11th INTERNATIONAL SCIENTIFIC CONFERENCE
RURAL DEVELOPMENT 2023
BIOECONOMY FOR THE GREEN DEAL
26-28th September, 2023, Vytautas Magnus University Agriculture Academy, Lithuania

VYTAUTAS MAGNUS UNIVERSITY AGRICULTURE ACADEMY

Proceedings of the 11th International Scientific Conference Rural Development 2023

Edited by assoc. prof. dr. Judita Černiauskienė

ISSN 1822-3230 (Print)
ISSN 2345-0916 (Online)

Article DOI: https://doi.org/10.15544/RD.2023.019

NATIONAL REGULATORY FRAMEWORK FOR THE GREEN DEAL FOR BUSINESS DEVELOPMENT IN RURAL AREAS IN LATVIA

Ilona BEIZITERE, Faculty of Economics and Social Development, Latvia University of Life Sciences and Technologies, address: 18 Svetes Street, Jelgava, Latvia, LV-3001, ilona.beizitere@gmail.com *(corresponding author)*
Baiba RIVZA, Faculty of Economics and Social Development, Latvia University of Life Sciences and Technologies, address: 18 Svetes Street, Jelgava, Latvia, LV-3001, baiba.rivza@lbtu.lv

The paper examines the regulatory framework of the European Union (EU) and Latvia regarding the achievement of the EU Green Deal goals, focusing on solutions for business in rural areas. The targets of the EU Green Deal are the ones on which several national strategic development plans are based. Each EU Member State creates its own strategic development policy and action plans; therefore, the states choose different paths for the realization of the common Green Deal in the national economy. Taking into account the slow course of Latvian economic development with low GDP growth and high average annual inflation, the EU Green Deal targets create additional challenges for the economy of Latvia. The purpose of this paper is to identify, by analysing regulatory documents, whether the EU Green Deal framework in Latvia favourably affects the development of companies, particularly micro-enterprises in rural areas. A balanced set of measures and support should be created in order to fulfilment the principles of the EU Green Deal in the operations of companies. Most likely, entrepreneurs will have to transform their business patterns, which will require significant investment. The theoretical research shows that Latvia has amended its policy documents as a whole in order to advance economic transformation in line with the objectives set by the EU Green Deal. However, they are not sufficiently adapted to support the transformation of business patterns of companies, particularly micro-enterprises in rural areas. The research sheds light on the fact that the national regulatory framework of the Green Deal of rural business development is inherently a complex topic, and targeted support requires policy development and clarification of regulations.

Keywords: *bioeconomy, companies in rural areas; EU Green Deal; micro-enterprises; national regulation, policy documents*

INTRODUCTION

The impact of climate change is already being felt not only in the economy as a whole but especially in areas such as economic productivity, infrastructure, public health, food availability, biodiversity and political stability. Consequently, it is important to commit to international and national policies that would promote climate neutrality and climate resilience by reducing greenhouse gases (GHG) emissions, increasing carbon dioxide sequestration and adapting to climate change. Such a commitment at the international level was met in 1995 with the General Convention on Climate Change accepted by the United Nations (UN). In 2015, as part of the Paris Agreement of the Climate Convention, the members of the UN Climate Convention, including Latvia, have approved limiting the increase in the global average temperature well below the 2 °C mark compared with the level of the pre-industrial era. An ambitious climate policy is also being implemented at the European Union (EU) level. In 2019, a communication from the European Commission was published, which determined the progress of Member States towards "the European Green Deal" (Green Deal). The Green Deal is a comprehensive plan to transform the European economy by achieving a sustainable and efficient use of resources, focusing on areas such as renewable energy resources, the circular economy, sustainable agriculture and biodiversity. In order to transform the EU economy within the framework of the Green Deal with the main goal of achieving climate neutrality in 2050, a number of regulatory documents were adopted that are binding on the Member States. For example, Regulation (EU) 2021/1119) sets the EU's climate neutrality goal for 2050, as well as renewed the binding EU goal for 2030 - to decrease greenhouse gas emissions by at least 55% compared with the 1990 level. Specifically with regard to business, this regulation states that the EC also takes into account small and medium-sized companies whose activities may generate carbon emissions. In the summer of 2021, the European Commission (EC) launched a series of regulatory acts as part of the “Fit for 55” to make it possible to reach this new 2030 target, and they entered into force in the first half of 2023. Although the “Fit for 55” package focuses primarily on global emissions, it

recognizes the challenges faced by companies operating in rural areas as well. It is recognized that a modernized agricultural sector requires agricultural practices that put the land and nature first and restore the quality of our soil to ensure our food security. The package proposes financial incentives, infrastructure development and capacity building initiatives to support these companies in adopting sustainable practices. By providing support tailored to their needs, the EU aims to ensure that businesses in rural areas are able to contribute to the overall goal of reducing emissions and building a more sustainable future. Such ambitious goals are challenges not only for EU Member States but also for each company, so that its operations have the most harmless impact on the environment and climate. Rural enterprises play a crucial role in the agricultural industry, as they promote the overall development and economic growth of these regions. They operate not only directly in agriculture or animal farming but also in other areas, including renewable energy production, food processing, agricultural machinery production and rural tourism. The EU recognizes the importance of these companies and offers various measures to support their growth and sustainability.

