

# US Biogas Industry Development Indications for Biomethane

americanbiogascouncil.org



#### **American Biogas Council:**

- The **only** U.S. organization representing the biogas and anaerobic digestion industry.
- 143 Organizations from the U.S., Germany, Italy, Canada, Sweden, Belgium and the UK
- All Industry Sectors Represented:





# Dedicated to maximizing the production and use of biogas from organic waste





## **2012** Goals

- Maximize amount of biogas produced from organic, nonwoody waste
- Promote biogas markets, technologies and infrastructure
- Promote the beneficial use of the organic outputs from anaerobic digestion (AD)
- Achieve policy parity with other renewables
- Promote anaerobic digestion as a best practice for environmental stewardship and greenhouse gas reduction



**Changing the Biogas Industry** 

Legislative and Regulatory Affairs

- Federal: Biogas Tax Credit; Clean Energy Standard; Natural Gas Act; Farm Bill
- State: California, Iowa, Massachusetts, Indiana, more...
- Sharing Expertise
  - 8 Specialized Working Groups: Biofuels, Digestate, Biogas to Electricity, Biomethane to Grid, Feedstocks, Agriculture, Municipalities, GHG Credit Market.







#### Biogas is on the radar of multiple federal agencies

- Agriculture (USDA), Rural Development and Conservation
- Defense (DOD)
- Environmental Protection EPA:
  - AgStar:
  - Landfill Methane Outreach Program:
- Energy Efficiency and Renewable Energy (DOE)
- Federal Energy Regulatory Commission (DOE)





*Promoting the Advancement of Anaerobic Digestion Technologies* 

#### **Education and Outreach**

- Popular Science puts ABC in the public view (July 2011)
- 6 articles written, quoting the ABC
- "100 Companies Now Growing the U.S. Biogas Industry" press release on thousands of websites (June 2011)
- Advertising now for sale on website and newsletter
- ABC's *Biogas News* published 2x/mo. in 2 editions: members only, public
- ABC represented at virtually every major biogas conference usually through members
- 16,000 video views on ABC's YouTube channel: youtube.com/gobiogas



work on collecting local waste," says Tom Guise, the company's CEO. Biogas won't ever be a major fuel source in the U.S. If we tapped our entire supply of sewage, animal waste and landfill, we could replace about 6 percent of our natural-gas consumption. The newly established American Biogas Council estimates that if we ICONTINUED ON PAGE 941

#### Many feedstocks, multiple revenue streams



where and at what cost

Either process could be local or central

Quantity and composition of effluents depends on inputs and process



**171 Farm Digesters** 

(26)

(6)

IA (3)

MO

(1)

AR

(1)

LA

NH

RI

NJ

DE

DC

MD (1)

CT (2)

VT

(11)

PA (22)

WV VA (2)

SC

OH

(1)

KY (

ΤN



#### 2,200+ biogas-producing sites Currently Operational

WA (5)

NV

ID (4)

UT (2)

ΑZ

OR (4)

CA (11) MT (1)

WY (2)

CO (1)

NM (1)

ND

SD (2)

NE (1)

TX (3)

KS

OK (1)

- 171 Digesters on Farms (100 MW)
- 1,500 Digesters at Wastewater Treatment Plants (only 250 use the biogas they produce)
- 563 landfill-based energy projects (26 pipeline, 537 electricity/boiler)

#### 11,000+ sites Available for Development

- Farms: 8,200 (only counting dairy and swine)—1700 MW
- Wastewater Treatment Plants (WWTPs): 3,250—750 MW
  - 2,000 WWTPs > 1 MGD don't have a digester
  - 1,250 WWTPs producing, but not using biogas
- Landfills/MSW?

#### TIME OUT - Negative Economic Impacts to the Biogas Industry with 2011 expiration of Sec. 1603 Cash Grants

- Total Projects: 324\*
- Total Power Capacity: 649 MW\*
- Total Industry Investment: \$3.5 billion
- Average: \$5.74 million/MW
- Average: \$12.6 million/project



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\*As reported by individual companies to the American Biogas Council, Fall 201111



#### Dynamics Impacting On-Farm and Agricultural-Based Biogas Projects

#### **MOSTLY NEGATIVE IMPACT**

- Budget Deficits
- Campaigns and Elections
- Low Natural Gas Prices
- Low Feed-in-Tariffs and High Interconnection costs
- Limited Carbon Market and GHG skepticism
- Little/No Regulation or Incentive for Manure Treatment

#### **MOSTLY POSITIVE IMPACT**

- High Oil/Gasoline/Diesel/Propane/Fuel Oil Prices
- High On-farm Purchased Electricity Costs
- Cash-Flow Trending Better due to Improved Commodity Margins
- More Options for Feedstocks and Energy Revenue

#### WHAT VALUE CAN YOU GET FOR THE ENERGY?





## **BIOMETHANE VS. NATURAL GAS**

PREVIOUSLY -

Natural Gas Pricing floated somewhat with oil pricing, even though competitive focus was electricity

Natural Gas distribution limited in many rural communities,
Forcing use of costlier propane, diesel or fuel oil
Increasing interconnection costs

Carbon offset value low compared to offsetting coal – roughly 5%

CNG vehicle conversions and refueling infrastructure limited and costly



# **BIOMETHANE VS. NATURAL GAS**

### FUTURE TRENDS -

• Pricing disconnected from oil market, competitive focus shifting to vehicle fuel

New transmission and distribution lines being installed

• Shale Gas extraction emissions far closer to coal, oil

 Biogas to Biomethane equipment highly competitive with electrical production and viable on farms – proven

• CNG vehicle conversions and refueling infrastructure rapidly expanding, getting cheaper







Promoting the Anaerobic Digestion and Biogas Industries





*Promoting the Advancement of Anaerobic Digestion Technologies* 



### **PROVEN TECHNOLOGY, NOT R&D**



Promoting the Advancement of Anaerobic Digestion Technologies

## **QUESTIONS?**

**THANK YOU!**