HB Homeland Biogas energy

Biogas: America's homegrown energy.

Congressional Biomass Caucus Briefing: Biogas

Biogas Solutions for America's Dairy Industry

Homeland Biogas Energy
American Biogas Council

May 16, 2012

American Biogas Council: The Voice of the US Biogas Industry

- The **only** U.S. organization representing the biogas and anaerobic digestion industry.
- **140+ Organizations** from the U.S., Germany, Italy, Canada, Sweden, Belgium and the UK
- **All** Industry Sectors Represented:
  - Landowners
  - Fuel refiners
  - Manufacturers
  - Project developers
  - Biogas users
  - Plant owners
  - Financiers
  - EPC firms

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POLICY GOALS

- Reauthorization and mandatory funding of Farm Bill Energy Title
- Extending Section 45 Tax Credits for biogas from all sources, and extending ability to elect Section 48 Tax Credit
- Parity for Biogas in all federal policy, including dedicated Section 48 for biogas facilities, equal treatment in the Renewable Fuel Standard, the Clean Energy Standard, and recognition of all GHG reductions
- Policies that promote distributed generation

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Anaerobic Digestion Defined

A naturally occurring biological process in which organic material is broken down by bacteria in a low-oxygen environment resulting in the generation of methane gas and carbon dioxide as its two primary products.

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Anaerobic Digestion – On Site Energy Use

Feedstock

Organic Waste

Various Feedstocks

Energy Crop, Manure, Food Waste, Waste Water Sludge

Conversion

Digesters

Various Technologies

Batch, Continuous, Complete-mix, Plug- flow, Covered Lagoon

30,000 MMBtu /yr. Average

Unconditioned Gas *a.k.a* "Biogas"

Uses

Manure & Odor Management

On-Site Electricity

arm or waste-water plant
pment, Digester Operation

On-Site Heat

Farm or waste-water plant equipment, Digester Operation

By-Products

Fertilizer for Irrigation, Water

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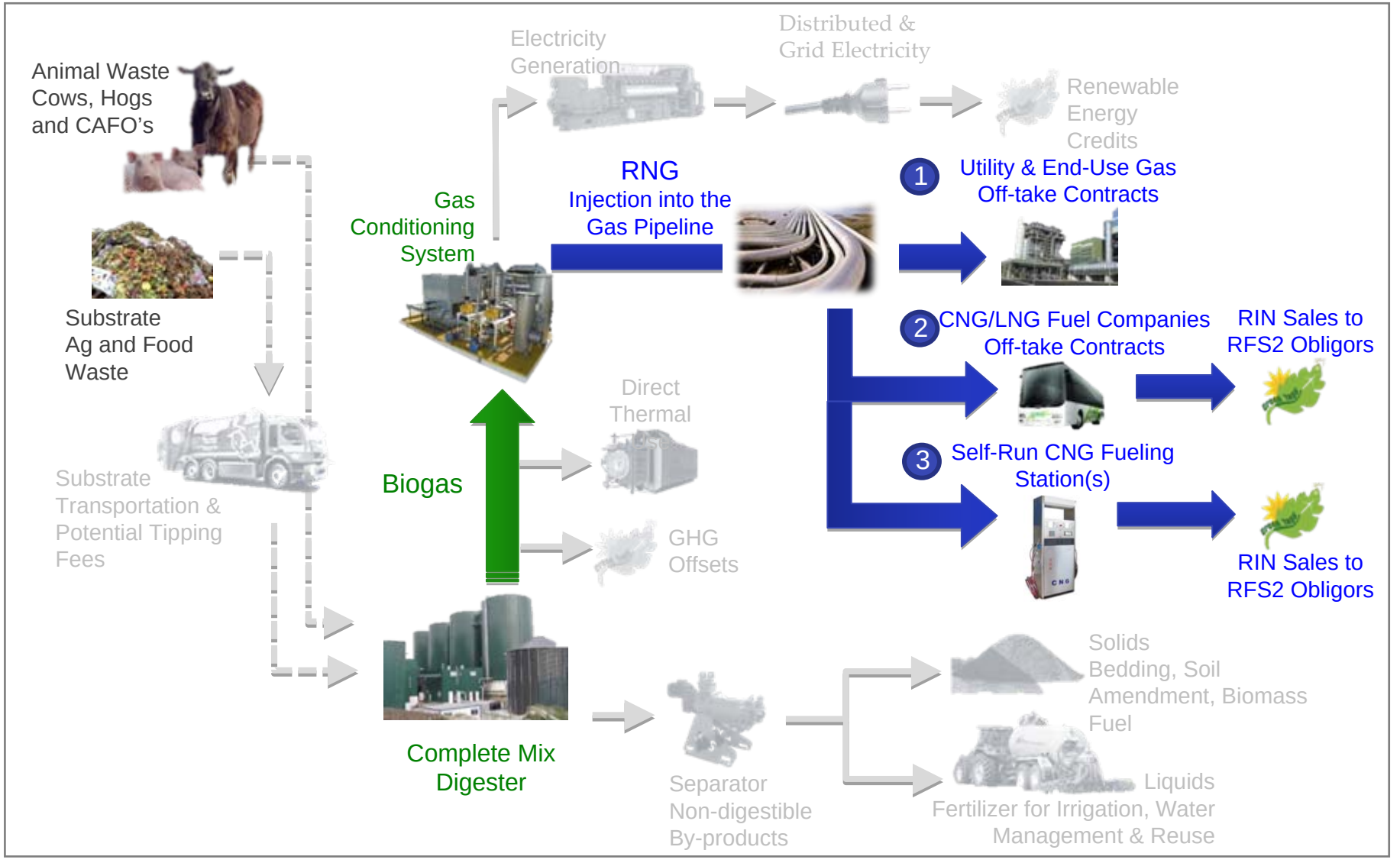
Anaerobic Digestion – Off Site Energy Use