Taking into account the impacts of climate change on the economy and the need to adapt to the consequences of these changes, Member States are developing strategies to regulate the activities of various fields and sectors as accurately as possible in order to achieve common EU goals. Latvia has also created a regulatory framework aligned with the Green Deal. The Green Deal provides both opportunities and challenges for business development in Latvia. Concerns have been expressed about the state's targeted support measures for the green transformation of business for entrepreneurs in rural Latvia (Pilvere, et al., 2022). For many companies, implementing the Green Deal in agriculture is associated with a decrease in production. Entrepreneurs from other industries also have a lot of uncertainty about the measures to be taken and their impact. There are more SMEs in Latvia, which, when implementing resource efficiency measures within the framework of the green transition, faced an increase in production costs (39%), compared to the average number of SMEs in the EU (31%). In addition, such SMEs in Latvia develop their activities relying on their own financial resources (79%), which is more than SMEs in the EU (62% on average) (European Commission, 2022). Those companies that represent the traditional bioeconomy sector and focus on the primary production of bioresources (mainly in agriculture and forestry) operate in the rural administrative territories of Latvia. Thus, it shows the regional economy's dependence on the performance of such companies (Muska et al., 2023). The number of companies working in the field of agriculture in 2021 was 11.6%, but in forestry - only 2.1% of all companies in the market sector (Official Statistics Portal…, 2023). It has been established that the processing of bioresources in Latvia is dominated by companies with low technologies (Muska et al., 2023). Therefore, for entrepreneurs operating in rural areas, the problem of further sustainable business development in accordance with the requirements of the Green Deal, as well as their competitiveness, becomes urgent. Some authors (Boguslov et al., 2022) see ambiguity in the definitions of the Green Deal objectives and the allocated costs for the implementation of the course, which in turn can negatively affect business and competition. The role of the state government in regulating the relationship between environmental sustainability, business performance and competition has become important (Boguslov et al., 2022; Lamenta & Grzybowska, 2023).

Thus, the purpose of this paper is to identify whether the regulatory framework in Latvia favourably regulate business development, especially in rural areas. The regulatory acts issued by EU institutions and other international organizations and national regulatory documents adopted in Latvia, as far as they concern the operation of companies were used to obtain a more complete picture. The task was to identify the shortcomings of the regulatory acts applied in Latvia under the Green Deal, focusing on solutions to business development in rural areas, particularly for micro-enterprises. The focus on micro-enterprises (according to the EU definition) has been based on the fact that in Latvia, they make up approximately 93% of the total enterprises in the market sector. In addition, the majority of companies operating in fields related to agriculture are micro-enterprises (in 2021 they were about 97%) (Official Statistics Portal…, 2023). Furthermore, the EC has identified gaps in the provision of business financing in Latvia. Thus, it is recommended to improve the availability of financing for small and medium-sized companies, including the use of public loan and guarantee schemes, especially in the areas of green transformation. The application of targeted support measures for business in rural areas will contribute not only to the performance of specific companies, but also benefit the sustainable green development of the national economy as a whole.

RESEARCH METHODS

The purpose of this paper is to reveal whether the regulatory acts regarding the green transformation in Latvia promote business performance, especially in rural areas and, if possible, in relation to micro-enterprises. Therefore, the objectives of the study were put forward:

- To identify the legal provisions of the framework of the Green Deal, which refer to business regulation, as well as the support.
- To investigate whether and which Green Deal provisions regarding the operation of companies are incorporated in Latvian regulatory documents.
- To identify the shortcomings in the mentioned framework and prepare recommendations for the further improvement.

The desk research method was used to achieve the stated study objectives. The information gathering from various reliable and official information sources and secondary data analysis method was applied.

In order to identify the norms within the framework of the Green Deal, which relate to the regulation of business, as well as their support, the information in the website of the EC institutions (incl. https://commission.europa.eu; https://www.consilium.europa.eu) and the documents in the database of EU legislation (https://eur-lex.europa.eu) were

studied. The relevant websites were used for the exploration of regulatory documents and sources of Latvia – https://likumi.lv/, https://www.pkc.gov. In order to obtain more accurate information about the support measures implemented in practice in Latvia for companies in rural areas, sources provided by state institutions, i.e. ministries, organizations and financial institutions, were used. The available literature on the development potential of EU, Baltic or Latvian companies and/or their support measures in the countryside within the framework of the Green Deal was reviewed for the discussion.

A pre-defined set of keywords including "Green Deal", "sustainable support", "support measures" and "stimulus for development", "support for rural areas/regions" were used to identify potentially relevant documents, information sources or literature. Such keywords were combined with the terms "SME", "small business/company", "micro-enterprise", "entrepreneurship". For searching, keywords and their combinations were used in the sources in the relevant language - English or Latvian.

Findings from EU and Latvian strategies and policy plans in accordance with the Green Deal, which relate to and influence the development of business in rural areas, mainly in the field of agriculture, were summarized. The findings were analyzed together with appropriate research conclusions of literature sources and secondary data on support for companies in the EU and Latvia in order to identify the suitability or shortcomings of business support in rural areas.

RESEARCH RESULTS AND DISCUSSION

1. BRIEF REVIEW OF THE MAIN EU POLICY DOCUMENTS OF THE GREEN DEAL

The transition to the green course recommends establishing sustainable practices such as precision agriculture, organic farming and implementing strict standards for animal welfare, carbon management, as well as better nutrient management to improve water quality and reduce carbon emissions. Therefore, according to the Green Deal, transformation affects any area of the economy to a greater or lesser extent. Regarding rural areas, the Green Deal envisages that European funding, including for rural development, will help rural areas to take advantage of opportunities in the circular and bioeconomy in a long-term. In terms of circularity and the bioeconomy, some authors (Fritsche et al., 2020) indicate the importance of small enterprises for the production of organic feed using by-products of food processing, residues as well as food waste, for example, using small biorefineries that carry out primary production.

As highlighted in the Circular Economy Action Plan, carbon sequestration is essential in the transition to climate neutrality, and this is particularly true for the agriculture, forestry and land use sectors. Measures to be taken by companies in rural areas are not specified in the plan. The plan emphasizes that the transition to sustainable farming will open up new opportunities for companies working on the creation of a system of sustainable products. It is estimated that if the circular economy rule could be applied across the EU by 2030, the EU's GDP could be increased by an additional 0.5%, creating around 700,000 jobs. Individual companies, by implementing circular economy patterns, could increase their profitability, which would give them the opportunity to protect them from fluctuations in resource prices. The plan outlines that by applying the principles of circularity, as well as the potential of the single market and digital technologies, the creation of companies and the business of SMEs can be promoted. The plan accentuates that European companies are leaders in circular innovation. The transition was planned to be supported with ambitious financial resources. For companies and governments, the zero-pollution ambition offers a significant opportunity to innovate by investing in clean technologies, products and services, and public funding and private investment are the main levers for this. Achieving the EU's agreed environmental targets by 2030 is expected to require an additional 100-150 billion euros to be invested annually across the EU, a significant portion of which is earmarked for investment in pollution prevention and control.

