

Scaling up energy efficiency in tofu and tempe SMEs in Indonesia



Traditional tofu production enterprises are extremely energy inefficient and environmentally damaging. This project scales up efforts to replace firewood with LPG and to expand the use of biogas at small and medium-sized tofu and tempe producers.



A model factory demonstrates environmentally friendly and hygienic tempe production including stainless steel drums and replacing firewood with gas.

Background

Tofu and tempe are fundamental to the Indonesian diet. Demand for these products is served by an industry of small and medium sized enterprises (SMEs) employing 285,000 workers in 85,000 businesses. Production practices are extremely energy inefficient and environmentally damaging. Enterprises use firewood, resulting in a per-factory emissions average of 450 tons CO₂/year, and sector-wide emissions of 30 million tons.

Using its links to producer associations, key Ministries and the National Standards Agency, Mercy Corps has built a successful programme which has supported 1000 producers to switch from firewood to LPG since 2009. The project developed a lease-to-own financing scheme where the equipment also serves as a guarantee, enabling small producers to purchase clean technologies. In January 2012, the programme expanded with EU funding.

The initiative also installed two pilot biogas digesters which use liquid waste from tofu and tempe production to create biogas. This can substitute for about 10 % of LPG usage.

Project purpose

To scale up the proven EE pilot switchover projects to a further 100 micro, small and medium enterprises in the soybean processing sector, to demonstrate the long-term benefits, to expand the use of biogas, and to better link SMEs with financing.



Main activities and outputs

- Mobilising producer associations and co-operatives for switch
- Establish model factories and hold workshops in cost-benefit analysis.
- Partner with Ministry of the Environment (MoE), banks, and small producers to increase access to develop lease-to-own schemes and other innovative financing options
- Build the outreach capacity of MoE to support its own EE programmes
- Support consumer demand through media campaigns
- Disseminate and promote uptake of successful solutions

Expected impacts

- 100 enterprises switch to EE production practices
- Achievement of a 75 % reduction in emissions, equivalent to 25,000 tons CO₂ per year, and a 15 % reduction in water waste
- Drastic reduction in smoke and related illnesses in the workplace
- Increased profitability of 'clean' producers by average € 500 per year
- Adoption of LPG and improved fuel-use practices in factories in greater Jakarta and other urban areas
- Improved access to capital through public-private partnerships and linkages to financial institutions

Project Information

Location:	Indonesia
Duration:	2013–2014
Sector:	Energy Efficiency
Thematic focus:	Business
Total project budget:	€ 337,556
REEEP grant:	€ 149,996
REEEP donor:	Switzerland
Co-funding:	€ 187,560 from the European Union
Implementing partner:	Mercy Corps