

LINKING THE SUSTAINABLE DEVELOPMENT GOALS TO CLIMATE CHANGE ISSUES

Audronė ŽEMECKĖ-MILAŠAUSKĖ

Mykolas Romeris University

Maironio str. 27, LT 44211 Kaunas, Lithuania

Email: audronekaunas@gmail.com

ORCID ID: 0009-0000-2072-2834

DOI: 10.13165/PSPO-23-34-10

Abstract. *Industrial development is being squeezed to achieve higher economic growth rates worldwide and in Lithuania, causing increasing environmental problems and, in particular, affecting climate change. Climate change is one of the most worrying environmental problems worldwide. In recent decades, it has become increasingly evident in its negative impact on the environment and on economic and social development. Human economic activities are leading to an increase in the concentration of greenhouse gases in the atmosphere, leading to rising temperatures throughout the global temperatures. Greenhouse gases are emitted from industrial production processes, agricultural activities, the burning of fossil fuels and improper waste management. Industrial growth is often associated with legal entities whose main objective is to maximise profits at the lowest possible cost, which becomes a major threat to the environment. In this context, legal instruments are crucial in addressing climate change, as they set common goals and objectives and create legal mechanisms. Therefore, the author of the article has set herself the goal of exposing the legal regulation of climate change in the context of the ideology of sustainable development, with the exception of the Lithuanian waste management sector. The article focuses on the ideology of sustainable development, its development and objectives, the implementation of the objectives in the context of the compatibility of economic, social and environmental interests, and the actualization of climate change. It reviews the 2015 United Nations General Assembly Resolution “Changing our world: an agenda for sustainable development by 2030”. It brings up to date the basis of the concept of sustainable development, which is the constructive interaction of the three main components: environment, economy and society. It concludes that the absence of, or failure to adhere to, clear and focused national policies to implement international agreements on climate change is a global threat. Moreover, the legal measures identified to mitigate climate change need to be assessed comprehensively in order to avoid further damaging climate change and to ensure the realisation of the concept of sustainable development.*

Keywords: *sustainable development, climate change, waste management.*

Introduction

Environmental protection is one of the most pressing issues facing society today, although it only became more important in the 1970s and 1980s. It was in 1972 that the leaders of the Member States of the European Community stressed that special attention should be paid to environmental protection. In the summary of the case law of the Supreme Administrative Court of Lithuania noted that ensuring environmental protection is a prerequisite for the exercise of human rights. It is agreed that the well-being, survival and development of modern society is determined not only by economic progress, but also the environment in which it is safe to live, and which must be preserved for the present and future for the future and for the future generations (Supreme Administrative Court Bulletin No. 28, 2015).

The development of industry, energy and other sectors of the economy, population growth and the shrinking of residential areas, migration processes, the reduction of biocapacity, mobile and stationary pollution are just some of the socio-economic factors that lead to ozone depletion, the greenhouse effect, pollution of environmental facilities and other negative environmental impacts (Juknys R., 2005). Growing industry and other economic activities are

causing significant environmental damage. Environmental threat or damage is caused by long-term harmful human activities or as a result of individual activities.

Climate change is one of the key, vital issues. This is a global problem, as all countries contribute to the increase in greenhouse gas emissions and all suffer the consequences. It is therefore essential that the parties act in unison to implement the 25-27 September 2015 agreement. The objectives of the United Nations (UN) General Assembly session in New York, 27 September 2015, must be met. It was this session that was dedicated to sustainable development. The UN General Assembly adopted and signed the resolution "Transforming Our World: the 2030 Agenda for Sustainable Development" (A/RES/70/1). The absence of a clear and focused policy, or failure to implement international agreements on climate change in a country, is a threat on a large scale. Climate change is directly linked to sustainable consumption and production and the efficient use of raw materials in production processes, reducing waste and air pollution. The legal measures put in place to mitigate climate change need to be assessed in a comprehensive way to avoid further damaging climate change. Climate change has a negative impact on the environment and on economic and social development. The greenhouse effect is caused by human economic activities and production processes of businesses (burning of fossil fuels, improper waste management), which leads to an increase in the concentration of gases in the atmosphere, resulting in a rise in the temperature of the air throughout global warming. "Technological and scientific progress, population growth, urban and rural development, and aggressive environmental pollution are creating very complex human-environment relationships. Often, they need to be regulated not only by economic or technical measures, but also by legal ones" (Natural Heritage Foundation, 2015). In summary, it must be stressed that regulation and related measures are essential for analysing and tackling climate change. It should be stressed that strategic legal documents and laws set objectives and targets and establish legal mechanisms for administrative supervision and control, and systems for their application and monitoring. Therefore, in today's developing societies, legal instruments are the key tools for tackling climate change.