One of the specific measures that might affect entrepreneurs in rural areas is the 2022 EC proposal for the certification of carbon sequestration, including ensuring that there is no negative impact on the environment, particularly biodiversity, and other issues. Entrepreneurs should use certification schemes to demonstrate the compliance of their operations with the EU Green Deal criteria. The proposal's developers hope that it will encourage companies to introduce innovative technologies and sustainable agricultural solutions to reduce carbon emissions. The implementation of the proposed regulation measures would affect entrepreneurs such as farmers, foresters, as well as industrial companies that will develop on-site carbon removal activities, as well as Member State authorities that can develop certification schemes to implement and control the certification process. This initiative is closely linked to other Commission initiatives to improve the resilience of EU forests to climate change, restore degraded lands and ecosystems, re-wet peatlands and promote the bioeconomy, including through sustainable forest products. Various initiatives to discover solutions to limit the impact of climate change are included in several strategies, the most relevant of which are: the Common Agricultural Policy, the Farm-to-Fork Strategy, A Sustainable Bioeconomy for Europe. There are significant interactions between these policies.

The EU's Common Agricultural Policy (CAP), implemented since 1962, supports and regulates agricultural activity in Member States. The goals set by the CAP are to provide farmers with a stable income, promote sustainable agricultural practices, organic farming and guarantee food security for EU citizens. Although the CAP mainly focuses on agricultural enterprises, it also supports companies operating in rural areas. The CAP includes measures that promote green agriculture and affect most businesses in rural areas (see Table1).

The CAP 2023-2027 under Regulation (EU) 2021/2115 includes further measures to build a green and sustainable agricultural system in the EU:

- a more simplified, flexible and targeted approach;
- enhanced environmental conditions and standards for farmers;

- an expanded set of voluntary environmental measures available to farmers through eco-schemes.

Table 1. Support measures for enterprises in rural areas, as specified in the Common Agricultural Policy.

Support measures	Description
Programs for rural development	The goals are to diversify the rural economy, create employment opportunities and improve the quality of life in rural communities, and promote the competitiveness of rural companies. Special support should be provided to young farmers and organic farms.
Promotion of agri-food chains	The aim is to promote cooperation between different actors in the agricultural sector. This includes fostering partnerships between farmers, processors, distributors and retailers to help businesses in rural areas to access larger markets, improve their competitiveness and sustainable production practices.
Financial support to companies	Financial support to companies includes direct payments to farmers based on their land holdings and farming practices. These payments are expected to not only provide income stability to farmers but also provide indirect benefits to companies that supply them with goods and services. Grants and loans are also provided for investment projects that improve productivity, innovation and environmental sustainability in agriculture and related industries.
Farm advisory services	Advice to farms should promote best agricultural practices and provide up-to-date information on technological and scientific developments resulting from research and innovation projects, including in relation to the provision of public benefits.
Promotion of digitalization	Digital adoption helps businesses in rural areas take advantage of digital tools such as precision agriculture, e-commerce platforms and data analysis, financing and knowledge sharing schemes to improve their efficiency and competitiveness. Digitization in rural areas can contribute to overall economic growth.

Source: authors' construction based on European Commission, 2023a

The Farm-to-Fork strategy, which emphasizes the link between agriculture, food production and the overall well-being of rural communities is closely related to the CAP. Businesses in rural areas are covered, as the strategy promotes the availability of sustainable and locally sourced food to the community. As part of this strategy, several support measures have been introduced for companies operating in rural areas (see Table2).

Table 2. Support measures for enterprises in rural areas, as specified in the Farm-to-Fork strategy.

Support measures	Description
Financial assistance to companies	The EU Funds provide funding programmes and grants to improve infrastructure, modernize farming practices, promote innovation, and enhance competitiveness in rural areas. Companies can access these funds through different schemes such as the CAP, which provides direct payments and rural development funding.
Market access and promotion	The strategy supports the creation of direct marketing channels that connect rural producers with consumers. Support promotional initiatives that increase awareness of local products and promote their consumption through labelling schemes or certification programmes.
Research and innovation	The EU provides funding for research projects focused on sustainable agricultural methods, resource efficiency, biodiversity conservation and climate change adaptation. This support enables companies to develop new solutions, adopt innovative technologies and practices that reduce environmental impact, while increasing productivity and competitiveness.
Knowledge capacity building	Training programmes are offered to improve farming practices, promote sustainable farming methods and ensure compliance with food safety and quality standards, to improved knowledge of pesticide use and the fight against microbial resistance. These initiatives help businesses in rural areas adapt to changing market demands, improve production processes and meet consumer expectations.
Networking and collaboration	The strategy supports initiatives that promote cooperation at regional or local level, such as producer organizations or food clusters. By fostering partnerships and facilitating knowledge sharing, companies can benefit from shared resources, knowledge and market opportunities.

Source: authors' construction based on European Commission, 2023b

Another strategy affecting businesses in rural regions is the EU Bioeconomy Strategy. The strategy is focused on a sustainable solution to problems aimed at business growth and development using biological resources and processes in agriculture, forestry, fisheries, food production. The purpose of the strategy measures is to ensure circular production processes, including the use of renewable biological resources, as well as to avoid the negative impact of the use of chemical pesticides and antimicrobial agents on the environment and to preserve biological diversity. The strategy therefore envisages the support for rural entrepreneurs, including funding opportunities, networks and partnerships, policy coherence, as well as education and skills development. Some authors (e.g. Häyry & Laihonen, 2022) argue that the strategy includes more declarative statements than specific measures to support business.

A study (Baquedano et al., 2022) analysing the cuts in agricultural inputs for food security proposed by the "Farm to Fork" strategy has shown that such policies could result in reductions in production output and farmers' incomes and concomitant reductions in food prices in many countries.

Some authors (Beckman et al., 2022) believe that some legislation has been proposed in the EU that could lead to a decrease in EU agricultural production, such as regulations on targeted reductions in the use of agricultural inputs (fertilizers, pesticides, land and antimicrobials). The results of the study show that the reduction of raw materials could lead to a decrease in EU agricultural production by as much as 12%, and would negatively affect competitiveness in export markets, consumer budgets and public well-being. In order to reduce this negative impact, companies need technological improvements, which in turn will require the EU to invest additional resources in research and development.