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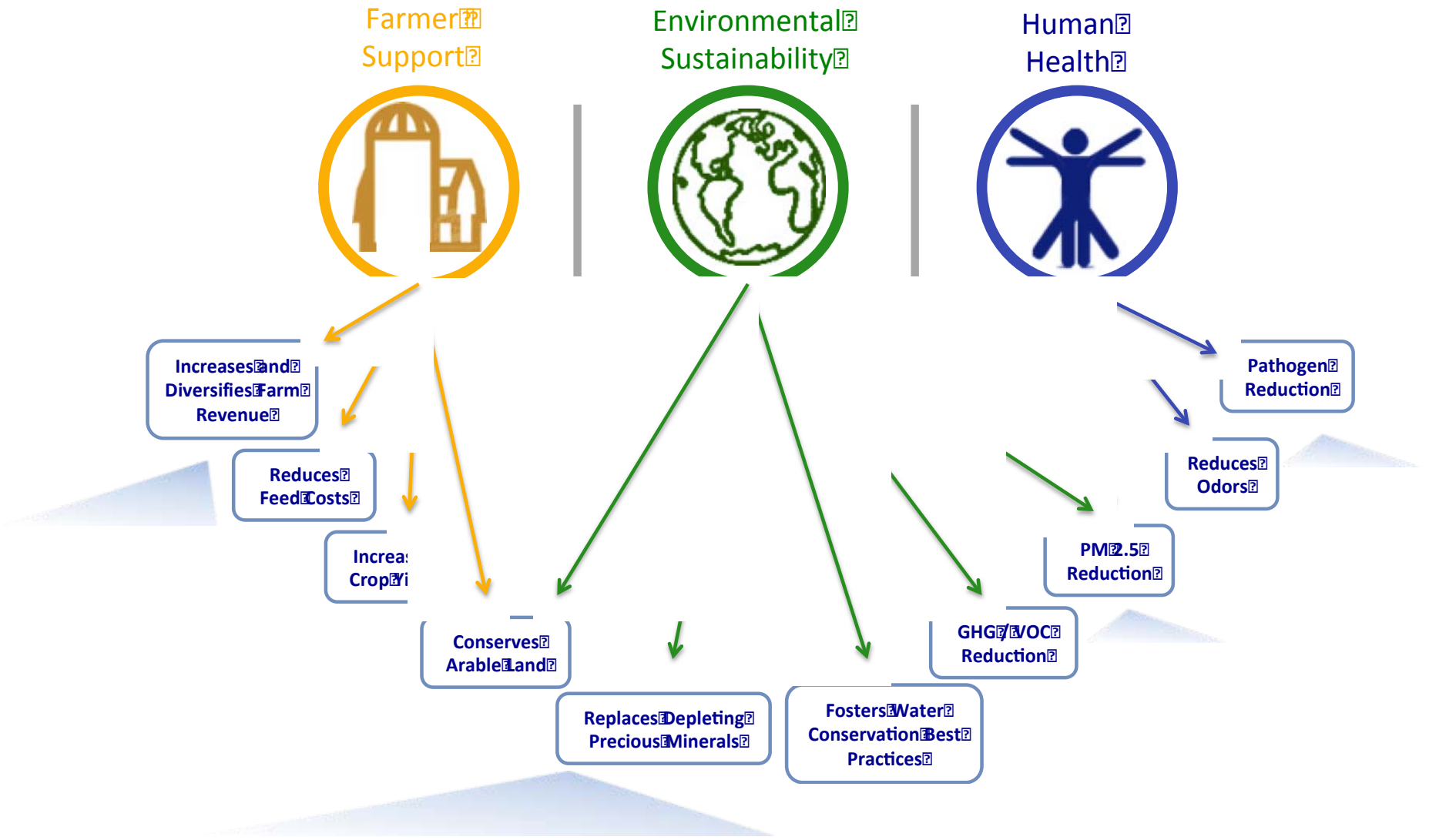
Agricultural, Environmental And Social Benefits



Additional Benefits Detail

Farmer Support

Environmental Sustainability

Human Health

Farmer Support

Increased and Diversified Revenue to Farmers
Provides cost-reduction and revenue diversification to farmers through sharing agreements

Reduces Feed Costs
Manure-based models do not rely on energy crops which divert supply and increase costs of animal feed

Increases Crop Yield
AD by-products used as fertilizer reduce of weed seed and create higher ammonia-based fertilizer than manure spreading

Resource Preservation

Replaces Depleting Precious Minerals
AD by-products used as fertilizer replaces alternative precious minerals, particularly phosphorus, used in the production of chemical fertilizers

Conserves Arable Land
Use of Manure versus energy crops in bio-energy production saves precious land resources.

Water Conservation

Mitigates Water Pollution from Poor Manure Management Practices
Reduces groundwater pollution caused by poor management of animal waste and potential nutrient imbalances, currently the largest single water pollutant in the country.

Increases the use of recycled water
Current manure management processes typically lack systems for the beneficial reuse of water used in flushing.

Emissions Reduction

VOC Reduction
AD reduces VOCs otherwise emitted by cows and manure by more completely transforming them into methane.

PM 2.5 Reduction
AD reduces ammonia in the atmosphere which a precursor to the production of particulate matter ($PM_{2.5}$) a quickly growing health concern

Human Health

Reduces Odors
Closed systems reduce the significant odors of animal waste

Pathogen Reduction
AD kills almost all pathogens that would otherwise threaten to enter into the groundwater and expose humans to significant health risks.

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