The processes affecting climate change are more likely to be linked to environmentally damaging economic activities, with a corresponding increase in the number and severity of environmental problems. Therefore, economic, industrial and other development must be based on the objectives of sustainable development, environmental principles and comply with the requirements of legal regulation. Meanwhile, the State, through its authorized entities, must exercise administrative supervision and control and monitor compliance with these requirements.

Thus, when analysing the ongoing social changes in the world and in Lithuania, one of the most pressing areas is climate change. Therefore, this article discusses the legal instruments addressing climate change and reveals the practical aspects of climate change in the waste management sector in the Republic of Lithuania.

The above situation clearly determines the need for effective legal regulation, and the priority area of the state is environmental protection (with an emphasis on climate change issues). At the same time, strategic actions must ensure the compatibility of economic, social and environmental interests.

Thus, the environmental legal regime as a tool for addressing environmental problems is becoming increasingly important. The identification of environmental needs by the Lithuanian legislative authorities and their transformation into environmental requirements expressed in legal acts, as well as the implementation and enforcement of European Union standards related to environmental protection in the national environmental legal system of Lithuania, are of

utmost importance. In the context of the concept of sustainable development, which is seen as the long-term, continuous development of society to meet the needs of humanity now and in the future, rationally using and replenishing natural resources and preserving the Earth for future generations, the concept and purpose of legal liability as a means of protecting the environment must take on new dimensions. So far, legal liability has been treated more as a coercive application of the state, while the emphasis should be on indicators of sustainable development and the protection of the interests of man, society and the state that arise in the context of environmental, economic and social development.

The article focuses on the legal instruments regulating climate change, and the legal mechanisms that have been put in place and implemented, the legal frameworks that have been developed and implemented in relation to addressing climate change issues implementation of the legal and regulatory measures related to climate change in the context of sustainable development.

The aim of the article is to present the legal regulation of climate change in the context of the ideology of sustainable development, with a focus on the Lithuanian waste management sector.

In order to achieve its objective, the paper sets out the following objectives:

- present the evolution of the ideology of sustainable development and its links to climate change;
- to analyze the legal framework for climate change and the links between climate change and waste management.

The paper presents the concept of sustainable development using a descriptive approach, while the legal regulation of climate change and its links to waste management issues are presented using an analytical approach. A systematic approach has helped to show the interaction between the compatibility of environmental, social and economic objectives and climate change legislation.

The evolution of the ideology of sustainable development, the concept

Economic development and its impact on the environment is a pressing issue worldwide. Measures are needed to protect the environment. One of these is to move away from the expansion of economic development, which is no longer possible in this phase of globalization and rapid development. Other ways must therefore be found to tackle the rapidly growing environmental problems without abandoning further economic growth.

In 1992, at the United Nations World Conference on Environment and Development in Rio de Janeiro, where Lithuania also participated, the Basic Principles of Sustainable Development were finally formulated, which at the highest level legitimized sustainable development as the main ideology of long-term development of society. It was based on 3 equal components: environmental protection and social and economic development. The Rio Declaration formulated the basic principles of sustainable development and the Johannesburg Summit in 2002 proclaimed the motto "from plans to action" and asked all countries to develop national sustainable development strategies within 2002 and to set up effective mechanisms for the implementation of these strategies.

