

Thailand Renewable Energy Policy - The Potential for Electricity from Dendro-power (Summary)

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The Royal Thai Government has declared the objective to increase the level of renewable energy utilisation from a level of just 0.5% at present, to a figure of 8%, (approximately 6,600 KToe), by the year 2011. In reaching this target for renewable energy, biomass-based energy is expected to provide a share in excess of 60%, reflecting the fact that Thailand is a country highly dependent on the agricultural sector and hence has access to large amounts of waste agricultural material. The other sources of renewable energy are expected to be biogas, wind, municipal waste, mini-hydropower, solar power as well as bio-fuel energies. Currently, Thailand depends substantially on imported crude oil this amounted to \$10.7 billion in 2004 representing 6.5% of the GDP.

In order to achieve the 8% goal, the government is encouraging the power generating sector to produce some 1,900 MW from renewable sources. Independent Power Producers (IPPs) are required to adhere to the Renewable Portfolio Standard (RPS), which has been introduced to accelerate renewable energy utilization. Under this standard, power producers that wish to sell power to the Electricity Generating Authority of Thailand must produce 5% of their installed energy generating capacity from renewable sources.

Since Thailand is an agricultural country, the sustained development of biomass in the country can definitely reduce fuel consumption as well as improve the stability of the electricity supply. Agricultural residues, such as bagasse and palm fibre have been used as energy sources in the co-generation plants. However, expected improvements in the efficiency of operation of these plants will also ensure greater heat output and improved electricity levels.

Biomass represents significant energy generating potential. Such production is particularly appropriate for businesses which have access to a regular supply of agricultural products, such as United Power Generation Co.'s planned biomass project in Nakon Ratchasima province to be fuelled by wood from a reforestation site. Thailand has an installed biomass electricity capacity of about 670 MW, with sale to the grid of 246 MW. The Energy for Environment Foundation has estimated that the nation has potential to generate an additional 1,400 MW, for a total potential of approximately 2,000 MW. The same source has indicated that Thailand's installed biogas systems generate approximately 20 MW of power, with an estimated total generating potential of 278 MW.

Under a programme of cooperation with the British Government, a feasibility study on the development of a dendro-thermal project was carried out in North-east Thailand. A bubbling fluidized bed boiler and condensing steam turbine were adapted in this project to generate 8 MW electricity. Currently the project is still at the planning stage and implementation of this project is awaited.