

## **1. Summary of the Biogas Program for Animal Husbandry sector of Vietnam**

Project “Biogas Program for the Animal Husbandry Sector in Vietnam” is implemented by the Biogas Project Division (BPD) part of the Department of Livestock Production (under the Ministry of Agriculture and Rural Development (MARD)) in partnership with Netherlands Development Organization (SNV) and funded by the Dutch Government. Overall objectives of project are (i) effectively exploiting biogas technology and developing a commercial viable biogas sector in Vietnam; and (ii) contributing to rural development and environmental protection via provision of clean and affordable energy to rural households, improvement of community’s sanitation and rural people’s health, creation of jobs for rural labor and reduction of greenhouse gas emissions (GHG).

BP is supporting the implementation of biogas units of volumes between 4 to 50 m<sup>3</sup> in households with livestock (cattle, buffalos or pigs). With this technology the manure management is improved, leading to less greenhouse gas emissions and improved hygienic and environmental living conditions. The produced biogas is used to replace conventional fuels like firewood, coal, LPG, kerosene and agricultural residues for cooking. Apart from cooking, biogas can be used for lighting, water heating, electricity generation and other income generating activities. This technology is already available for household farms with more than 6 pigs or 2 cattle.

The installed biogas units contribute to the reduction of GHG emission in 3 ways:

1. Avoidance of methane emissions from the baseline manure management system by capturing and destroying methane for energy services;
2. Fuel switch from non-sustainable energy sources for cooking and lighting to biogas;
3. The effluent from a biogas system, bio-slurry (digestate), replaces chemical fertilizers.

### **The purpose of the BP Vietnam Gold Standard Biogas VER Project:**

The purpose of the project activity is to (further) develop the commercial and structural deployment of domestic biogas in Vietnam with the help of VGS. To that extent, the project will:

- Promote the long-term utilization of renewable energy produced in an environmentally compatible and economically viable way;
- Increase the awareness of prospective livestock smallholder households and extension workers on the full extent of the potential costs and benefits of domestic biogas installations;
- Strengthen the supporting capacity of involved Biogas Construction Teams (BCTs) and (non-) Government officials regarding all aspects of marketing, construction, after sales service and quality management of domestic biogas installations;

- Support the development of a commercially viable, market oriented domestic biogas sector in Vietnam;
- Strengthen the institutional infrastructure for coordination and implementation of sustained dissemination of domestic biogas at national, provincial and district level.

The programme has built over 110,000 biogas units as of date. With the application of VGS the programme plans to build 200,000 extra units in the period 2013-2018.

### **Use of VGS revenue**

The BP will use the revenue to support the development of the biogas sector in Vietnam.

The revenue will be used for:

- Investment subsidy for the household (currently 1.2 million VND)
- Continue and improve the user training on the use of biogas
- Continue and improve training and certification of masons
- Quality inspections on the biogas plant to ensure proper operation
- Introduction of the programme in provinces not included in the programme
- Set up a market driven quality control and certification system
- Improve awareness of biogas technology through PR and information sharing
- Start with research and development activities to increase potential use of biogas and bioslurry and therefore increase the benefits for the farmers.
- Program management and further knowledge sharing with Asia Biogas Networks

## **2. Contribution to Sustainable Development**

The Project will contribute to sustainable development (SD) of Vietnam in several areas:

### **(1) Contribution to environmental development**

- Substitution of conventional household fossil fuels by biogas and efficient biogas stoves, resulting in cleaner indoor air;
- Substitution of biomass fuel that is unsustainably harvested, helping to alleviate deforestation;
- Mitigation of the GHGs emissions by switching a high GHG emissions AWMS practice to a lower GHG emission AWMS practice;
- Substitution of synthetic fertilizer with the organic residue from the digestion process – bio-slurry;
- Improvement of sanitary conditions on the farms through connection of latrines to sewers or biogas digester and regular collection and treatment of animal manure from stables;
- Reduction in environmental load on surface waters as a result of averted discharge of untreated manure; and

- Improvement of indoor (kitchen) air quality by substituting less efficient cooking fuels by biogas.

**(2) Contribution to economic development**

- Reduction in the expenses for domestic thermal energy;
- Reduction in expenses for synthetic fertilizer by applying bio-slurry;
- Increase in agricultural production yields by applying nutrient rich bio-slurry; and
- Creation of employment opportunities for the construction and maintenance of biogas digester systems in rural areas.

**(3) Contribution to social development**

- Reduction in domestic workload of women and children by
  - the reduced demand for wood (less time is spent on fuel wood gathering)
  - Provision of a convenient cooking fuel that burns faster and cleaner than solid fuels (time is saved on cooking activities and cleaning the pots) and
- Prevention of respiratory illnesses resulting from indoor air pollution and gastro-enteric diseases attributed to poor sanitary conditions.

**(4) Conformation to the governmental policy and strategy of Vietnam**

- The Project contributes to the Government's National Strategy for Environmental Protection with the major objectives:-
  - *"To halt pollution acceleration, remedy degraded areas and improve the environment quality and ensure sustainable development of the country is achieved";*
  - *"To guarantee that all people are entitled to live in an environment with good quality of air, land and water measuring up to standards stipulated by the State";* and
  - *"To increase the rate of clean energy use to 5% of the total annual energy consumption".*
- The Project is also consistent with Vietnam's Global Environment Facility Strategy and Renewable Energy Action Plan which promotes the efficient use of energy sources.