The European Union has been and continues to be the undisputed leader in sustainable development. The European Union's general approach to sustainable development was formalized in the review of the European Community's programme of policies and actions relating to the environment and sustainable development, "Towards Sustainable Development",

carried out and endorsed by the European Parliament and the European Council in 1998. The European Union's Sustainable Development Strategy was endorsed by the Council of Europe Summit in Gothenburg (Sweden) in 2001. The implementation of this strategy requires economic growth to accelerate social progress and improve the environment, social policies to promote economic growth and environmental policies to be cost-effective. A particular focus of this strategy has been to decouple economic growth from resource use and environmental impacts, i.e., to aim for natural resource use and environmental pollution to grow much more slowly than the economy. The concept of sustainable development thus did not regard the environment as an absolute, inviolable and sacrosanct value. The European Bank for Reconstruction and Development (EBRD) has pointed out that balanced development, i.e., sustainable development, is a key feature of good business management and that economic growth and a healthy environment must go hand in hand (EBRD Environmental Policy, 2003).

The ideology of sustainable development has gone through several phases of development and reformation, influencing different countries around the world, but the most recent international strategic document, and the one that is currently in place, was adopted in 2015. The 70th anniversary session of the United Nations (UN) General Assembly on sustainable development was held in New York on 25 and 25 September 2015. The UN General Assembly adopted and signed the resolution "Transforming Our World: the 2030 Agenda for Sustainable Development, A/RES/70/1, which replaced the Millennium Goals announced in 2000. The new 2030 Agenda for Sustainable Development was adopted and signed by 193 Heads of State and Government, including Lithuania.

The Preamble to the 2030 Agenda refers to the five key elements of the new development agenda that will be the focus of action - people, planet, prosperity, peace, partnership (5Ps). The main objective of this agenda is to eradicate extreme poverty and hunger in the world by 2030 and to ensure sustainable economic and social development. The Sustainable development goals are not only a broad vision for a more sustainable future for the world and all its people, but also a concrete framework of targets and indicators. This latter insight makes the integration of the Sustainable development goals into national and local policy and planning a particularly valuable tool for effectively promoting more sustainable development, by clearly defining what this means, both in concrete terms and in a systemic way, and how to measure progress already made. One of the most important features of the Goals is the strong link between all 17 Goals. These links become more apparent as the tasks to achieve the objectives become more in-depth. It is evident from this that all the Objectives depend on each other, either directly or as a prerequisite for each other's progress. Several elements of the Goals are horizontal and, in order to ensure full progress, are reflected in each Goal: equality (ensuring the well-being of all people, including future generations); education (formal and non-formal, or education as a prerequisite for other areas of development); inclusion (access to information and participation in decision-making processes); protection of the environment and the sustainable use of resources. The SDGs are not legally binding, but are a commitment made by the consensus of the international community (Klimavičienė I, Vaičiulėnaitė J., 2019).

In analysing Lithuania's sustainable development goals, the National Strategy for Sustainable Development, the results of the study "Sustainable Development Goals and the Planning System in Lithuania: an Analysis of the Existing Situation" (Punytė I, Simonaitytė K, 2018), the Report on the Implementation of the 2030 Agenda for Sustainable Development in Lithuania in 2018 were examined. The documents emphasise that most of the UN Sustainable Development Goals and targets are largely transposed into Lithuania's strategic planning documents. Out of the 17 Sustainable development goals and 169 targets presented in the 2030

Agenda, Lithuania has identified 43 priority targets, which are grouped into four priority areas: (1) reducing social exclusion and poverty, (2) healthy lifestyles, (3) energy efficiency, and (4) *climate change and sustainable consumption and production*. (Lithuanian Sustainable Development Strategy). Development cooperation is included in Goal 17 of the 2030 Agenda - "Strengthen implementation tools and revitalise the global partnership for sustainable development". Lithuania has made this a priority and has pledged to provide official development assistance. In 2017, support amounted to €52.5 million, equivalent to 0.13% of gross national income. Given its financial resources and experience in cooperation, Lithuania aims to contribute to the implementation of the SDGs in recipient countries but prioritizes 6 of the 17 SDGs: poverty reduction, quality education, gender equality, climate change mitigation, peace and justice, strong institutions, and partnership in the implementation of the Goals (Sustainable Development and Lithuania, 2018).

