

## Viet Nam

## Biomass Energy in Viet Nam



GGGI in Viet Nam: Harnessing the potential for biomass energy in the Sóc Trăng province

Viet Nam's economy is one of the fastest growing in Southeast Asia, driving ever greater demand for electricity—much of which comes from coal. However, biomass energy production has enormous potential to meet future electricity needs without increasing carbon emissions. To explore the potential of biomass energy, the Vietnamese government has set guidelines for the development of provincial biomass energy master plans. The Global Green Growth Institute (GGGI) has supported Soc Trang province to develop its provincial Master Plan for Biomass Energy which has now been adopted.

*“Development of biomass energy is an appropriate choice for Vietnam, especially for Soc Trang province. The biomass energy project creates a reliable source of energy that positively affects jobs. This is to contribute to the improvement of living standards and poverty reduction for the local population,”* said Vo Van Chieu, director of Sóc Trăng's Department of Industry and Trade.

Developed with the support of GGGI, through a process that involved a series of field studies and consultation workshops with Sóc Trăng officials, the master plan found that as much as 68 megawatts (MW) of energy could potentially be generated using sugarcane waste, called bagasse. The master plan also identified five potential biomass energy projects that could generate this electricity with an investment of approximately USD 43 million.

Bagasse is the fibrous matter that remains after sugarcane stalks are crushed to extract juices. The pulpy residue left after the juice extraction is burnt in furnaces to produce steam for electric power generation. This electricity is not only enough to power the sugar mill itself but can also be added to the local electrical grid.

In 2017, 34.2% of Viet Nam's electricity was produced by coal. This is expected to increase to 56% by 2030 in order to support the country's energy needs, including food processing, textile manufacturing, machine building, mining, steel production, and mobile phone manufacturing. Some 26 new coal power plants have been planned in Viet Nam, but, recently, the government has suggested that renewable energy could dramatically cut the number of future coal plants needed.



GGGI in Viet Nam: Planning the transition to biomass energy

*“It’s a fallacy to think coal is the best option for Viet Nam to generate energy,”* said GGGI Country Representative in Viet Nam, Adam Ward.

GGGI’s support for the master plan included assessing the potential of biomass energy sources in the province, identifying the economic and environmental value of renewable energy adoption, and guiding investment and construction to exploit available biomass energy sources. Further, the plan will enable the development of local biomass waste to energy projects and encourage financing from private investors, thus allowing Sóc Tr ng to realize its biomass energy potential and reach its target for renewable energy.

Renewable energy sources—like wind, solar, and biomass—are already cheaper than coal in several countries, and prices for renewables are falling every year. Viet Nam has a huge potential for utilizing these and improving the energy efficiency of major power users like cement production.

Electricity production by the sugar industry in Sóc Tr ng province—and Viet Nam generally—is highly promising, but feed-in tariffs for the energy they produce are too low. A feed-in tariff is a premium price paid for energy fed into the grid. In Viet Nam, it’s 5.8 cents per kilowatt hour for biomass

and 9.35 cents for solar. At 5.8 cents, it isn’t profitable to invest in biomass, and only a few sugar mills in Viet Nam have done so. In comparison, the Thai sugar industry receives 13 cents for biomass.

Feed-in tariffs are also featured prominently in a new report on the potential of Viet Nam’s sugar industry to generate 737 MW of electricity. This could reduce the country’s carbon emissions by 2.7 million tons per year and create more than 2,100 new green jobs, according to the *Sweetening the Deal for Biomass Energy* report by GGGI and GIZ. Viet Nam’s total carbon emissions were estimated to be 235 million tons in 2017.

Further, if rice straw and rice husks are added to the fuel mix, sugar mills can produce energy during off season, when they don’t have bagasse to burn. Farmers would also obtain extra income from selling agricultural waste they would normally burn. This improves air quality, bringing health benefits as well as reducing carbon emissions.

*“Biomass is really a win-win for Viet Nam,”* Ward said.