COUNTRY PROFILES FOR ANIMAL WASTE MANAGEMENT

Japan

September 2006

Summary of emissions and characterization of the animal waste management sector

a. Briefly provide information on national and regional methane emissions for animal waste management systems by type of system and animal type.

National methane emissions in 2004 from livestock manure management were 2,539.88Gg CO_2eq. A characteristic of Japan's methane emissions from livestock manure management is that methane emission is small compared to the volume of livestock manure. This is because almost all livestock manure management is implemented through aerobic methods rather than anaerobic methods. Due to this situation, methane emissions from livestock manure management share only about 15% of methane emissions from agriculture, while N_2O emissions from livestock manure management share about 40% of N_2O emissions from agriculture. Main livestock species are dairy cattle, non-dairy cattle, swine, hen and broiler, and other livestock species are quite few in the number.
Source: National Greenhouse Gas Inventory Report of JAPAN, 2006

b. Briefly describe current animal waste management practices (e.g. land application, pasture/range, solid storage, liquid storage, lagoon) and livestock types (e.g. swine, dairy cattle, beef cattle, poultry).

Almost all livestock manure is under management, because pasturage is rare in Japan. About 90% of the management method is composting (solid, liquid); the rest is managed by various methods such as sewage purification treatment, carbonization/burning and pit storage. In some parts, methane fermentation treatment is implemented.

c. Briefly provide information on methane recovery and use practices in use.

Methane fermentation treatment of livestock manure is implemented in small parts. On the other hand, cogeneration which covers both electric power generation and thermal utilization is increasing.

Describe the key stakeholders in the animal waste management sector

Key stakeholders may include: farmers, farm organizations, utilities, local and/or federal government agencies, non-governmental organizations, equipment providers, consultants, and other private sector representatives.

Farmers and local and federal government agencies

Overview of methane recovery potential

Available statistics on the technical and economic potential for methane recovery and use from animal waste management systems.

No statistics is available.

Challenges and/or priorities to greater methane recovery and use.

Discuss the key challenges or barriers to project development. Examples may include technology, energy policy, regulatory issues etc…

Further technical development is necessary to save manpower, lower the cost and acquire high efficiency in the technology of methane fermentation and utilization of captured gas.

List of existing or planned methane capture and/or use projects (if available)

Market assessment and reform issues

Describe key market issues related to project development. Key issues could include: end uses for methane, potential for on-site uses, prices and tariffs, competition, market access (e.g. access to electric utility grid, gas pipeline), renewable or green energy standards, and regulatory issues.

In the research institutes related to the ministry of agriculture, forestry, and fisheries, demonstration tests of the cogeneration-system are implemented. The tests include highly efficient electric power generation by captured gas from livestock manure, production of feeds by dry treatment of food residues using abandoned thermal energy, and utilization of ash as phosphatic fertilizer.
"Biomass Nippon Strategy" undertakes utilization of livestock manure oriented gas as one of its action plans to promote utilization of biomass.

Financing Options (characterize):

Provide a brief discussion of available financing options for projects that recover and use methane from animal waste management, such as internal mechanisms, external support, private sector investment, multilateral agreements, and incentives.

Financial assistance by subsidy is available to construct facilities which make use of livestock manure oriented gas as electric power generation and thermal energy.

Current cooperation among countries or non-governmental organizations

Describe any existing bilateral agreements or cooperation with multilateral development banks.

None

Country Priorities

Describe what you country would ideally get out of the Partnership if it focused on animal waste management.

There is not any specific plan at the moment.

Other issues related to animal waste management

Other environmental and economic considerations that factor into decisions about animal waste management in your country, such as costs and benefits of methane recovery and use from animal waste management in your country.

In Japan, livestock manure management and utilization is stipulated in the act. Based on this act, basic policy is officially announced that compost is the standard for livestock manure management.

Conclusions and Observations

In Japan, new projects are not expected related to methane recovery and capture in the process of livestock manure management, as anaerobic treatment of livestock manure which leads to lots of methane capture is rare.

Keeping in mind this general situation, methane capture and utilization projects by methane fermentation from livestock manure would be developed in some regions as the result of lowered costs of the related technology.