The authors predict that the implementation of such improvements in the EU might take up to 27 years. The findings raise the question of what are the prospects for the development and even existence of micro-enterprises in rural areas.

Analysing the requirements for the realization of the bioeconomy and the green course, some authors (Liobikiene & Miceikiene, 2023) draw attention to the challenge of achieving zero pollution. To achieve this goal, advanced technologies should be introduced, while the installation costs of which should not exceed the economic benefits of production.

In order to overcome the shortcomings identified in the developed policy documents, the authors (Maris & Flouros, 2021) recommend improving both EU and national research and innovation policies so that they correspond to local industrial policy and effectively meet energy and climate goals.

The EC has developed a special strategy to support SMEs. Adopted in 2020, the European SME Strategy for a sustainable and digital Europe aims to stimulate economic activity to achieve the objectives of the Green Deal and to implement other EU initiatives launched in connection with the digital and green transition, namely to achieve a climate-neutral, resource-efficient and flexible digital economy by mobilizing European SMEs in various industrial sectors. In 2020 alone, the EC had planned to allocate at least 300 million euros to high-potential start-ups and SMEs to implement Green Deal innovations.

In the context of the European SME strategy, the Eurobarometer survey European Commission (2022) assessed the level of resource efficiency measures achieved by 2021 and the state of the green market for European SMEs. In the survey, 89% of the SMEs have reported that they take one or more resource efficiency measures as part of the Green Deal, compared with 9% that do not take any measures in this regard. In Latvia, it has been reported that 11% are SMEs that are not taking measures for more efficient use of resources. Among Latvian SMEs that implemented resource efficiency measures, 39% reported that production costs related to the supply of materials, parts, products or services had increased, compared with 31% in the EU. On average, 32% of the SMEs in the EU offer environmentally friendly products or services, while in Latvia they are 22% of the surveyed companies. The proportion of SMEs that do not offer green products or services and do not plan to do so in the next 2 years is approximately 63% in Latvia. When asked about the type of support used, 79% of the Latvian companies have answered that they rely on their own financial resources for the production of green products or services, and 13% - on external support. The most frequently received responses from Latvian SMEs to the question of what type of support would most help the company to introduce a range of products or services on the market according to the Green Deal were as follows:

- financial incentives for the development of products, services or new production processes – 46%;
- technical consultations regarding the development of products, services or production processes – 17%;
- help in identifying potential markets or customers – 19%;
- consulting services regarding marketing or distribution - 15%.

Some authors emphasize the need for targeted support for entrepreneurs. Some authors (Orozco et al., 2021) found that coordinated financing tools that promote the benefits of grass-growing and grass-processing enterprises are crucial to overcome the barriers to organic competition with the established fossil fuel-based economic system.

In order to get closer to the ambitious goal of climate neutrality, in recent years Member States have accepted a series of regulatory acts at the national level. Support measures are needed to enable the Member States to adapt to and implement stricter regulation. Therefore, taking into account the reductions in greenhouse gas emissions that the Member States are require to make between 2021 and 2030, the total cost of EU support measures over the next five years (2023-2027) is estimated at 1.75 billion euros. Whether or not part of this support will be available to entrepreneurs depends on each country's support policy.

2. THE MAIN POLICY PLANNING DOCUMENTS OF THE GREEN DEAL IN LATVIA

The Union's commitment to achieving a harmonized development policy requires that the common development goals and principles of the EU are taken into account when forming the Member States' policies. The EU has set goals, determined performance indicators for their achievement, identified priorities for the Member States to implement, and also offers various types of programmes and support. However, the ways of achieving these ambitious goals are up to each Member State.

Already in the basic strategic document, the Green Deal outlines the main lines of action that the Member States must follow. The EC recommends that Member States strive to ensure the coordinated use of all available Green Deal planning instruments. National energy and climate plans and national strategic plans for the implementation of the CAP are mentioned as the most important national policy instruments. It is also determined that the EU Funds, including the fund for rural development, will help rural areas to use the opportunities offered by the circular economy and bioeconomy.

An important document is the Sustainable Development Strategy 2030 (Saeima of the Republic…, 2010), which was adopted before the adoption of the Green Deal package. However, it emphasizes the need to move to circular economy principles and outlines the country's development directions for the transition to the "green economy".

Latvia has developed the National Bioeconomy Strategy (Cabinet of Ministers..., 2017), which includes specific goals and measures to support the transition to the bio-based economy. The strategy focuses on areas such as sustainable agriculture, forestry management, waste management, bioenergy production and biotechnology research. It is estimated that in order to implement the objectives set in the Bioeconomy Strategy by 2030, investments of around 20 billion euros are needed, and they are intended for both innovation and new product development, expansion and modernization of production, creation of new companies, infrastructure development, branding and marketing activities.

The National Development Plan 2021-2027 (Cross-Sectoral Coordination Center…, 2020) is a strategic document that outlines Latvia's economic, social and territorial development priorities. This includes targets related to sustainability, innovation and green growth, which are aligned with the principles of the Green Deal.

The Strategy of Latvia for the Achievement of Climate Neutrality by 2050 (Cabinet of Ministers…, 2020a) is a long-term planning document designed to increase the economic competitiveness of the Latvian economy by taking measures to limit climate change, as well as to ensure a safe living environment for the country's residents. It contains an indication of what should be improved, that Latvia is in one of the last places in the EU in terms of production efficiency both in primary agricultural and fish production, and in the further processing chain until the product reaches the final consumer. The implementation of the strategy emphasizes the importance of businesspersons who will be actively involved in the creation of new, innovative and sustainable products and form environmentally friendly companies.

The National Energy and Climate Plan (Cabinet of Ministers…, 2020b) sets national goals, policies and measures for achieving climate neutrality by 2050. This includes specific actions for the development of several sectors under the Green Deal regarding energy efficiency, renewable energy, transport, agriculture, waste management and other sectors. The plan envisages receiving financial support from the EU Funds for businesses for such purposes as "a smarter Europe, promoting innovative and smart economic changes".

