

Greenhouse Gas Credit Trading Opportunities for MSW Landfills

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***Wisconsin LFG to Energy Workshop
Green Bay, Wisconsin
January 16, 2002***

EMCON/OWT
Solid Waste Services
A Unit of The IT Group

Introduction

- **Which gasses are GHG?**

- **Carbon Dioxide** (1)
- **Methane** (21)
- **Nitrous Oxide** (310)
- **Hydrofluorocarbons** (140-11,700)
- **Perfluorocarbons** (6,500-9,200)
- **Sulfur Hexafluoride** (23,900)

US Situation

- **US contributes 36% of the world's GHG**
- **1999 emissions of GHG in the US were estimated to be 1,833 Million metric tons CO₂E**
 - **about 10.7 % higher than 1990 levels**

Current US Situation (cont.)

- **Landfills contribute 33% of the Man-made US GHG, as CO₂E**
 - This is actually 1.8% lower than previous years
- **If US joins Kyoto, they must reduce emissions by 7% from 1990 levels by 2008 – 2012**

Credit Market for Landfill-generated Credits

- **No current demand for credits in the US**
- **Case-by-case need for credits**
 - **Canada, Europe, Australia established CO₂ reduction requirements**
 - **UK Emissions Trading Scheme**
 - **Denmark climate change program**
 - **Some US utilities hedging CO₂ requirements will apply in future**

Opportunities in the US: Current Status

- **Trades to Date:**
 - Zapco (US) traded of over 1 Million tons of CO₂E with Ontario Power
 - Nuon (Netherlands) and Monmouth County Landfill (NJ) traded 250,000 to 300,000 tons CO₂E.

Greenhouse Trading Opportunities in the US: Future

- **Pending - 2002 Winter Olympics**
 - Retirement of CO₂E credits from a Canadian Landfill
 - Tax write-off
 - Good PR

Greenhouse Trading Opportunities in the US: Future

- **Future Opportunities**
 - **Climate Trust (Oregon) - proactive role in incorporating credits into energy projects.**
 - **Chicago Climate Exchange: DTE Energy, WMI and ZAPCO participating**

What Might Happen

- **US Policy develops to enhance the marketing of GHG credits**
- **Agreement is reached on “standardized trading rules” and use of CO₂E sinks**
- **More trades take place**

Revenue Potential for Credits

- Up to \$4 per ton CO₂E

What Should Landfills Be Doing?

- **Assume there will be movement on the GHG front**
- **Facilities should perform emission inventories to determine how much CO₂E they are emitting**

What Should Landfills Be Doing (cont'd.)

- **Landfills should prepare to trade GHG credits**
 - **Destruction of methane and beneficial use of the LFG can be credit generators**
 - **Effect of NSPS and State Regs**

What To Do

- **Quantify the emissions**
- **Consider GHG in all decisions made on products, operations, future planning**
- **Treat GHG issues as if GHG were an asset (or a liability)**

For Solid Waste Landfills: Items To Use For “Proof” of Reductions

- **Waste deposition records**
- **Gas meter readings**
- **Gas meter calibrations**
- **Equipment operating logs**
- **Audits of the operations**
- **Permits and approvals**
- **State GHG Reduction Registries**

Conclusion

- **Landfills should “pay attention” to GHG credits**
- **Operations should reflect the potential of GHG activity**
- **Prepare for GHG trades:**
 - **Perform an audit of the GHG facility**
 - **Develop your “portfolio” of GHG credits**