

# Landfill Emission Estimates: PIER supported research

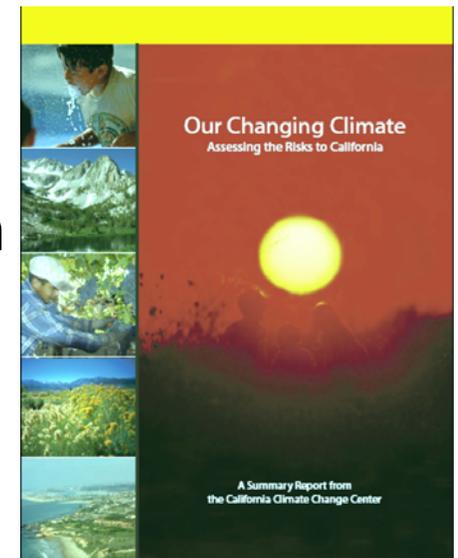
Guido Franco  
Public Interest Energy Research Program  
California Energy Commission

Climate Change Workshop  
California Integrated Waste Management Board  
May 8, 2007



# PIER Program

- Funded by the electricity and natural gas rate-payers
- Funding climate change research since 2001
- Implementing a roadmap of research developed in 2003
- Created the California Climate Change Center
- Produced more than 50 PIER reports on
  - Climate Analysis and Modeling
  - **Inventory Methods**
  - Mitigation Options
  - Impact and Adaptation Studies
- Organizes Annual Research Conferences on Climate Change



# PIER/CEC Landfill Methane Study

- Methane emissions estimates from landfills are highly uncertain
- Goals:
  -  Obtain a better understanding of the performance of various cover materials to control methane emissions
  -  Create a detailed landfill methane emissions model
  -  Incorporate these results into an improved inventory methodology for landfill methane emissions
- A 3-year project, from 2007-2010

# Project Description

- Investigate the use of data collected by IWMB and air district as predictive parameters
- Collect 2 years of field data, using flux chambers to obtain emission rates
- Measurements taken at individual landfill cells
- Methane plume mapping with lasers will be in use at one landfill to provide additional field validation (Waste Management)
- Create a scientifically sound and practical “validated” model
  - Account for variation across landfills and climates
  - Account for oxidation in cover soils. This will be a key component of the model

# Researchers / Locations

- PI: Jean Bogner
  - Coordinating Lead Author (IPCC AR4 – Chapter on Waste Management)
  - President, Landfills + Inc
  - Prof. University of Illinois
- Modeler: Kurt Spokas, USDA
- 3 landfills for field validation
  1. Scholl Canyon (LACSD)
  2. Marina (MRWMD)
  3. Lancaster (Waste Management)

# Technical Advisory Committee

- Brian Ellis, CEC
- Scott Walker and Judy Friedman, IWMB
- Larry Hunsaker and Byard Mosher, ARB
- Mike McCormick, California Climate Action Registry
- Ray Huitric/Frank Caponi, LACSD
- Amy Banister, Waste Management
- William Merry, MRWMD
- Pat Sullivan, SCS Engineers
- Scott Smithline, Californians Against Waste
- Matthew Cotton, Integrated Waste Management Consulting, LLC

# Thank You !

For more information about PIER's work on climate change,  
please go to <http://www.climatechange.ca.gov/research/index.html>

Fourth Annual Research Conference on Climate Change  
September 10 – 13, 2007  
Sacramento

