Sustainability action · Project Renewable Energy and Energy Efficiency

Biomass co-firing, Thailand

This bundled project is a combination of five greenhouse gas reduction projects located in five different cement manufacturing units. Partial replacement of fossil fuels by less carbon intensive fuels during the energy intensive cement manufacture process mitigate global warming and benefit local communities.

Project

In the rural regions of Thailand, access to medical treatment is no matter of course, even with the public health system being modernized. In the province of Saraburi, cement manufacturer Siam Cement is only providing free medical service not only to their employees but also to surrounding communities. Their mobile medical unit stops by once per month to give free examination and treatment, from eye problems to x-ray. Awareness of environmental topics, the will to address climate change, and social consciousness for surrounding communities characterize the project owner.

Thailand's growing economy has a huge potential for the implementation of climate friendly technologies such as biomass utilization, e.g. large amounts of carbon can be saved by partly switching fuel use from fossil to renewable in existing cement plants. With the project activity, carbon intensive fuels such as coal and heavy oil are replaced by wood, rice husk and other agricultural wastes from the region. In order to implement this carbon mitigation project, a complete system for the collection, storage and feeding for the alternative fuels has been introduced. The collection of biomass is done from nearby areas depending on the type of available biomass and crop patterns in the specific region. Before the implementation of the project activity, the biomass was considered waste and rice husk burnt in open fields – still a common practice in developing countries. Other agricultural wastes were left in the fields to decay aerobically. Now, the former waste is given value and brings additional income to rural communities.

Checklist	Additionality and permanence	3rd party verified	Transparency	Annual CO_2-reduction	Social and environmental benefits	Marketing material
Project 300 180	According to the rules of the Verified Carbon Standard (VCS)	By Bureau Veritas	Provided by Markit Environmental Registry	700,000 tCO_2e	As documented in our database	High resolution pictures and HD video available

1121EN, 06.2015

Location

The wastewater cycle was installed in a starch plant 250 km North-East of Bangkok, in a rural region with mostly agricultural background. Starch production forms the region's main industry.

Project achievements

Socio-economic impact

- The company's medical unit bus is serving the surrounding communities with free examination and treatment once per month to support local health programs.
- With the project implementation, the company's annual student scholarship program has been modified into a comprehensive program that supports students from the region until graduation.
- Hundreds of internships have been given over the years to students to support their technical education.
- The project owner supports local and national Badminton tournaments to promote sport and a healthy lifestyle.
- A small biogas facility has been provided to local Tar Ko school, for educational and cooking purposes.
- The project brought additional income opportunities for locals through biomass purchase.
- Jobs have been created during the construction and operation phases of the projects.
- The project activity has helped to enhance the skills of workers by providing technology transfer and training in trendsetting technical areas.
- Free time facilities such as sports fields are provided to the workers on the project site.
- The implementation of the company's "One Cell One Project (OCOP)" program encourages the employees to engage with the local communities to strengthen their livelihood and selfsuffciency. More than 190 small scale projects are ongoing under the efforts of all five plants with local communities.

Environmental impact

- More than 6,500 check dams for upstream conservation in the surrounding hills have been built under the joint efforts of the project owner and local communities. This aims to preserve watershed forests, reduce the risk and consequence of forest fires, and save fields from flooding in the rainy season.
- With the avoidance of biomass unregulated burning on the fields, local air quality has improved.
- The project owner is engaged in re-establishing eco-systems in former lime quarries to mitigate its economic footprint.

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