

Towards a High-Value Bioeconomy: Examples of Best Foreign Practices

WHAT IS THE CURRENT SITUATION IN LITHUANIA?

4th IN EU FOR
WHEAT EXPORTS
(2023)



Lithuania's bioeconomy has **grown at 5.5% annually** over the past decade, outpacing GDP growth, supported by a **1.6× increase in biomass production** since 2008, with grain output nearly doubling. The sector remains concentrated in primary production, with **agriculture** accounting for **35% of value added** and **38% of employment (2022)** and receiving the **strongest policy support** alongside ecosystem condition.

WHAT ARE THE MAIN CHALLENGES?

Although biomass production is a key strength of Lithuania's bioeconomy, the sector remains largely focused on **exporting raw materials**, constraining the development of higher value-added industries. Key barriers include reliance on low-value primary activities, environmental sustainability gaps, **technological and innovation bottlenecks**, and a fragmented

WHAT CAN BE DONE TO ADDRESS THESE CHALLENGES?

Lithuania can leverage its large supply of first-generation biomass (e.g., grain) for high-value non-food applications (e.g. biochemical production). Proven examples of international good practices include supporting: **cooperation networks**, (demonstration) **biorefineries** and **R&D ecosystems**. (See next page)



71%
HARVESTED
GRAIN
EXPORTED
(2023)

ADDITIONAL
PROJECT
INFORMATION



PUBLIC
CONSULTATION
REGISTRATION
REQUEST



WHAT CAN BE DONE TO ADDRESS THESE CHALLENGES?

Nova Institute: first generation biomass in non-food applications

According to a [2025 report](#) from Nova Institute the **use of first-generation biomass** (such as food crops) for non-food applications (such as biochemical and biomaterial production) can strengthen the overall bioeconomy by:

- enhancing the resilience and competitiveness of agriculture,
- contributing to climate change mitigation, and
- supporting biodiversity protection.

Given its strong biomass production capacity and exceptionally high grain self-sufficiency rate (**313%**), **Lithuania is well positioned to apply this approach** as part of a shift toward higher value-added bio-based industries.

The table below presents **examples of international good practices** which can be adapted to support the increased use of first-generation biomass for non-food applications in Lithuania.

Good Practice	Description
<u>Päijät-Häme Grain Cluster</u>	The Päijät-Häme Grain Cluster is a cooperation network of the local grain value chain that aims at finding synergies, innovations and solutions for circular economy .
<u>Clamber</u>	Spain's first technologically advanced demonstration-scale biorefinery , enabling companies that have developed new bioprocesses at the lab scale to conduct near-industrial scale-up experiments.
<u>Saturno</u>	The SATURNO biorefinery aims to reduce carbon dioxide emissions through the development and validation of different recovery and reuse technologies .
<u>RE2020</u>	France's national building regulation combining energy efficiency and carbon limits . It requires lifecycle carbon analysis and sets strict energy consumption caps, promoting renewable energy use for net-zero buildings.
<u>Finnish Industrial Symbiosis System</u>	The Finnish Industrial Symbiosis System is based on active facilitation of symbioses and co-development . It aims to promote new business opportunities, reuse of waste and reduction in the use of natural resources.
<u>ExpandFibre</u>	ExpandFibre is an R&D collaboration and an ecosystem to accelerate the development of sustainable bioproducts. It focuses on upgrading pulp fibres, hemicellulose, and lignin from renewable and sustainable sources of straw and northern wood into new bioproducts

