

Bulgaria:
Energy from biomass
Utilizing wood pulp to generate clean electricity



Bulgaria



Certification:
Gold Standard
Climate Partner Sustainable Development

Key Facts



Background

Bulgaria has a diverse electricity mix including renewables, thermal, and nuclear. However, it remains one of the most energy inefficient countries in the EU. Technological challenges and a lack of investments further contribute to the low energy efficiency. Bulgaria is traditionally a net exporter of electricity, exporting about 20% of all that it produces. However, a shrinking market and the EU energy plan push Bulgaria to increase its share in renewable energy production. The European Union's energy plan focuses on increasing energy efficiency, adopting renewables and decreasing carbon emissions by 2030.

The share of electricity from renewables in Bulgaria has almost doubled in the past 12 years. Following Bulgaria's presidency of the council of the European Union in 2018, the government is seeking to further increase the share of renewable energy and enhance cross-border integration of energy infrastructure and markets. Private sector projects like this one can help the country to reach its energy targets.



The Project

The project is situated in the Sviloza territory, near the town of Svishtov on the right bank of the Danube river. The aim of the project is to utilize available waste biomass residues – byproducts of wood processing at the Sviloza pulp processing plant as fuel. The biomass boiler has a capacity of around 14MW, equating to roughly 157,000 MWh per year, replacing roughly 117,000 MWh of coal-fired electricity. In terms of CO₂ emissions, the project avoids roughly 80,000 tonnes per year. In addition to reduced carbon emissions from the fuel switch, the project also reduces methane emissions from the decomposition of wood waste, which had previously been stockpiled on-site.

Location:

Veliko Tarnovo, Bulgaria

Project type:

Renewable Energy – Biomass

Total emission reductions:

» 83,000t CO₂e p.a. «

Project standard:

Gold Standard

Project start date:

January 2004

Sustainable Development

By supporting this project you'll contribute to the following Sustainable Development Goals:



SUSTAINABLE DEVELOPMENT GOALS

While focusing on reducing greenhouse gas emissions, all our projects also generate multiple co-benefits. These are supportive of the United Nations Sustainable Development Goals.



Good health and well-being

The project reduces reliance on coal for energy. This is important as coal is a particularly polluting energy source, resulting in respiratory illnesses being the 3rd biggest killer of children under the age of 5, according to the WHO.



Affordable and clean energy

The project will displace the use of fossil fuels. Biomass is a clean and cheap source of renewable energy. The project reduces air pollution associated with coal based fuels.



Decent work and economic growth

Biomass energy generation technology requires specialized expertise. Implementation of such technology comes with the need for trained manpower to operate and maintain the system. The project employs ten people on a full-time and permanent basis.



Industry, innovation and infrastructure

The project helps Bulgaria to stimulate and commercialize the use of biomass energy technologies and markets. It also acts as a good model for further biomass investments in the country.



Climate action

The project contributes to the mitigation of climate change as it reduces greenhouse gas emissions. It avoids 83,000 tCO₂ annually. In addition to this, the use of wood pulp as biomass reduces methane emissions which would have been released if the wood were left to decay.



Technology brief – how it works

Biomass comprises a large number of plants and plant residues from agriculture and forestry that can be used for the purpose of generating heat and electricity. In respect of this project, bark residues from cellulose and paper production are used to generate energy. The wood residues provide a fuel for the firing of boilers to produce steam and processing heat, which are required for the production processes on site. By replacing the oil that was formerly used for heating the boilers, the biomass significantly reduces the production of carbon emissions.

Aside from this energy usage, there is little other purpose for the wood residues. As a biomass, the wood residues only release the same level of carbon emissions that the was sequestered as the plant grew.



Project Standard



The Gold Standard is an award winning certification standard for results based project finance and is recognised internationally as the benchmark for quality and rigour in certifying environmental and socio-economic project outputs. Established in 2003 by the World Wide Fund For Nature (WWF), the Gold Standard today is trusted and endorsed by NGOs, governments and multinationals including United Nations agencies worldwide.

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