

SUMMARY OF DOMINICAN REPUBLIC FINDINGS TO DATE
March 2011
Methane to Markets Support for Livestock and Agro-Industrial Wastes

1. THE METHANE TO MARKETS PARTNERSHIP (M2M)

The Methane to Markets Partnership (M2M) is an initiative to reduce global methane emissions in four main sectors: agriculture, landfills, oil and gas and coal mines. USEPA is conducting livestock and agro-industry resource assessments (RA) in twelve countries. The objective is to identify and characterize the potential for incorporating anaerobic digestion into waste management systems to reduce methane emissions and provide a renewable source of energy. These RAs, together with feasibility studies and demonstration projects, will serve as the basis for future country-level policy planning and efforts to promote implementation.

2. CURRENT DOMINICAN REPUBLIC FINDINGS TO DATE (Dominican Republic RA, 2011)

Sector	Description of the sector and assumptions	Direct emissions ¹		Indirect ²	Total
		CH ₄ (MT CH ₄ / yr)	CO ₂ e (MT CO ₂ e / yr)	Fuel replacement (MT CO ₂ e / yr)	Direct + Indirect (MT CO ₂ e / yr)
Swine	850,000 pigs in 2009; assume 40% of organized farms (which represent ~65% of total) use lagoons	5,500	116,200	18,200	134,400
Rum distilleries	50 million liters of rum in 2005; there are 4 large distilleries in the country, 2 of them use lagoons; COD: 110 kg/m ³ ; WW 25 m ³ /MT	3,700	78,100	12,200	90,400
Sugar	4.6 million MT of sugarcane processed in 2009, from which 521,000 MT of sugar were produced; there are 4 large sugar mills in the country, assume all use lagoons	3,600	75,900	11,900	87,800
Dairy cattle	2.6 million cattle in 2008, 600 million liters of milk in 2009; 10% of confined and semi-confined farms use open concrete tanks	1,700	36,400	5,700	42,200
Total		14,600	306,700	48,100	354,800

MT: Metric tons – COD: Chemical Oxygen Demand – WW: Wastewater generation rate

¹. Baseline methane emissions due to the current waste management system; assume CO₂ GWP is 21. Methane emission reductions were estimated using the 2006 IPCC Guidelines for National Greenhouse Gas Inventories Tier 2 method for livestock waste management and agricultural commodity processing wastewater.

². Indirect emissions reduction potential: the emissions that would be reduced by fuel replacement through the use of biogas

3. BENEFITS

Anaerobic digestion provides the following benefits:

1) *Water, Greenhouse Gases, and Renewable Energy*: Stabilization of organic wastes and reduction of methane emissions, via combustion of captured methane (biogas) in either a flare or for use as a renewable energy resource. This improved waste management practice also improves kitchen air quality when gas is used as a cook fuel that replaces conventional woody biomass as a fuel source.

2) *Sanitation and Human Health*: Eliminates fly attracting odors thereby reducing this disease vector while also directly reducing pathogen levels in the treated wastewater.

3) *Economics*: Off-setting of purchased fossil fuel energy as methane can be used as a fuel for electricity generation, and/or direct heat, or as a cooking fuel. In addition, many such facilities have availed themselves of carbon credits, further improving the economics of anaerobic digestion.