibility study and pump test completed in Ensenada, Mexico; two studies underway (January '07) in Ecuador.
- Australia and US developed and distributed landfill candidate criteria and data collection profile to Partners
- U.S. EPA spearheaded development of global database of disposal sites and LFG project opportunities.

M2M Partnership in Action



Ensenada pump test



Loja, Ecuador – taking field measurements



Ukraine Workshop and site visits



Delhi LFGE Workshop

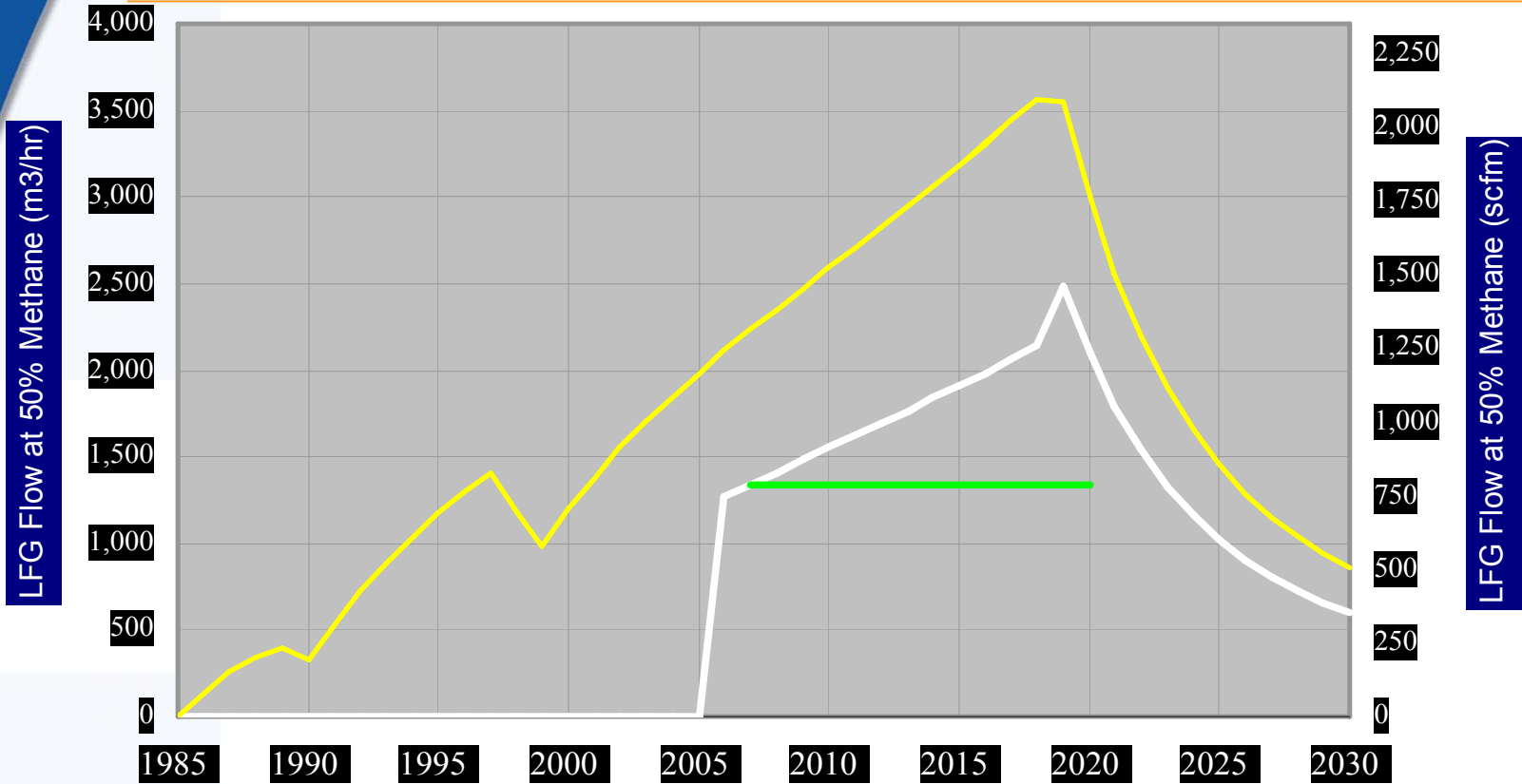
U.S. Involvement: Looking Forward

- Developing projects that achieve direct and rapid emission reductions.
- Building capacity, providing training, and overcoming technical, policy, and market barriers (see lessons learned)
- Planning the Partnership Expo.
 - support approximately 6-10 assessments and pre-feasibility studies
- Finalize and launch international landfill database in early 2007

Landfill Lessons Learned

- There are serious technical hurdles regarding basic landfill management and landfill gas system O&M that must be overcome in most developing countries.
- Lack of awareness of all LFG uses.
- Contractual disputes (e.g., gas rights) must be addressed.
- M2M Partner Country participation varies widely.
- Political change presents unique challenges.
- Carbon credits are driving almost all projects.

Typical Landfill Biogas Recovery Curve



- LFG Recovery Potential
- Predicted LFG Recovery
- 2.1 MW / 189,000 mmBtu project requirement

U.S. Involvement: 2006 Highlights (con't)

- **Grant Solicitation**
 - U.S. EPA issued a RFP to fund methane recovery and use projects and activities.
 - Total estimated amount is \$2,500,000.
 - Up to 20 cooperative agreements, at \$25,000 to \$300,000 per award.
 - Estimated project period: May 2007 - May 2009.
 - Deadline: January 3, 2007 at 4:00 p.m. EST