

Connecting People's Capacities

Biogas solutions for mid-sized livestock farms

Medium-sized farms (over 300 pigs) are Vietnam's fastest growing livestock field. Their waste pollutes waterways and produces millions of tonnes of greenhouse gas (GHG) emissions. Scaled biogas digesters solve manure management problems, while also providing power and reducing carbon emissions.

Improved cook stoves for rural households

Currently, 80% of households in Vietnam use traditional cook stoves, which devour biomass, contributing to both deforestation and GHG emissions. Furthermore, with poor ventilation, these open stoves increase indoor air pollution and with it, respiratory and other diseases, with women and children affected in particular. SNV Vietnam, together with its partners, is now developing a programme to build the market for high-efficiency stoves, in an attempt to counter these negative impacts.



For more information please contact

Dagmar Zwebe,
Renewable Energy
Programme Leader
at zwebe@snvworld.org

SNV Vietnam office
6th floor, building B, La Thanh hotel,
218 Doi Can street,
Hanoi, Vietnam
Tel: (84-4) 38463791
Fax: (84-4) 38463794

www.snvworld.org



Background

Vietnam, like many developing countries, faces increasing energy supply challenges. While traditional cooking fuels (wood, agricultural waste, dried dung, and charcoal) become more scarce, the cost of commercial fuel rises and its availability becomes more unreliable. Furthermore, fuel collection eats up valuable time, particularly of women and children, and smoke from burning these fuels makes people prone to a range of health problems.

Meanwhile, high volumes of methane are released from the manure of Vietnam's 30 million pigs, which is often disposed of incorrectly in waterways, not only contributing to greenhouse gases in the atmosphere, but also wasting a potentially valuable energy source.

Despite the urgent need for alternatives, the successful dissemination of renewable energy technologies has yet to be achieved. In many cases, special services provided by a project are discontinued, leaving communities disappointed. Biogas offers a sustainable solution: converting animal manure and human excreta into cooking energy.



Domestic Biogas

The Biogas Programme began in 2003 in cooperation between the Vietnamese and Dutch governments. It was implemented by the Ministry of Agricultural and Rural Development (MARD) with technical assistance from SNV. As of December 2010, **106.366,000 biogas plants** had been constructed and over **800 technicians**, **1,400 biogas mason teams** had been trained.

Aims by the end of 2012:

Income & employment

- 164,000 biogas plants installed in 58 provinces
- Workload reduced for women by 109 million hours per year (1.8 hours per day)
- Livestock increased for 67% of biogas households
- Household costs cut by 65% for 164,000 households

- Crop yields increased by 5-20% through use of slurry as fertilizer
- 1,200 mason teams established; 10-12 mason team man-days created per digester
- 1.5-3 tradable emission rights gained per year per digester

Health & sanitation

- Health-related improvements made in kitchens, food safety, and surface water
- 75,000 toilets attached to biogas plants

Environment

- 1.5-3 tonne reduction of CO₂ per year per digester
- Eco-friendly closed farming systems established, using less fertilizer and chemicals

In 2006, the National Biogas Programme in Vietnam was granted the **Energy Globe Award** for its contributions to reducing global warming.

In 2010, the Programme also earned the prestigious **Ashden Award** for its innovative approach in tackling the twin problems of dangerous cooking practices and untreated animal waste. **The programme continues to be instrumental in reducing poverty as well as aiding and sustaining the development of animal husbandry in Vietnam.**