

PA #10 The Lithuanian Bioeconomy and supporting knowledge on the transition to a local circular bioeconomy

Lithuanian bioeconomy generated about EUR 4.2 billion of value-added, EUR 12.9 billion turnover and employed around 174 thousand people in 2020. In the last decade, the share of the bioeconomy in Lithuania's GDP increased from 6.8 to 8.4%. The real growth of the bioeconomy was faster than Lithuania's whole economy.

The agriculture and food industries, and the manufacture of wood products and bio-based furniture are the largest bioeconomy industries (altogether generating about 80% of the total value added and providing 85% of the total employment in Lithuania's bioeconomy. Although the contribution of the production of bio-chemicals, medicines, plastics and rubber products using biomass and biotechnology to the Lithuanian bioeconomy is small, business expectations until 2030 show that the growth of this sub-sector should be the highest.

The bioenergy sector is growing rapidly in the last decade. The bioenergy sector contributes to the accommodation of public interests, i.e., the reduction of Lithuania's dependence on fossil fuels imports and mitigation of climate change. Currently, nearly three-quarters of the heat in the district heating network is produced from biomass. Biogas is produced from agricultural, food industry and landfill biowaste. Currently, biogas is transformed into electricity and heat because the infrastructure for the supply of biomethane gas to networks is underdeveloped. The main feedstocks for biodiesel and bioethanol production are rapeseed and rye. However, the public interest of Lithuania in the biofuels sector is to develop the production and consumption of advanced biofuels on the principle of circularity, reducing dependence on fossil fuels and contributing to climate change management. The company "Kurana" started producing advanced biofuel from by-products in 2019.

The growth and structure of value added across main industries of Lithuanian bioeconomy

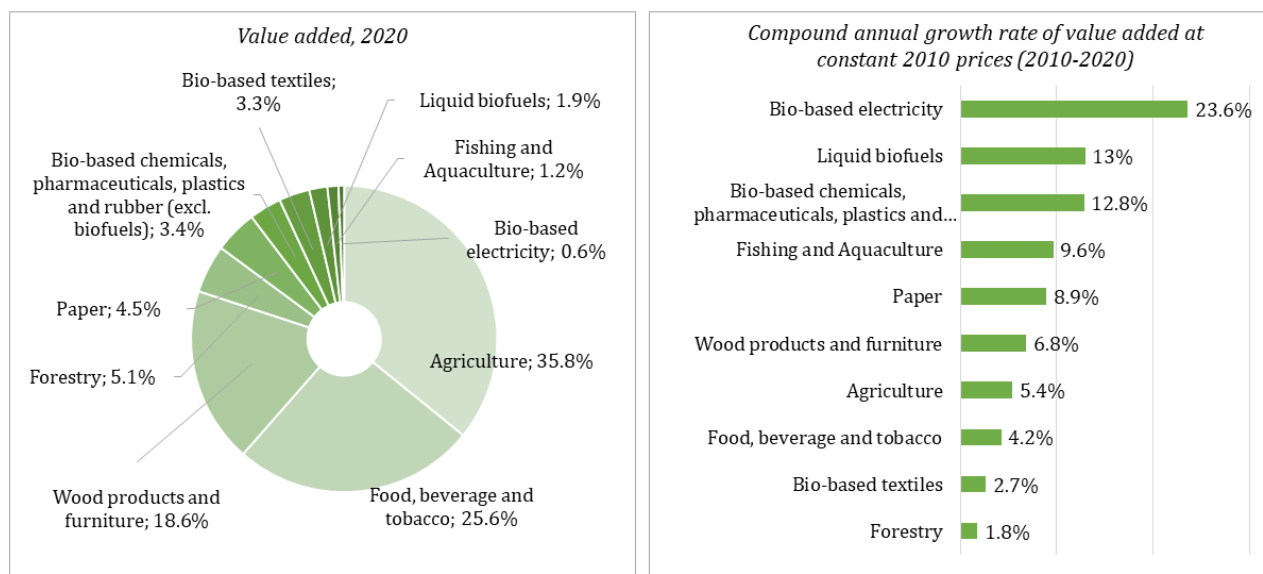


Figure 1: Lithuanian Bioeconomy - Growth & Structure

Lithuania is one of the EU countries that is most self-sufficient in biomass. Lithuania has a high potential for biomass from agricultural production and forestry. In Lithuania, 3.4 million hectares were used for agricultural production, forest land amounted to 2.2 million hectares. The agriculture sector is the biggest producer of domestic biomass (almost 72%), followed by forestry (almost 28%). The cereal's share in crop biomass harvest has been growing over the last decade. At the same time, cereals exports are growing rapidly, and over 83% of cereals feedstocks were exported in recent years. Therefore, Lithuania is looking for ways to increase domestic consumption of cereals for the production of high-value-added products. In the case of woody biomass, Lithuania is a net exporter of roundwood. The domestic production of woody biofuel is mainly focused on domestic consumption.



Several national policies have been developed in recent years that are supportive of the bioeconomy and attempt to address some of the above-mentioned challenges. These include the National Energy and Climate Action Plan of the Republic of Lithuania for 2021-2030 (2019), Lithuanian National CAP Strategic Plan (2022), Lithuanian Smart Specialization (2022).

Knowledge of Lithuania's bioeconomy status and the success of small-scale biobased solutions will help farmers, entrepreneurs and policymakers to transition to a circular bioeconomy in rural areas. For more information, please consult the [BioRural toolkit](#).

Examples of these solutions include Garlic Moon (a family business that ferments garlic and produces food products from black garlic), Agaras (a company that produces high-quality beef and recycles the waste from cattle slaughter and processing into biogas), Acheta (a family business that grows crickets and processes them into food products), Amberry, (an organic family farm that grows sea buckthorn, produces



Figure 2: Lithuanian Rural Area

