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# BIO MASS



Regarding all renewable energy sources in Serbia, which combine hydro energy, energy from biomass, wind, solar and geothermal sources, biomass has the greatest available potential, with about 61% share. The importance of biomass is especially noticeable in the agricultural sector.

## Renewable energy in Serbia

In 2014, UNDP began implementing the project "Reducing Barriers to the Accelerated Development of the Biomass Market in Serbia" funded by the Global Environment Facility (GEF) and UNDP in the amount of USD 3.15 million. The project team contributed to the improvement in all segments of the biomass value chain, starting from the agricultural and forest biomass resource itself, through logistics, quality system and supply continuity, to security instruments and other aspects of importance for banking and competent institutions, finding and supporting investors, such as and only the use of energy from biomass.

Through specialty visits, students from faculties of the University of Belgrade and Novi Sad got acquainted with the technology of biogas production and technology the CHP plant works, which gave our future experts practical knowledge in the innovative sector that is developing rapidly in the world.

Global energy consumption will increase significantly, up to 40% in the next two decades. Accordingly, that is the main reason why we need special trainings for experts and direct beneficiaries on how to use biomass.



# Featured articles

## What is the potential of biomass in Serbia?

Meanwhile, evaluating the availability of this raw material potential, we take into account the following data :

- \* Biomass resource is estimated at 3.405 million tons of oil equivalent
- \* Biomass accounts for 61 percent of the total potential of renewable energy resources
- \* Available amount of wood mass, which is mostly present in central Serbia, is 1.53 million tons of oil equivalent



- \* Agricultural biomass (residues in farming, animal husbandry, fruit growing, viticulture and primary fruit processing) is available in Vojvodina and its potential is about 1.67 million tons of oil equivalent, but the degree of its utilization is not more than 2 percent.

Despite the rich resources of biomass, both in terms of its biodiversity and distribution, it is still insufficiently used in Serbia for efficient energy production. Moreover, in south and east Serbia, wood pulp is primarily and uncontrollably used as firewood.

However, we can use biomass in dedicated plants to simultaneously generate heat and electricity.



## How to use biomass for energy generation?

A unique thermodynamic process of combined heat and power production has been applied in cogeneration plants (CHP) - combined heat and power, which drastically increases the efficiency of biomass or biogas.

While in others, conventional electricity generation systems, the primary fuel efficiency factor is 30 to 40 percent, in CHP facilities it reaches as much as 85 percent since waste heat, in the form of steam or hot water, is released in the process. electricity production is used for the needs of the technological process or for space heating. These results in significant savings in operating and total plant costs.