The thirteenth Sustainable Development Goal (SDG) is the fight against climate change. It aims to implement the commitments made under the United Nations Framework Convention on Climate Change (UNFCCC) and to continue the work of the Green Climate Fund (GCF). Countries are encouraged to strengthen their capacity to adapt to climate change hazards and natural disasters by integrating climate change mitigation into national strategies, policies and planning (State Data Agency, 2023). In addition to SDG 13 of the Sustainable Development Agenda, it is worth mentioning another international commitment of major importance: the Paris Climate Change Agreement (Paris Climate Change Agreement, 2015). Adopted in December 2015 after almost two decades of negotiations, the Paris Climate Change Agreement represents a significant step forward for the international community in the fight against climate change. The Agreement is a commitment by the ratifying countries to keep the Earth's temperature no more than 2 degrees Celsius above the temperature before the Industrial Revolution. Each country that ratified the Agreement also committed to setting its own greenhouse gas emission reduction targets (Intended Nationally Determined Contributions), which are expected to become more ambitious with each renewal of commitments. As required by the Agreement, the European Union has submitted a long-term emission reduction strategy and updated climate action plans by the end of 2020, committing to reduce EU emissions by at least 55% below 1990 levels by 2030. However, it must be stressed that the Agreement is not legally binding, i.e. compliance with the commitments is voluntary and good faith. Only national governments were formally involved in the climate change negotiations and have committed themselves to the targets. On the other hand, the various city alliances (e.g. the Covenant of Mayors on Climate and Energy) are among the most active supporters and implementers of the Agreement - cities are responsible for the vast majority of global greenhouse gas emissions, and therefore have the most scope for introducing innovative and effective solutions to mitigate climate change.

Lithuania, which has been involved in the sustainable development process since 1992 and is working towards the 2015 Sustainable Development Goals, is still struggling, because although it has a legal framework for environmental protection in place, it does not always achieve its practical objectives. In the area of social exclusion and poverty reduction, the poverty risk rate has not changed much, and there has been no major breakthrough: in 2020 it was 20.9%, and increased by 0.3% compared to 2019. Lithuania has been ranked last among the European Union countries for the last 10 years (the average in 2020 is 17.1%). The State Agency for National Data provides indicators of the poverty risk rate by age groups, household composition, economic activity status, etc. An analysis of the evolution of these indicators (2017-2022) shows that the groups with the highest risk of poverty are: pensioners, children

under 18, single parents, unemployed, persons with disabilities (Poverty Reduction Progress Assessment). It can be concluded that Lithuania still does not have a poverty reduction target and therefore poverty rates are not changing significantly. There is a lack of inter-institutional cooperation, a lack of awareness that social issues and poverty reduction are not the sole responsibility of the Ministry of Social Security and Labour. It covers a lot of areas - the Ministry of Education, the Ministry of Economy, the Ministry of Finance. Since poverty itself is a very complex problem, it requires complex measures. The role of municipalities is very important. If municipalities do not set themselves the goal of reducing poverty through their social measures, it is unlikely that anything will change.

The goal of good health and well-being requires the pursuit of healthy lifestyle goals across age groups. Daily stress and anxiety have a negative impact on our physical and psychological health, and the state needs to find the motivation and incentives to take better care of it.

The principle of prioritisation of energy efficiency improvements must be formalised in Lithuania. This principle would allow an assessment to be made as to whether improving energy efficiency at the level of end-users is more cost-effective than securing energy supply. This would lead to a reduction in the volume of energy production and supply, an increase in the reliability of networks and a reduction in environmental pollution. The issues at stake must be addressed through the obligation to save energy. This issue must be addressed in the Ministries of the Environment, Energy, Transport, Economic Affairs and Innovation, and Agriculture. Energy consumption and savings targets must be set by ministerial legislation. The obligation for public authorities to prioritise energy efficiency policy measures in vulnerable households and social housing is still ineffective. This amendment would reduce energy costs, ensure comfortable living conditions and allow consumers to use the savings on energy bills to meet other essential needs.

