Resource Assessments: Where We Are and What We Learned

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Development Approach

Key Issue: Each country presents its own unique set of cultural, institutional, and technical barriers to gas recovery from livestock and food processing wastes.

Objective: Effectively communicate with international partners to better understand and facilitate the development of programs/projects that reduce methane and address growing environmental and human health concerns, preferably within a programatic framework with multi-laterals/other to enable project development.

Strategy – Implement a series of developmental steps that 1) educate; 2) build capacity; and 3) create market supply and demand

- *Step 1*: Identify market and prioritize opportunities = *Resource Assessments*
  - Region, scale, waste handling method, energy, and methane reduction
- *Step 2*: Identify appropriate technologies and identify capacity needs
  - Climate, material affordability, cost, labor skill set
- *Step 3*: Transfer technology through commercial project demonstration and "hands on" training
- *Step 4*: Address National issues that impede project development in technical and policy areas
  - Standards, certification, financial/energy incentives, cost share, regulatory
- *Step 5*: Expand on success thru extension
  - local, national, and inter-regional exchange, workshops, conferences, study tours

Introduction: Resource Assessments

- A country resource assessment has several objectives:
  - Characterize and identify methane reduction potential;
  - Identify market opportunities;
  - Provide location of resources;
  - Provide a ranking of resources - prioritize.

Example Assessment Summary

Methane to Markets

Argentina

Sector	Methane Emissions Reductions (MT CH_4/yr)	Carbon Emissions Reductions (MT CO_2e/yr)	Fuel Replacement Offsets (MT CO_2e/yr)	Total Carbon Emissions Reductions (MT CO_2e/yr)
Sugar mills + distilleries	41,100	864,600	162,800	1,027,400
Swine	19,600	412,000	77,600	489,600
Dairy	16,800	353,000	66,500	419,500
Slaughterhouses (swine + cattle)	9,300	196,900	37,000	233,900
Citrus	4,100	87,800	16,500	104,300
TOTAL	**90,900**	**1,914,300**	**360,400**	**2,274,700**

Philippines

Industry/ Sector	Geographical Coverage	Carbon Emission Reduction (MT CO_2e /year)	Emission Reduction From Fossil Fuel Replacement (MT CO_2e /year)	Total Emission Reduction (MT CO_2e /year)
Swine Farming	Regions III, IV-A, VI	1,541,000	247,500	1,788,500
Alcohol Distillery	Nationwide	478,000	84,000	562,000
Coconut processing	Region IV, X, XI	162,500	28,500	191,000
Slaughterhouse	Nationwide	10,500	1,800	12,300
Total		2,192,000	361,800	2,553,800

RA Country Status

Completed

- Argentina
- Philippines
- Colombia
- Thailand
- Vietnam

Underway

- China

Almost Complete

- India
- Brazil
- Ecuador
- Mexico

Starting

- Ukraine
- Korea

Lessons Learned

- General Finding: RA's are effective cutting edge studies to support country Ag. inventories
- Always verify waste management data assumptions with multiple site visits and visual verification across sector scales
- Hold discussions with facility management responsible for environmental compliance or waste management
- Some sectors are sensitive about access and level of reporting
  - Keep this general to maintain study integrity
- Requires skilled team that can assess facility waste handling and management that are compatible.
  - Cross walk these conclusions through discussion
- Key Finding: Reported Country Agricultural inventories are often lower or higher than the RA findings.
- In some cases Country estimates are lower by an order of magnitude
  - Tier I vs. Tier 3 inventory approaches