

VIETNAM – 2018

Renewable Energy

Waste-to-Energy (WtE)

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LATEST UPDATE

- The energy demand in Vietnam is forecasted to experience tremendous growth by more than 10 percent annually in the next five years and required power capacity to double.
- Vietnam Energy Association's latest report suggested that Vietnam can produce up to 1 billion kWh in 2020 and 6 billion kWh in 2050 from waste.
- The Government of Vietnam began to shape its regulations and policies to develop solid waste power plants (SWPPs) in 2012 and is seeking technical and financial assistance and aid from government and non-government organizations.

TRENDS AND PILOT PROJECTS

The total amount of energy Vietnam can produce from biomass and waste can reach up to 9 billion kWh in 2020 and 80 billion kWh in 2050. Particularly, total biomass potential stands at 2000 MW, with current installed capacity accounting for 352 MW. Solid wastes, however, have a potential of 320 MW but current energy generated is only at a nascent stage, accounting for a mere 2.4 MW. The Government is calling for interest from the private sector to invest in SWPPs with several investment incentives and favorable policies have now been issued.

As many as 34 local and foreign enterprises have expressed keen interest in developing WtE projects in Ho Chi Minh City (HCMC) given the high potential in the sector. Among potential investors are big names such as Trisun Green Energy Corporation and Hitachi Zosen of Japan, a consortium of Keppel Land of Singapore and Tien Phuoc Real Estate JSC, Naavovo Energy Inc of Canada, and South Korea's Sudokwon SLC. In the immediate time, the city needs 2 to 3 more plants for burning domestic garbage to generate electricity, burning hazardous waste and treating medical waste.

A few pilot projects have been executed to assess the feasibility of current resources. Recently, Hydraulic Machine Company successfully piloted the model on 208 tons of non-classified solid waste provided by the Ha Nam Urban Environment Company, generating sufficient power for the lighting system of the Dong Van 2 Industrial Park to run for 10 days. During the trial period, daily waste was fully treated and the transformation of unclassified solid wastes in the odorless and smokeless process produced no waste water or solid residue. Besides Ha Nam, WtE was also tested at the Go Cat WtE Plant in HCMC's Tan Binh District. Since April 2017, when it became operational, Go Cat has treated 500 tons of industrial waste and generated seven megawatts for the national grid. The plant is operated by a system of pre-processed garbage equipment, such as primary and secondary cutting equipment, industrial garbage pressing equipment, gasification furnaces, synthesis gas containers, and three synthesis gas generators with a capacity of 550kVA each.

OPPORTUNITIES AND INCENTIVES FOR INVESTORS

Vietnam targets a strong reduction in coal and oil imports to cut greenhouse gas emissions by 5% by 2020, 25% by 2030 and 45% by 2050. As an infant but promising emergence, WtE, beside wind and solar power, is a definite future scenario that reserves many rooms for dynamic domestic and international players when the demand for electricity and power is significantly soaring while the reserve of coal and other fossil fuels is becoming scarce. Moreover, considering the fact that 76% of trash ending up in landfills as burial remains the country's most popular method of solid waste treatment, the urgency for environmental protection has been brought to top priority and WtE is one of the two ways out for this issue, which can reduce waste volumes by 90% and eliminate greenhouse gas emissions, while also producing energy from the heat produced by the waste during incineration. In addition, the need for advance technology and machinery has been creating business opportunities for international stakeholders who have the knowledge and expertise needed in this field. An option is to develop small scale SWPPs, which seems to be practical and realistic. For the investor, a small-scale plant does not require a large amount of investment capital. For the Government, it will help Vietnam to learn important technologies and to gain valuable experience.

In addition, the government of Vietnam has initiated policies highlighting the incentives for domestic and international stakeholders. Particularly:

- o Decision 31/2014/QD-TTg of the Prime Minister indicates that power companies have to buy electricity of waste-to-power projects in 20 years at a price of 10.05 U.S. cents per kWh.

- o Corporate income tax incentive rate of 10% is applied for a period of 15 years to newly-established enterprises investing in power plant projects and could be extended if the projects are classified as large-scale projects, using high or new technology and in special need of investment.
- o Import duties for equipment and machinery is exempted to create fixed assets of the RE projects.
- o Land use fee/rental is exempted/ deducted for special encouraged projects (depending also on the location of the projects).
- o For capital incentives, Vietnam Development Bank also provides access to low-interest loans.

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