In the context of climate change, what the future climate will be like on a global or Lithuanian scale will largely depend on how the world develops: how much greenhouse gases will be emitted into the atmosphere, how many people will be living in the world, how forest areas will change, what type of energy will be used, etc. But the key to reducing climate change is the measures we take to reduce greenhouse gas emissions into the atmosphere. To achieve climate neutrality, Lithuania needs to decouple greenhouse gas emissions from economic growth, i.e. reduce emissions while maintaining economic growth. Thus, the climate and energy objectives require a reduction in greenhouse gas emissions and the development of renewable energies, which will create energy efficiency.

Causes and regulation of climate change

The Earth's climate has changed throughout its history. With a history dating back some 4,600 million years, the Earth has had many ice ages and warm spells in the past. Research since the 1960s has shown that the last two million years have seen the emergence of several phases of cold weather, which have led to significant glacial expansion. The most recent cooling, 21,000 years ago, was one of the most severe, with large areas of northern Europe and North America, as well as mountainous regions, covered in glaciers. Dry highland regions, such as Tibet, were unevenly covered by ice (J. Dodson, 2008). "Throughout the geological history of the Earth, climate has changed as a result of natural processes such as changes in the composition of the atmosphere, changes in the planet's orbital parameters, volcanic eruptions, tectonic plate drift, and solar activity cycles. The last 200 years of recorded climate change are

notable for the fact that human activities are the main cause of change" ("Causes and consequences of climate change", 2023).

Climate change is a change in the state of the climate that can be detected (e.g. by statistical tests) by changes in the mean and variability of its properties and that persists over a long period of time, typically decades or longer. As mentioned above, climate change can be caused by natural internal processes or external forces, such as modulation of solar cycles, volcanic eruptions, permanent anthropogenic changes in atmospheric composition or land use (IPPC, Climate Change 2014 Impacts, Adaptation, and Vulnerability, 2014). Article 1 of the United Nations Framework Convention on Climate Change defines climate change as "changes in climate resulting directly or indirectly from human activities that alter the composition of the Earth's atmosphere and that do not fall within the natural climate fluctuations observed at regular intervals" ("Causes and consequences of climate change", 2023). The United Nations Framework Convention on Climate Change thus distinguishes between climate change associated with human activities altering the composition of the atmosphere and climate change attributable to natural causes. Human activities have been increasing significantly since the mid-18th century and in recent decades have become a major contributor to current warming. It is therefore necessary to take this into account when assessing the impact of the causes of climate change. A pre-industrial (also known as natural) climate system existed until the mid-18th century, followed by a period of industrial (anthropogenic) climate system (Bukantis A., 2017). Since the industrial revolution, man has begun to change the chemical composition of the atmosphere, thereby amplifying the greenhouse effect in the Earth's atmosphere. Various gases emitted by industry, transport and agriculture accumulate in the atmosphere. The accumulated anthropogenic gases (gases caused by human activity - greenhouse gases) transmit the sun's rays but then trap heat coming from the Earth's surface. Under natural conditions, this heat would be radiated back into space. The increase in greenhouse gases is the result of reckless actions by mankind: urbanisation, deforestation, intensive and extensive agricultural development. Deforestation and land cover change are disrupting the balance of carbon dioxide and oxygen in the atmosphere and changing the albedo of the Earth's surface ("Causes and consequences of climate change", 2023).

The impact of human activities on the climate system is undeniable, with current anthropogenic greenhouse gas concentrations higher than ever before. The increase in greenhouse gas concentrations compared to the pre-industrial period is mainly driven by human population growth and economic growth (Bukantis A., 2017). The United Nations Framework Convention on Climate Change (UNFCCC) stresses that climate change is a concern for all of humanity, as it is the increasing concentration of GHGs in the atmosphere due to human activities that is amplifying the greenhouse effect and could adversely affect natural ecosystems and all of mankind (United Nations Framework Convention on Climate Change, 1995).