The Common Agricultural Policy Strategic Plan 2023-2027 (Cabinet of Ministers…, 2022) is a medium-term planning document that defines support priorities and support instruments for the agricultural sector and the development of the rural environment. Unlike in the previous programming periods, from 2023 this policy document provides three instruments for receiving support: direct payments, sectoral support interventions (for example, in the fruit, vegetable and beekeeping sector) and rural development support measures. It was introduced with the aim of using various support instruments in a coordinated manner and to address the needs of industries and rural areas in a more targeted manner. It is expected that the support instruments provided for in the plan will be funded from the European Funds. The plan envisages significant support for the development of agriculture-related industries in regions and enterprises in rural areas. The plan specifies the amount of funding for the implementation of the relevant goals and rural development support interventions, which together with EU funding also includes national co-financing.

In Latvia, the strategic plans that reflect the goals of the Green Deal include several directions of support activities and measures that are both directly and indirectly applicable to business support in rural areas (see Table 3).

Table 3. Support for enterprises in rural areas in accordance with the Green Deal, as specified in Latvian policy documents

No	Policy documents, adoption date	Lines of action or measures included in the document to support companies in rural areas
1.	Sustainable Development Strategy 2030 (2010)	General support for innovation and the shift to low-carbon and energy-intensive production of goods, healthy food and supply of services using renewable energy resources and new technologies.
2.	Bioeconomy Strategy 2030 (2017)	The focus of the line of action is on agricultural and rural development support for generating higher value added and employment per ha. The establishment of new business support tools and the improvement of current ones are emphasized in order to motivate municipalities to promote the performance of private entrepreneurship in their territory and the emergence of new companies and business ideas in the country as a whole, incl. in the field of the bioeconomy. Support tools for knowledge transfer and commercialization are planned, encouraging scientific institutions and bioeconomy entrepreneurs, incl. productive cooperation between farmers and forest owners. Reducing the fragmentation of primary production sectors by developing and promoting cooperation at various stages and levels of the value chain, as well as by developing short food supply chains, creating a targeted support system for the development of cooperation between companies, as well as by educating producers about the advantages of cooperation.
3.	National Development Plan 2021-2027 (2020)	Emphasis is put on the importance of natural capital as a basic resource for employment and business in rural areas. Therefore, national support for green procurement and processing of local produce is essential to promote networking and growth of entrepreneurs, while implementing environmentally friendly production practices.
4.	Climate Neutrality Strategy 2050 (2020)	Available financing from various national, EU and private financial institutions and instruments are planned to support sustainable businesses that respect and implement climate-neutral principles in their operations.
5.	National Energy and Climate Plan 2021-2030 (2020)	Using EU funding to promote a smart and sustainable transformation of the agricultural sector and help achieve EU environmental and climate goals in rural areas.
6.	Common Agricultural Policy Strategic Plan 2023-2027 (2022)	The support is planned in a balanced way in order to promote the achievement of both national and EU environmental and climate goals, and to reach different audiences in a targeted manner, with an emphasis on small and young rural entrepreneurs as well as organic farmers. Support for companies in rural areas in the following years is intended to: • increase value added by cooperating and producing a competitive product for local and export markets; • increase farm incomes to average in the country; • promote knowledge-based entrepreneurship, promoting the implementation of innovations and scientific results in practice; • support agricultural farms to use resources efficiently and adapt to climate change.

Source: authors' constructions based on Cabinet of Ministers…, 2017, 2020a, 2020b, 2022; Cross-Sectoral Coordination Center…, 2020; Saeima of the Republic…, 2010.

The results of the study (Dolge & Blumberga, 2021) show that the current policy measures, which are determined for climate neutrality in the Baltic States (including Latvia), are insufficient to achieve a reduction of GHG emissions by 2030. Specific goals and measures defined in the current national energy and climate policies should be determined separately for each of the sectors of the national economy, including the agricultural sector, so that they create a more effective impact in the long term.

Analysing the factors affecting the transition to a bioeconomy, some authors (Zihare et al., 2021) emphasize that an effective policy framework plays a vital role in developing and putting into practice innovations, new technologies and production methods. It was noted that the number of biotechnology companies (including environmental, industrial and agricultural biotechnology) in Latvia was low compared with other countries. Therefore, the authors found that for a successful transition to the bioeconomy, it is important to create a triple interconnection - in the field of policy, research and innovation, as well as technology.

There are some cases where a scientific approach has been used when examining the possibilities of bioeconomy development in Latvia. For example, research (Blumberga et al., 2017) was carried out in order to identify a suitable place for establishing a business based on bioeconomy principles in the territory of Latvia, depending on the industry and the resources used. In order to develop the bioeconomy at the national level, the most suitable regions of Latvia were determined based on the availability of wood resources, where it would be economically justified to locate wood processing plants.

Evaluating the management and reintegration potential of abandoned agricultural lands in the Baltic States, including the case study of Latvia, some authors (Valujeva et al., 2022) point out that reintegration of abandoned agricultural lands and agricultural transformation activities can create a "triple benefit". Smart management can both increase primary productivity and contribute to carbon regulation, and conserve habitat biodiversity. Educational programmes and economic incentives can promote changes in farmer behaviour that positively impacts environmental outcomes.

The largest funding for Latvia under the Cohesion Policy comes from the EU Structural Funds. Regarding energy efficiency, Latvia hopes to receive EU investments in the amount of 457 million euros in the 2021-2027 programming period. From this, 108.5 million euros are earmarked for improving energy efficiency in business. Under the EU Recovery Fund, 80.6 million euros have been earmarked for Latvia to support companies for the implementation of measures to increase energy efficiency, i.e. measures for business transformation to the use of renewable energy technologies in heat supply. (Ministry of Economics…, 2023). Other kinds of support regarding the implementation of Green Deal measures for companies have not yet been directly allocated. Although only a few targeted support instruments are available under the Green Deal for businesses in rural areas, they can receive support in other ways (Table 4).

Table 4. Possible support measures for companies to achieve the Green Deal goals in Latvia.

