14th Annual LMOP Conference & Project Expo

SAVING THE PLANET
ONE LANDFILL AT A TIME

Your LMOP... Rachel Goldstein, Victoria Ludwig, Swarupa Ganguli, Tom Frankiewicz, & Chris Godlove

U.S. Environmental Protection Agency
Landfill Methane Outreach Program (LMOP)
Conference Highlights

- Yet another RECORD breaking year – 654 pre-registered attendees!!!
  
- Happenings
  - California Session
  - Regulatory Session
  - Awards Luncheon

- Reception at the Baltimore Aquarium
Thank You Sponsors!

LMOP Capitol Club

FORTISTAR
Methane Cogeneration Biomass

NEXT Era
ENERGY
RESOURCES

SOUTHTEX
RENEWABLES

AXD
Service Industries Corp.

LMOP Platinum

CAMERON
CAT

DTE Energy
DTE Biomass Energy

Montauk
energy capital

TVA

Solar Turbines
A Caterpillar Company

Howard R. Green Company
www.hrgreen.com

PEI
PERENNIAL
ENERGY

PEI
PERENNIAL
ENERGY

LMOP Gold

ALBAN

American Environmental Group Ltd.

Durham Geo Slope Indicator

MCGRUIRE WOODS
Relationships That Drive Results

QED
Environmental Systems

LMOP Friend
Exhibits and Expo

Be sure and visit the 86 Exhibits (record) and 11 Project Expo Landfills!!!
**Project Expo Landfills**

**Arizona**
- *Cinder Lake LF*
- *Rio Rico LF*

**Georgia**
- *Crisp County-US 41 S Sites 1 & 2*

**Indiana**
- *Monroe County LF*

**Kansas**
- *Ford County LF*

**Kentucky**
- *Glasgow Regional LF*

**Missouri**
- *Black Oak R&D LF*
- *Central Missouri LF*
- *Newton-McDonald County LF*

**Virginia**
- *Livingston LF No. 2*

**Washington**
- *Port Angeles LF*
State of the LFGE Industry
(December 2010)

- 541 operational projects currently
  - 13.7 billion kWh of electricity produced and 100 billion cubic feet of gas delivered in ‘10

- At least 50 projects under construction for ‘11 & more in the advanced planning stages

- At least 510 candidate landfills with 1,160 MW of potential capacity or 210 billion cubic feet/yr of LFG for direct use AND ~13 MMTCE in potential emission reductions!
Estimated 2010 Environmental and Energy Benefits

- **Environmental:**
  - Carbon sequestered annually by **20,600,000 acres of pine or fir forests**, or
  - CO₂ emissions from more than **224,900,000 barrels of oil consumed**, or
  - Annual greenhouse gas emissions from nearly **18,500,000 passenger vehicles**, or
  - CO₂ emissions from burning **505,000 railcars’ worth of coal**.

- **Energy:**
  - Powering more than **994,000 homes** and heating nearly **720,000 homes**
‘10 New LFGE Projects and Expansions Online

- *Morgan County Regional LF, AL
- *City of Glendale LF, AZ
- *Calabasas SLF, CA
- Lamb Canyon Disposal, CA
- *Cherry Island LF, DE
- *Perdido LF, FL
- *Superior LF & Recycling, GA
- *Woodland RDF, IL
- *Earthmovers LF, IN
- *Liberty Landfill, IN
- *Newton County LF, IN
- *Oak Grove Landfill, KS
- *Rolling Meadows LF, KS
- *North Baton Rouge LF, LA
- *River Birch Landfill, LA
- *Reich’s Ford Road SLF, MD
- *Northern Oaks R&DF, MI
- Prairie View & Lamar LFs, MO
- *Auburn SLFs #1 & #2, NY
- Ava Landfill, NY
- *Bath Landfill, NY
- *Chautauqua County LF, NY
- *Fulton County LF, NY
- *Hoffman Road SLF, OH
- *Riverbend Landfill Co., OR
- *Alliance SLF, PA

Orange = project expansion
* = LMOP-assisted
'10 New LFGE Projects and Expansions Online (cont.)

- *Georgetown County LFs, SC
- *Westside Sanitary LF, TX
- *Frederick County LFs, VA
- *King George LF, VA
- *Montgomery Regional SWA LF, VA
- *Rockingham County LF, VA
- *Springfield Road LF, VA
- *Cedar Hills Regional LF, WA

Orange = project expansion
* = LMOP-assisted
'11 Under Construction Projects & Expansions

- *Coffee County SLF, AL
- *Magnolia Subtitle D LF, AL
- *Eco-Vista LLC, AR
- Tangerine Road MSWLF, AZ
- *Bakersfield Metropolitan SLF (BENA), CA
- *Chiquita Canyon SLF, CA
- *Olinda Alpha SLF, CA
- *Ostrom Road LF, CA
- *Larimer County LF, CO
- *Jones Crossroads LF, DE
- *Naples SLF Collier County, FL
- *Zemel Road Landfill, FL
- *Dougherty County Fleming/Gaissert Road, GA
- *SR247 MSW LF, GA
- Des Moines County SLF, IA
- Wheatland Prairie RDF, IL
- *Prairie View RDF, IL
- *Eagle Valley Landfill, MI
- *Venice Park R&DF, MI
- *East Central SLF, MN
- Spruce Ridge LF, MN
- *Black Oak R&D SLF, MO
- *Fred Weber SLF, MO
- *Fulton SLF, MO

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* = LMOP-assisted
’11 Under Construction Projects & Expansions (cont.)

