

Renewable Energy Project



Phetchaburi Biomass Project

This project generates renewable energy from biomass waste at a textile manufacturing plant in Phetchaburi (pronounced pet-boori), Thailand.

Standard

VCS (Voluntary Carbon Standard)

Country

Thailand

About your project

The plant where this project is based produces polyester which uses high temperatures during the manufacturing process. Before the implementation of this project, the plant was using approximately 12,000 tons of coal a year to power its operations. With the installation of new thermal boilers, the plant avoids emissions from fossil fuels by using a variety of biomass waste to generate power. Being able to use multiple types of biomass in the boilers to produce a stable output above 570°F makes this technology a first both within Thailand and in the textiles industry.

The biomass used by this project is abundantly available in the surrounding areas and includes rice husk, wood chips, palm and coconut shells. These sources of biomass are by-products of existing agricultural and manufacturing activities and were previously burnt or left in fields to decay.

Together, textile and clothing manufacturing are the second largest export commodities in Thailand, making it an important part of the country's economy. Alongside this, Thailand's energy is primarily supplied by fossil fuels which are responsible for the majority of the country's greenhouse gas emissions. Projects like this are important to help Thailand develop in a sustainable way, particularly as it is a country very vulnerable to small changes in climate.

Beyond the emissions reductions, the project has improved the air quality by substantially reducing pollutants from fossil fuel combustion such as nitrous dioxide (NO₂), sulphur dioxide (SO₂) and particle matter. Additionally, the project avoids biomass decaying in open fields which prevents the creation of methane, unpleasant odors and dense, stagnant water that can be breeding grounds for disease.

Alongside the environmental benefits, the project has created over 20 temporary, construction jobs and eight permanent, operational roles. It is also providing a new source of income for rural farmers who supply and transport the biomass to the manufacturing plant. The local community is supported by the project owner who is providing voluntary scholarships which develop the local workforce.



These images have been provided by individuals working with the project operators

About biomass fuel switch

Biomass is all living matter including plants, crops, trees and waste products from milling and agricultural processes. Biomass can substitute fossil fuels – either in part or in full - to generate electricity, heat or both (known as cogeneration). Sustainably harvested timber is considered a renewable source of biomass because the trees that are removed are replaced, resulting in no net loss in stored carbon dioxide. Waste material such as bagasse (sugar cane stalks) and rice husk are another source of renewable biomass as they are by-products of existing agricultural processes. Using waste biomass for fuel can improve energy sustainability, provide additional income to farmers and overcome disposal issues. Switching to renewable sources of biomass not only prevents the release of CO₂ from fossil fuels, it avoids the ecological damage associated with mining, drilling and transportation of these fuels.



How carbon offsetting helps the project

It is expensive to develop and operate biomass technologies and that is where carbon finance can play an important role. Fuel switch projects like this one are not required by law and often have to overcome financial and technological barriers to realize implementation. Carbon finance provides an additional revenue stream, helping to make these projects an attractive and viable option. In this case, the incentives from carbon finance are enabling energy generation from biomass.

The reductions in CO₂ emissions achieved by this project are incremental to business-as-usual and measured by an independent verifier to internationally recognized standards. These are bought as carbon credits by clients of The CarbonNeutral Company to neutralize their own emissions.

Verification:

This project is verified to the Voluntary Carbon Standard (VCS).



Project area coordinates:

The geographical coordinates of this project are latitude 13° 17' North and longitude 99° 49' East.