Support measure	Recipients and purpose
EU direct payments	• For farms - diversification of crops in plant rotation, cultivation of ecologically important crops, minimal or no tillage, limiting the use of herbicides, implementation of environmentally friendly practices, etc. • For animal farming - to reduce carbon emissions and increase animal welfare • Support for organic farming • To preserve biological diversity in agricultural land
National support in the form of financial instruments (loans, venture capital fund investments, guarantees, etc.) (based on EU funding)	• For companies - to implement energy efficiency solutions in business, switch to renewable energy resources (solar panels, wind generators, biomass), including the use of electric cars, or build new energy-efficient A or A+ energy class houses. • Entrepreneurs, micro, small and medium-sized enterprises, farmers, in order to receive funding for the realization of other Green Deal goals, have the opportunity to apply for another funding programme offered normally.
Lump sum (grant) within the intervention of the Common Agricultural Policy Strategic Plan 2023-2027	• For young farmers - for the establishment and development of a newly founded (or taken over) agricultural enterprise in accordance with the business plan submitted. • For small agricultural holdings - investments for the purchase of fixed assets and climate change mitigation.

Source: authors' construction based on Development Finance Institution…, 2023; Latvian Rural Advisory…, 2023; Rural Support Service …, 2023

A preliminary (ex-ante) evaluation of market imperfections for the years 2021-2027 for the EU Funds for supporting companies in the form of financial instruments mentions recommendations for improving the performance of business in rural areas, which are not intended to be funded under the National Development Plan 2027. The use of combined financial instruments (loans, guarantees, venture capital investments) for the development of agriculture will ensure a gradual change in the types of support for companies in this sector from receiving a grant to the use of loans, thus promoting business. Linking the grant component with the overall policy of agriculture, the climate and the achievement of business goals will encourage companies to focus on complex operational targets and help to ensure the sustainability of operations (Belicka et al., 2020).

In recent years, direct support payments (in the form of a grant) to farmers have made up a significant part of their income and thus influenced their decisions on business development (Pilvere et al., 2022). Analyzing the current CAP direct support payment scheme in Latvia in 2019, the study found that the amount of payments to farms made up 28% of the total farm income in per hectare terms. According to the researchers' calculation, there is some contradiction regarding the conditions of the planned support in the form of direct payments to achieve the objectives of the Green Deal. As a result of the EU CAP 2023 reform, basic support payments would probably be higher specifically in livestock and dairy farming, which could cause even greater GHG emissions in the future. The researchers recommend that national governments develop detailed action plans

and measures to help farmers with balanced support measures and targeted payments, thereby increasing long-term agricultural sustainability and increasing farm profitability.

The availability of funding is a new challenge for those entrepreneurs in Latvia who want to develop green projects or switch to the bioeconomy. Although, in general, various financing options are available for SMEs in Latvia, access to them could be difficult for micro-enterprise (Beizitere et al., 2021). The most common reason for refusal by financial institutions is that the business model changes and innovations required by the Green Deal have an unpredictable outcome.

In addition to support from the EU Funds together with Latvian national co-financing, projects of rural entrepreneurs from other financial sources are also implemented. An example is the project of integration of digital solutions in the food industry in the largest region of Latvia (Vidzeme), which was financed by the Nordic Council of Ministers (Nordregio, 2023).

Despite some progress in solving environmental challenges, Latvia (Organisation for Economic Co-operation…, 2022) should do more to achieve green and sustainable economic growth. A study (Muska et al., 2023) revealed that the Latvian bioeconomy is dominated by low-tech industries. Incentives and support tools for entrepreneurs are therefore needed to facilitate the shift from low to medium-high and high-tech use. In addition, in order to encourage the formation and growth of companies (especially processing) in Latvian regions, it is necessary to develop local infrastructure, as well as to ensure the availability of qualified workforce. Collaboration between the municipality, companies, investors and also educational institutions should be established in the regions in order to overcome obstacles to local business development.

Many companies in rural regions are active in the production of biogas and bioenergy. Usually, these are farms or commercial enterprises that deal with it in addition to their basic crop or animal farming activities, as they produce plant or animal residues. A study (Millers et al., 2023) on the adaptation of the Green Deal requirements in Latvia in energy sector and also on the use of renewable energy resources, which includes biogas, concluded that Latvia has generally adjusted its policy document and legislative package to meet the goals set by the EU. However, shortcomings were noted - the measures are implemented in a fragmented manner, without comprehensive cross-sectoral and cross-border coordination.

An assessment of Latvian policy documents in the field of bioeconomy (Laktuka et al., 2023) confirms that the majority of them determine specific measures to be taken and indicators to be achieved. However, many of them have unclear ways of financing. The documents mostly indicate that the financial resources for the implementation of the measures should be allocated from the current state budget, EU Funds or private financial sources.

The recommendations of the Council of Europe regarding improvements in the investment field for Latvia are to some extent based on the conclusion that it is more difficult for SMEs in Latvia to receive financing than SMEs in other Eurozone countries. It is emphasized that Latvia is implementing the European Green Deal, however, the country has not yet determined all the necessary support measures in its policy planning documents in order to achieve the new 2030 climate targets. In addition, Latvia should make larger investments in environmental protection and especially in measures to protect biological diversity and prevent pollution. Therefore, Latvia should develop targeted measures to support companies under the Green Deal, including considering the peculiarities of micro-enterprise operations in rural regions.

As some studies point to concerns that the implementation of the Green Deal might reduce the country's economic performance, the EU's targets within the Green Deal create additional challenges for the Latvian economy, whose challenge in the coming years is to accelerate economic growth. For example, in the application of the CAP reform introduced in 2023, contradictions arise between support for small farms, promotion of employment, reduction of GHG and promotion of efficiency in agriculture (Pilvere et al., 2022). There is a risk (Ministry of Economics …, 2022) that the transition to climate neutrality, including the search for new business niches for the development and export of green technologies, creates additional costs, which consequently negatively affects the competitiveness of Latvian companies.

In general, the strategies prepared under the Green Deal provide both significant opportunities and challenges for business development in the regions of Latvia, especially for those wanting to develop green projects or switch to the bioeconomy. The need to make significant investments in infrastructure and technology, meeting market demand for environmentally friendly products and services, regulatory compliance and access to finance are some of the main challenges the companies might face.

CONCLUSIONS

Latvia has developed its national regulatory framework in order to move towards the EU Green Deal in its national economy. By receiving support in accordance with the principles outlined in the regulatory documents, companies in Latvia can contribute to the green transition and take advantage of the opportunities in the growing bioeconomy sector.

