

Bioenergy in Hungary

OVERVIEW

Hungary has an area of 93,028 square km and an exceptional share of land suitable for agricultural purposes, with about half of its territory represented by arable land (approx. 0.5 ha/capita); forests represent about 19%. About 5% of the active population is employed in agriculture, generating approx. 4% of GDP.

Alike other countries of the region, yet perhaps at a lesser degree, Hungary faces population decline due to both demographic trends and emigration. About 70% of the population lives in urban areas: this is an increasing trend.

Though landlocked, the country is crossed by the Danube and Tisza rivers that also represent untapped connectivity potential. In recent years, Hungary is actively exploring opportunities to enhance the railway connection with Adriatic ports.

Hungary lacks extensive conventional domestic sources of energy, which determines high energy dependency (55-60%). The country has limited domestic fossil and hydro resources, while nuclear plays an important role (approx. 16%) with 4 reactors being operational from the '80-ies and two more being commissioned recently. Remarkably, Hungary is leading biofuels production in the region. According to EurObserv'ER, the share of RES marked a declining trend in the past few years and is currently about 13,3%, which is yet slightly above the 2020 target. Renewable Heating and Cooling has quite obviously the lion's share, but there is a significant 6,8% in transport. The weight of bioenergy is considerable, with 69% in RES and 10,6% in total energy. Considering the agricultural vocation of the county, bioenergy could represent an even more meaningful contribution.



BIOFUELS POLICY, REGULATIONS, MARKET DEVELOPMENT

The relevant legislative framework is aligned with the acquis and EU Directives have been transposed in several national laws and by-laws, such as:

- Act CXVII of 2010 concerning the promotion of the use of renewable energy for transport and the greenhouse effect reduction of energy used for transport purposes;
- GD 42/2010 (XII. 20.) on the detailed rules of territorial detachment for sustainable production of biofuels;
- Act XXIX of 2011 on the amendments of energy acts;

- GD 1/2012 (I.20.) on the calculation of the share of Energy from renewable sources;
- GD 309/2013 (VIII. 16.) on the guarantees of origin;
- GD 53/2014 (XII.13) on the sulphur content of certain liquid fuels and heating fuels;
- GD 17/2017 (V. 26.) on the quality requirements for motor fuels;
- GD 39/2017 (X. 9.) on the calculation of avoiding of Greenhouse Gas impact in connection with the compliance of sustainability criteria of biofuels and bioliquids;
- GD 279/2017 (IX.22.) Government decree on the sustainability requirements and certification of biofuels and liquid bio-energy carriers, which defines the requirements for the sustainable production, the certification, the compulsory biofuel share.

The mandatory blending target for biofuels shall increase to 6,2% in energy content in 2020. National Energy and Climate Plan (NECP) that is expected to capitalize upon other existing strategies and become the cornerstones of relevant policymaking in the coming decade, with ambitious 40% GHG reduction and 20% RES targets). Interestingly, the implementation of NECP will mostly be under the responsibility of the Ministry for Innovation and Technology, which infers appreciation of the need for interconnection with the Bioeconomy. The strategy seems to take into account a regional dimension; this is also pursued through BioEast Initiative.

Country information	
Hungary	
Population	9,8 Mln
GDP (per capita)	\$14,000
Final Energy Consumption (Mtoe)	18.5
Final Energy Consumption in Transport (toe)	4810
Share of RES-T of which biofuels	7.7% 49.8%

ADVANCED BIOFUELS DEMO AND R&D PROJECTS

Hungrana Starch and Isoglucose Manufacturing and Distributing Ltd. (<http://www.hungrana.hu>) is a major corn transformation company in Europe and a key player in the Hungarian food industry. The company also produces approx. 350t/y bioethanol for the transport sector.

Pannonia Bio, formerly Pannonia Ethanol operates a biorefinery in Tolna County (<https://www.pannoniabiobio.com>). From its beginnings as a bioethanol producer in 2012, the refinery has almost tripled in size and developed into a multiproduct facility. Today, nutrition, health, biochemical and fuel bioproducts are manufactured as alternatives to fossil materials. Biofuels production amounts to approx. 500 mln l/y.

Etanol-Line Kft's bioethanol plant started its operation in 2008 in Vácszentlászló and produces 7,300 t bioethanol. At present, the processing capacity of 60 thousand tons of maize per year. Remarkably, the facility has been financed by domestic investors.

Since 2007, Envien group has capacities in Komárom (Rossi Biofuel), for the production of 50.000 t/y biodiesel from rapeseed oil and UCO.

LINKS

- Ministry of Innovation & Technology
<https://www.kormany.hu/en/ministry-for-innovation-and-technology>
- Bay Zoltán Nonprofit Ltd.
www.bayzoltan.hu
- Hungarian Ethanol Association
<http://www.etanol.info.hu/>
- Research Institute of Agricultural Economics
www.aki.gov.hu
- Hungarian Chamber of Commerce
<https://mkik.hu>
- Budapest University of Technology and Economics
<http://www.bme.hu>
- Szent István University
<http://www.gek.szie.hu/?q=node/24>
- Pannon Pro Innovations
www.ppis.hu
- Regional Centre for Information and Scientific Development
www.rcisd.eu