Existing Federal Programs

Supporting the biogas and RNG industries

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“Powering Businesses, Homes and Vehicles with Waste”
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Updated 9/11/17
For upgraded biogas/RNG as vehicle fuel

- Fossil NG = $3.00/MMBTU
- D3 RIN @ $3.03 = $40.00/MMBTU
- D5 RIN @ $1.12 = $14.50/MMBTU

“Don’t mess with the RFS!”

Renewable Fuel Standard-RINs
Farm Bill

- Energy Title (IX): Rural Energy for America Program, Bioenergy Program for Advanced Biofuel, Biorefinery Assistance Program, Biomass Research and Development Initiative (BRDI).

- Conservation Title (II): Natural Resources Conservation Service (NRCS), Environmental Quality Incentives Program (EQIP), Conservation Innovation Grants.

- Research Title (VII): Agricultural Research Service and National Institute of Food and Agriculture
Agency Programs (Appropriations)

- Cross Agency:
  - USDA/DOE Biomass Research & Development Technical Advisory Committee
  - EPA/USDA/USGS integrated nutrient management strategy
Tax Policy

The biogas and RNG industries need PARITY WITH both fossil energy and renewable energy
AD vs. Solar/Wind

Biogas/AD Systems Are Worth It

- **Capacity factor:**
  - Solar: 16% (EIA, NJ)
  - Wind: 22% (average worldwide)
  - Biogas/AD: 90% (DOE, UW)

- **Economic Comparative Analysis:**
  - It takes 6 times as much solar capacity to achieve the same amount of produced energy from anaerobic digestion
  - If NJ would support 100MW of AD projects, you would need 600MW of solar or 400MW of wind to produce the same amount of renewable energy
    - 100MW of AD projects: **about $400 million** ($4m/MW capacity)
    - 600MW of solar: **about $2.2 billion** ($3.6m/MW capacity; $20m/MW produced energy)
Tax Policy Parity

- Option 1: extend predictable incentives that other technologies use to biogas/RNG
  - S.988 “Agriculture Environmental Stewardship Act”
  - Give baseload electricity generation technologies in Section 45 long-term tax credit extensions equivalent to those given to solar industry.

- Option 2: create technology neutral tax reform
Don’t care about supporting renewable energy?

• **With what infrastructure will we manage:**
  - 66,500,000 TONS of food waste each year
  - The sludge from 31 BILLION gallons of wastewater EVERY DAY
  - The manure AND NUTRIENTS from 8 BILLION cows, chicken, turkey and pigs

• **Where will the nutrients for US agriculture come from?**
  - 12,840,000 short TONS of nitrogen (N) needed
  - 4,321,000 short TONS of phosphate (P$_2$O$_5$) needed
  - Nitrogen is mostly made from ammonia using fossil fuels
  - Phosphorus mining in the US creates radioactive waste—or we import it

• **13,500 US Biogas Systems =**
  - $40 billion in construction spending
  - 335,000 short–term construction jobs and 23,000 permanent jobs
Let’s develop smart policy to grow the biogas and RNG industries!

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