Although the Green Course creates opportunities for business development in Latvia, there are also challenges that need to be addressed in order for appropriate transformation and development of business models to take place. So far, support for rural enterprises, especially micro-enterprises, to reorganize their business according to the principles of the EU Green Deal has been fragmented. There is an imbalance, some contradictions in the policy documents and the relevant types of business support. These include the need to develop a more precise legal framework for support, which is linked and integrated with many policy documents and provides a clear framework for the potential types of support.

The national regulatory framework for the Green Deal for rural business development is complex in nature and is a multi-faceted topic, and the solution requires the involvement of various stakeholders, refinement of policies and clarification of regulations. In addition, both short-term and long-term effects on small business should be considered. For short-term tasks, for example, targeted direct support payments would probably benefit entrepreneurs. In order to develop in the long term, companies would have to rearrange their business models, which are likely to be associated

with losses and the need for significant investments in the initial period. Various subsidies or grants would be needed for business transformation. Training, consultation and local government involvement are also recommended.

The limitations of the paper are revealed in the fact that the study examines mainly EU and Latvian long-term strategy and medium-term policy planning documents regarding the green transformation. Certain targeted support measures for rural entrepreneurship may also be included in some laws or government regulations. Therefore, for in-depth research, further study of legislative acts related to the specific feedback on the performance of rural enterprises, particularly micro-enterprises, would be necessary.

REFERENCES

1. Baquedano, F., Jelliff, J., Beckman, J., Ivanic, M., Zereyesus & J., Johnson, M. 2022. Food security implications for low- and middle-income countries under agricultural input reduction: The case of the European Union's farm to fork and biodiversity strategies. *Applied Economic Perspectives and Policy*, 44 (4), 1942-1954. https://doi.org/10.1002/aepp.13236
2. Beckman, J., Ivanic, M. & Jelliffe, J. 2022. Market impacts of Farm to Fork: Reducing agricultural input usage. *Applied Economic Perspectives and Policy John*, 44 (4), 1995-2013. https://doi.org/10.1002/aepp.13176
3. Beizitere, I., Sloka, B., Brence, I. & Jermolajeva, E. 2021. Challenges on Accessing Finance for Micro-Enterprises in Latvia. Proceedings of the 2021 International Conference "*Economic Science for Rural Development*", No 55; Jelgava, LLU ESAF, pages 270-283. https://doi.org/10.22616/ESRD.2021.55.027
4. Belicka, D., Zeibote, Z., Točelovska, N., Ferrer, J.N., Balazs, G., Krupenko, D. & Viļuma, I. 2020. Tirgus nepilnību sākotnējais (ex-ante) novērtējums Eiropas Savienības fondu 2021.–2027.gada plānošanas perioda atbalstam finanšu instrumentu veidā [Initial (ex-ante) assessment of market failures for the support of European Union funds in the 2021-2027 planning period in the form of financial instruments]. Available at: https://www.zm.gov.lv/lv/es-fondu-2021-2027-gada-planosanas-perioda-finansu-instrumentu-sakotneja-tirgus-nepilnibu-novertejuma-zinojums (accessed on 29 July 2023).
5. Blumberga, D., Muizniece, I., Zihare, L. & Sniega, L. 2017.Bioeconomy mapping indicators and methodology. Case study about forest sector in Latvia. *Energy Procedia*, 128, 363-367, https://doi.org/10.1016/j.egypro.2017.09.053
6. Bogoslov, I.A., Lungu, A.E., Stoica, E.A. & Georgescu, M.R. 2022. European Green Deal Impact on Entrepreneurship and Competition: A Free Market Approach. *Sustainability*, 14, 12335. https://doi.org/10.3390/su141912335
7. Cabinet of Ministers of the Republic of Latvia 2017. Latvijas Bioekonomikas stratēģija 2030, Informatīvais ziņojums [Latvian Bioeconomy Strategy 2030, Informative report]. 19.12.2017. Available at: https://likumi.lv/ta/id/342221
8. Cabinet of Ministers of the Republic of Latvia. 2020 (a). Latvijas stratēģija klimatneitralitātes sasniegšanai līdz 2050. gadam. Informatīvais ziņojums [Strategy of Latvia for the Achievement of Climate Neutrality by 2050. Informative report]. Available online: https://likumi.lv/ta/id/342214-latvijas-strategija-klimatneitralitates-sasniegsanai-lidz-2050-gadam (accessed on 29 July 2023).
9. Cabinet of Ministers of the Republic of Latvia. 2020 (b). Par Latvijas Nacionalo energetikas un klimata planu 2021.–2030. gadam [On the National Energy and Climate Plan of Latvia for 2021-2030]. Ministru kabineta rikojums Nr. 46, Riga, 04.02.2020. Latvijas Vestnesis, Nr.2911.
10. Cabinet of Ministers of the Republic of Latvia. 2022. Latvijas Kopējās lauksaimniecības politikas stratēģiskais plāns 2023.-2027.gadam. , Informatīvais ziņojums [Common Agricultural Policy Strategic Plan of Latvia for 2023-2027. Informative report]. 18.01.2022. Available at: https://likumi.lv/ta/id/342211-par-latvijas-kopejas-lauksaimniecibas-politikas-strategisko-planu-2023-2027-gadam
11. Cross-Sectoral Coordination Center of Latvia. 2020. National Development Plan of Latvia for 2021-2027. Available at: https://www.pkc.gov.lv/sites/default/files/inline-files/NAP2027__ENG.pdf
12. Development Finance Institution ALTUM, JSC. 2023. Enterprises. Available online: https://www.altum.lv/en/services/enterprises/ (accessed on 30 July 2023).
13. Dolge, K., Balode, L., Laktuka, K., Kirsanovs, V., Barisa & A., Kubule, A. 202). A Comparative Analysis of Bioeconomy Development in European Union Countries. *Environmental Management*, 71, 215–233. https://doi.org/10.1007/s00267-022-01751-3
14. Dolge, K. & Blumberga, D. 2021. Economic growth in contrast to GHG emission reduction measures in Green Deal context. *Ecological Indicators*, 130, 108153. https://doi.org/10.1016/j.ecolind.2021.108153
15. European Commission. 2022. SMEs, green markets and resource efficiency. Flash Eurobarometer 498. November-December 2021. Available online: https://europa.eu/eurobarometer/surveys/detail/2287 (accessed on 30 July 2023).
16. European Commission. 2023(a). Agriculture and rural development. Available online: https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-glance_en (accessed on 29 July 2023).
17. European Commission. 2023(b). Farm to Fork strategy. Available online: https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy_en (accessed on 31 July 2023).

