



Household level biogas generation, Vietnam

Biogas digesters decompose animal manure and toilet waste to produce biogas, which can replace petrol, coal, wood or agricultural residues as fuel used in cooking, boiling water and lighting.

Location



The programme, which is active in more than 52 of Vietnam's 63 provinces and municipalities, is aimed at low-income, rural livestock farmers throughout the country.

Project



This rural biogas digester project tackles two of the problems faced by Vietnam's farmers: costly and unhealthy cooking practices, and untreated animal waste. Converting animal waste into energy via biogas digesters produces clean and affordable energy. It also reduces the health and environmental problems associated with animal waste and wood fuel.



The programme aims for ecological and economical sustainability through the establishment of biogas enterprises and the commercialised distribution of the digesters. Local skills and materials are used to build the units, creating long-term employment opportunities in rural areas, while quality control processes ensure long-term maintenance of the digesters. By 2011, the project had already supported the construction of over 110,000 biogas plants. Phase 2 of the project aims to support the construction of another 140,000 biogas plants.

By reducing the use of fossil fuels and non-renewable biomass, and by preventing animal waste from releasing harmful methane gas into the atmosphere, the project affords massive greenhouse gas reductions, while making sustainable energy and development available to more than 840,000 people. The project also reduces deforestation by substituting biomass with the biogas, and by producing a by-product, bio-slurry, that is used by farmers to help improve soil fertility.

The *World Energy Forum* announced its 2012 award winners, with the *Humanitarian Award* going to this biogas project for its ground-breaking work. It is the third international award won by this programme, following the *Energy Globe Award* presented to the program in 2006, and an *Ashden Award* for sustainable energy in 2010.

Achievements



Socio-economic impact:

- Biogas is a clean burning fuel, so indoor air pollution is significantly reduced compared to traditional cooking methods, lowering eye disease rates.
- The alternative use of animal waste also keeps households clean and odour free, with fewer flies. Many farmers have praised improvement of their yards' sanitary condition as a result of installing the plant.
- Economic savings on cooking fuel are evaluated to be US\$ 120/year per family, so a biogas digester pays for itself in four or five years.
- The project is generating jobs, providing training for at least one biogas technician per province, one biogas technician and two biogas mason teams per district.
- In total 2,000 people will be trained through intensive programs to support the establishment of biogas enterprises in every province.

Environmental impact:

- The project has provided local farmers with support to broaden their agricultural activities to make them more sustainable (e.g. by implementing aquaculture, which reduces the need for logging for farmland).
- The project has reduced the need for firewood for heating, cooking, and lighting, thus allowing the forest to regenerate and improving soil conditions, hydrology and biodiversity.
- The project has improved regional air quality by reducing the need for diesel generators and wood fires.

Checklist Project 301 524



✓ Additionality and permanence:	according to the rules of the Gold Standard
✓ 3 rd party verified:	by TÜV Nord
✓ Transparency:	provided by the Markit Environmental Registry
✓ Annual CO ₂ -reduction:	167,000 tCO ₂ e
✓ Social and environmental benefits:	as documented in our database
✓ Marketing material:	pictures available