The main greenhouse gas emitted by human activities is carbon dioxide (CO₂), which accounts for the vast majority of greenhouse gas emissions. CO₂ stays in the atmosphere for an average of 50-200 years, so today's effects will be felt for decades and even centuries to come. They are emitted along with vapours, fumes and gaseous metals from tailpipes, chimneys, fires and other sources. Carbon dioxide is mainly produced when fossil fuels such as oil, coal and natural gas are burned. Fossil fuels are still the main source of energy. It is burned to generate electricity and heat, and is used as fuel for cars, planes and ships (Jarimavičiūtė N., 2008).

The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by the World Meteorological Organisation and the United Nations Environment Programme (UNEP). It is a scientific body whose aim is to assess the threat of human-induced climate change. The

main activities of the body include issuing reports related to the implementation of the United Nations Framework Convention on Climate Change. The Commission's reports are used by governments to develop climate change management policies. The reports are used as a basis for international negotiations on climate change. The IPCC is made up of governments that are members of the United Nations or the World Meteorological Organisation (Bukantis A., 2023).

In the context of climate change, it is important to look beyond the causes to the consequences, and it is therefore crucial to find ways of correcting the human activities that create the threats. The legal mechanism has been used for this purpose, with the adoption of conventions, protocols and various pieces of legislation in which countries have made commitments to climate change. Joint agreements were reached in Rio de Janeiro in 1992, Kyoto in 1997 and Paris in 2015. In 2015, world leaders agreed on ambitious new targets to combat climate change. The Paris Agreement sets out an action plan to limit global warming.

The EU and all its Member States have signed and ratified the Paris Agreement and are strongly committed to its implementation. As part of this commitment, EU countries have agreed to make the EU the first climate-neutral economy and society by 2050. As required by the agreement, the EU has submitted a long-term emission reduction strategy and updated climate action plans by the end of 2020, committing to reduce EU emissions by at least 55% below 1990 levels by 2030. (Paris Climate Agreement, 2015).

Climate change impacts and risks are also relevant in Lithuania. Therefore, the mitigation and adaptation objectives set out in international and EU legislation are important for Lithuania. Lithuania has ratified all major climate change-related instruments:

- The United Nations Framework Convention on Climate Change, signed in May 1992.

Lithuania ratified the Climate Change Agreement on 9 May 1992 and ratified by the Seimas of the Republic of Lithuania on 23 February 1995.

- the Kyoto Protocol to the United Nations Framework Convention on Climate Change, which was signed by 11 December 1997 and ratified by the Seimas of the Republic of Lithuania on 19 November 2002.

The Kyoto Protocol entered into force in Lithuania on 16 February 2005 and the Doha Amendment was ratified by the Seimas of the Republic of Lithuania on 15 October 2015.

- the Paris Climate Change Agreement, adopted on 12 December 2015 and ratified by the Seimas of the Republic of Lithuania ratified on 22 December 2016.

In the Paris Agreement, Parties recognised that adaptation to climate change is a global challenge that needs to be addressed at local, sub-national, national, regional and international scales, and that adaptation is an essential component of a long-term global response to climate change and a contribution to the protection of people, livelihoods and ecosystems, while taking into account the need to respond urgently to the needs of the developing country Parties, the Parties to the Agreement, which are particularly vulnerable to the adverse effects of climate change.

Each Party shall undertake adaptation planning processes and implement actions, as appropriate, including the development or improvement of necessary plans, policies and/or action documents. This may include: adaptation actions, commitments and/or efforts; the process of developing and implementing national adaptation plans; assessment of climate change impacts and vulnerability with a view to developing nationally prioritised binding actions, taking into account vulnerable people, places and ecosystems; monitoring, evaluation and knowledge generation of adaptation plans, policies, programmes and actions; building resilience of social, economic and ecological systems through economic diversification,

sustainable management of natural resources, etc. measures (Guidelines on mitigation and adaptation to climate change for municipalities, 2017).