18. Fritsche, U., Brunori, G., Chiaramonti, D., Galanakis, C., Hellweg, S., Matthews, R. & Panoutsou, C. 2020. Future transitions for the Bioeconomy towards Sustainable Development and a Climate-Neutral Economy. *Knowledge Synthesis Final Report*, Publications Office of the European Union, Luxembourg, 95 pages, https://data.europa.eu/doi/10.2760/667966
19. Häyry, M. & Laihonen, M. 2022. Situating a sustainable bioeconomy strategy on a map of justice: a solution and its problems. *Environment, Development and Sustainability*, 1-18. https://doi.org/10.1007/s10668-022-02720-w
20. Iriarte, L., Fritsche U.R. & van Dam, J. 2021. Sustainability governance of bioenergy and the broader bioeconomy. Final draft. Available online: https://www.ieabioenergy.com/blog/publications/sustainability-governance-of-bioenergy-and-the-broader-bioeconomy/.(accessed on 31 July 2023).
21. Laktuka, K., Blumberga, D. & Rozakis, S. 2023. Assessing Bioeconomy Development Opportunities in the Latvian Policy Planning Framework. *Sustainability*, 15, 1634. https://doi.org/10.3390/su15021634
22. Lamenta, Z.A. & Grzybowska, K. 2023. Impact of the European Green Deal on Business Operations—Preliminary Benchmarking. *Sustainability*, 15, 7780. https://doi.org/10.3390/su15107780
23. Latvian Rural Advisory and Training Centr,e 2023. Kā tiks īstenoti ES Zaļā kursa mērķi lauksaimniecībā Baltijas valstīs [How the goals of the EU Green Deal will be implemented in agriculture in the Baltic States]. 06.01.2023. Available online: https://new.llkc.lv/lv/nozares/augkopiba/ka-tiks-istenoti-es-zala-kursa-merki-lauksaimnieciba-baltijas-valstis (accessed on 29 July 2023).
24. Liobikiene, G. & Miceikiene, A. 2023.Contribution of the European Bioeconomy Strategy to the Green Deal Policy: Challenges and Opportunities in Implementing These Policies. *Sustainability*, 15, 7139. https://doi.org/10.3390/su15097139
25. Maris, G. & Flouros, F. 2021. The Green Deal, National Energy and Climate Plans in Europe: Member States' Compliance and Strategies. *Administrative Sciences*, 11, 75. https://doi.org/10.3390/admsci11030075
26. Millers, J., Pilvere, I. & Beizitere, I. 2023. European Union and national regulatory framework for biogas production in Latvia. Proceedings of the 24th Annual International Science Conference "*Economic Science for Rural Development*" No 57. Jelgava, LLU ESAF, 11-12 May 2023, pages 82-93. https://doi.org10.22616/ESRD.2023.57.008
27. Ministry of Economics of the Republic of Latvia. 2022. Informatīvais ziņojums par darba tirgus vidēja un ilgtermiņa prognozēm [Informative report on mid- and long-term labour market forecasts]. Available online: https://www.em.gov.lv/lv/media/14720/download?attachment (accessed on 29 July 2023).
28. Ministry of Economics of the Republic of Latvia. 2023. ES fondu atbalsts 2021-2027 [EU funds support 2021-2027]. Available online: https://www.em.gov.lv/lv/es-fondu-atbalsts-2021-2027 (accessed on 29 July 2023).
29. Muska, A., Popluga, D. & Pilvere, I. 2023. Assessment of the concentration and structure of the bioeconomy: The regional approach. *Emerging Science Journal*, 7(1), 60-76. https://doi.org/10.28991/ESJ-2023-07-01-05
30. Nordregio (2023). BioBaltic. Nordic-Baltic cooperation within bio-circular-economy. Available online: https://nordregioprojects.org/biobaltic/ (accessed on 29 July 2023).
31. Organisation for Economic Co-operation and Development. 2022. Economic Surveys: Latvia 2022. 09 Mar 2022, 118 pages. Available at: https://doi.org/10.1787/c0113448-en
32. Official Statistics Portal of Latvia. 2023. Economically active enterprises of market sector in regions, State cities and municipalities by size group according to the number of employees and main economic activity (NACE Rev. 2) 2021. Available online: https://data.stat.gov.lv/pxweb/en/OSP_PUB/START__ENT__UZ__UZS/UZS031 (accessed on 9 July 2023).
33. Orozco, R., Mosquera-Losada, M.R., Rodriguez, J., Adamseged, M.E. & Grundmann, P. 2021. Supportive Business Environments to Develop Grass Bioeconomy in Europe. *Sustainability*, 13, 12629. https://doi.org/10.3390/su132212629
34. Pilvere, I., Nipers, A. & Pilvere, A. 2022. Evaluation of the European Green Deal policy in the context of agricultural support payments in Latvia. *Agriculture*, 12 (12), 2028 https://doi.org/10.3390/agriculture12122028 .
35. Rural Support Service of Latvia. 2023. Valsts atbalsts [National support]. Available online: https://www.lad.gov.lv/lv/valsts-atbalsts-0 (accessed on 31 July 2023).
36. Saeima of the Republic of Latvia (2010). Sustainable Development Strategy of Latvia until 2030. Available at: https://www.pkc.gov.lv/sites/default/files/images-legacy/LV2030/LIAS_2030_parluks_en.pdf
37. Valujeva, K., Debernardini, M., Freed, E.K., Nipers, A. & Schulte, R.P.O. 2022. Abandoned farmland: Past failures or future opportunities for Europe's Green Deal? A Baltic case-study. *Environmental Science & Policy*, 128, 175-184, https://doi.org/10.1016/j.envsci.2021.11.014
38. Zihare, L., Kubule, A., Vamza, I., Muizniece, I. & Blumberga, D. 2021. Bioeconomy triple factor nexus through indicator analysis. *New Biotechnology*, 61, 57-68, https://doi.org/10.1016/j.nbt.2020.11.008