- St. Joseph City SLF, MO
- Billings Regional LF, MT
- *Davidson County LF, NC
- *Gaston County LF, NC
- *Piedmont SLF, NC
- *Sampson County LF #2, NC
- *Watauga County LF, NC
- *Sarpy County LF, NE
- *Salem County SLF, NJ
- *Apex Regional LF, NV
- Lockwood Regional LF, NV

- *Ontario County SLF, NY
- *Erie County SLF, OH
- *Hancock County SLF, OH
- *WMI Suburban R&D LF, OH
- *Greenridge Reclamation, PA
- *Lanchester LF, PA
- *Mostoller Landfill, Inc., PA
- *Secra LF, PA
- Seneca LF, PA
- *Berkeley Co. LFs, SC
- *Wellford LF, SC
- *Bi-County LF, TN

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‘11 Under Construction Projects & Expansions (cont.)

- *C M Hinton Landfill, TX
- *Camelot Landfill, TX
- *Castle Drive Landfill, TX
- *Mesquite Creek LF, TX
- *Newport News SWDF No. 2, VA
- *SPSA Regional LF, VA
- *Brattleboro Landfill, VT
- Chittenden Co. LF, VT
- *Roosevelt Reg. MSWL, WA
- Dane Co. #2-Rodefeld, WI
- *Orchard Ridge RDF, WI
- Ridgeville Site II, WI
- Veolia ES Emerald Park LF, WI
- Veolia ES Hickory Meadows LF, WI
- *City of Charleston LF, WV

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LMOP Partner and Endorser Update

• Currently 968 Partners and Endorsers
  – 669 Industry Partners
  – 110 Energy Partners
  – 40 State Partners
  – 119 Community Partners
  – 30 Endorsers

• 90 new Partners joined in 2010
  – 71 Industry Partners
  – 8 Energy Partners
  – 1 State Partner
  – 8 Community Partners
  – 2 Endorsers
Completely revamped the program brochure

New State Resources Web page

New detailed annual cash flow report in LFGcost

PublicWorksOnline article (Jan ’11)

Handout on regulations affecting LFGE

Sent 57 listservs for RFPs/RFQs, funding announcements
# Landfill Methane Outreach Program

**You are here:** EPA Home → Landfill Methane Outreach Program → Publications/Tools → State Resources

## State Resources

To aid those searching for state-specific information regarding permits and policies that may affect landfill gas (LFG) energy projects, LMOP has listed key state organizations and their websites in the table below. These organizations provide a range of functions and services and varying types of information. The list is not intended to be comprehensive but to represent the main state agencies and departments that provide information related to topics such as air permitting, energy policy planning, and public utility regulation. In the table below, you can also access state-specific information that resides on LMOP's website for LMOP State Partner contacts, landfills and LFG energy projects, and funding incentives.

You will need Adobe Reader to view some of the files on this page. See EPA's PDF page to learn more.

<table>
<thead>
<tr>
<th>State</th>
<th>Organizations</th>
<th>Related LMOP Resources</th>
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<td>AK</td>
<td>Alaska Department of Environmental Conservation</td>
<td>• Landfills and projects (XLS) (13K, Download Microsoft Excel Viewer)</td>
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<td>Alaska Industrial Development and Export Authority</td>
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<td>Regulatory Commission of Alaska</td>
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<td>AL</td>
<td>State of Alabama, Department of Economic and Community Affairs, Energy Division - LMOP Partner Contact</td>
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<td>AR</td>
<td>Arkansas Department of Environmental Quality</td>
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<td>Arkansas Alternative Energy Commission</td>
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<td>Arizona Department of Environmental Quality</td>
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<td>CA</td>
<td>California Energy Commission - LMOP Partner Contact</td>
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<td>California Environmental Protection Agency</td>
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<td>Colorado Department of Public Health and Environment</td>
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<td>Colorado Public Utilities Commission</td>
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Landfill Methane Outreach Program
and Landfill Gas Energy:

The Power of Partnership
### Detailed Cash Flow Analysis

#### Cash Flow Inputs:

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<th>Year</th>
<th>Construction Year</th>
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Global Methane Initiative ‘10
Landfill Accomplishments

- Successful partnership Expo in India – showcasing over 50 global landfill opportunities
- Reductions – Argentina, China, Ukraine
- Prepared 21 landfill reports (assessment studies, pre-feasibility studies, and desk top evaluations); 7 study tours
- Piloting direct-use project assistance in Latin America
- Country-specific LandGEM models – Colombia, Philippines, Thailand
- ILD has over 700 LFs