

Bioenergy in Romania

OVERVIEW

With an area of 238,397 km², Romania is the largest country in South-eastern Europe. The landscape is predominantly hilly and mountainous in the central part, while the westernmost and easternmost regions characterized by plains, including the Danube river delta, which is the largest continuous marshland in Europe. About half of the area is covered with natural and semi-natural ecosystems. More than ¼ of the territory is covered by undisturbed forests. Romania is the largest energy market in South-East Europe, with a total final energy consumption of about 25.000 ktoe. Consumption and other transition indicators mark a decided improvement over the past three decades (e.g. GHG reduction of approx. 60%), which however is predominantly attributable to the collapse of domestic industries occurred in the early 90's, and only marginally (and more recently) to energy efficiency measures.

Nonetheless, it is remarkable that Romania reached EU2020 targets in 2016.

Owing to domestic coal and oil industry, the energy sector plays an important role in the country's economy. Romania is rich in natural gas, oil and coal, has a relevant share of hydro as well as nuclear capacities. The country has extremely promising biomass potentials and several ongoing projects are focusing on its valorisation. However, there are growing concerns regarding the sustainability of Romanian biomass (conversion of primary production for energy purposes, partially driven by the growing biogas production). Biomass is the third contributor in the energy mix (TFEC) with approx. 4Mtoe, mostly used for biogas production, CHP and heating. A phenomenon that has been recently highlighted in news reports is connected to illegal logging that seems to have grown from the individual use to a more systematic depredation of publicly owned forests by criminal groups.



Romania	
Population	20 million
GDP (per capita)	\$10k
TFC	25 Mtoe
Transport in TFC	6.1 Mtoe
Biofuels in TFC	5%

BIOFUELS POLICY, REGULATIONS, MARKET DEVELOPMENT

Romania is bound to fully transpose EU Directives, which has occurred through several national laws, yet with occasional delays. The country has also steeply increased mandatory blending targets that in 2020 are set at 8% for petrol and 6.5 % for biodiesel. The total share of RES-T is estimated at approx. 6.5%, which is below the 10% target, but yet quite relevant. Romania has installed capacities for the production of biodiesel and conventional ethanol (80 M t/y), while an advanced Biorefinery is under construction in the south of the country. Romanian partners are also very active in EU projects.

ADVANCED BIOFUELS DEMO AND R&D PROJECTS

In recent years, Romania increased its production of liquid biofuels, mostly on the account of biogas, conventional biofuel and biodiesel, with installed capacities for approx. 80 Mt/y. According to IEA, RES-T amounts to 5%, while Eurobserv'ER highlights that the country is fully compliant with the current targets with a consumption of 91.1 ktoe bioethanol and 206,2 ktoe biodiesel.

Besides existing capacities in conventional biofuels, Clariant is building a new commercial-scale plant for the production of cellulosic ethanol from agricultural residues based on the sunliquid® technology. The plant with an annual capacity of 50,000 tons of cellulosic ethanol will be located in Podari near Craiova in the southwestern part of Romania. The construction started in 2018 and is expected to be completed in 2020. In order to establish a sustainable value chain, two accompanying EU projects have been funded.

LINKS

- Centre for Promotion of Clean and Efficient Energy
<http://www.enero.ro>
- Romanian Association of Biomass and Biogas
<http://www.arbio.ro>
- Romanian Energy Regulatory Authority
www.anre.ro
- Institute for Studies and Power Engineering
www.ispe.ro
- Administration of the Environmental Fund
www.afm.ro
- University Politehnica of Bucharest
www.upb.ro
- Romanian Sustainable Energy Cluster
<http://rosenc.ro/>
- University Polytechnics of Timisoara:
<http://www.upt.ro>
- Clariant
www.clariant.eu