Key climate change-related documents in the Lithuanian legal framework:

- Law on Climate Change Management of the Republic of Lithuania (7 July 2009, No XI-329). This Law establishes the rights, duties and responsibilities of persons carrying out economic activities which result in the emission of greenhouse gases into the atmosphere, as well as the competences of state institutions and bodies, and the essential requirements for the issuance of certificates for the management of fluorinated greenhouse gases, their suspension, revocation of suspension and cancellation of the validity of the certificates.

- The National Policy Strategy on Climate Change Management approved in 2012 (No XI-2375 of 06.11.2012) has been replaced by the National Agenda on Climate Change Management adopted by Resolution No XIV-490 of 30.06.2021. In the Agenda, Lithuania, together with other EU Member States, aims to increase its ambition for the next decade and its long-term climate and energy policy objectives, in order to meet the objectives of the Paris Agreement and to preserve the EU's international leadership in the fight against climate change. In line with these, the European Council on 12 December 2019 endorsed the EU's 2050 greenhouse gas neutralisation target.

On 11 December 2019, the European Commission presented its Communication "A European Green Deal", which proposes a new growth strategy to transform the EU economy into a modern, competitive, climate-neutral economy by decoupling growth from resource use. The Green Europe Communication points out that a transformation to neutralise climate impacts requires changes in all policy areas and a concerted effort from all sectors of the economy and society. It also sets out a framework for sustainable and inclusive growth in the areas of energy, smart and sustainable mobility, industry, the circular economy, production and consumption, sustainable agriculture, retrofitting of buildings, protection of ecosystems and biodiversity, environmental sustainability, taxation, and social well-being, where progress towards an environmentally friendly and climate-neutral economy by 2050 is to be achieved. (National Climate Change Management Agenda, 2021).

Strengths in climate change mitigation: In the energy sector, Lithuania has successfully implemented the measures envisaged, shifting to a greater use of renewable energy sources, which has led to a reduction of greenhouse gas emissions in the energy sector (except transport). Lithuania has a well-developed solar energy technology and biomass industry and has acquired competences in the use of technology for energy production. A system of modernisation and renovation of buildings has been established and is being developed to increase energy efficiency, reduce energy poverty and move steadily towards the renovation of housing estates. According to the National Greenhouse Gas Inventory Report, emissions from the waste sector are relatively low and are decreasing through the promotion of waste prevention, the expansion of separate collection and sorting systems, and the implementation of technological solutions for reuse and recycling. The Law on Alternative Fuels of the Republic of Lithuania creates the preconditions for promoting the use of fuels from renewable energy sources by imposing obligations on fuel suppliers to supply fuels from renewable energy sources and increasing the use of advanced biofuels. This law establishes the development of the use of alternative fuels in the transport sector in the Republic of Lithuania in order to implement the strategic objectives of the national transport, energy and climate change policy. The objective of this Law is to reduce the impact of the transport sector on climate change and air pollution, with the aim of achieving a share of renewable energy sources in the transport sector of at least 15 per cent of total final energy consumption in the transport sector by 2030 (Law on Alternative Fuels of the

Republic of Lithuania, 2021). The Law on Alternative Fuels aims to promote the use of electricity in road transport, the development of infrastructure for the production, purification and supply of biogas for transport, and to support the acquisition of alternative fuel vehicles and the development of infrastructure for them. This will allow for a consistent diversification of energy sources in the transport sector, the use of local resources, and a reduction in the dependence of the transport sector on fossil fuels, while reducing the impact of the transport sector on climate change (National Climate Change Management Agenda, 2021).

Climate change mitigation vulnerabilities: According to the National Greenhouse Gas Inventory Report, the transport sector is the largest contributor to greenhouse gas emissions, accounting for almost 96% of transport greenhouse gas emissions, or 30% of the country's total greenhouse gas emissions, and has been increasing over the last 7 years in the road transport sub-sector. The reason for this is that Lithuania's tax policy is not sufficiently oriented towards environmental and climate change objectives and behavioural change. According to the National Greenhouse Gas Inventory Report, agriculture is the third largest source of greenhouse gas emissions in Lithuania. Farmers often lack the expertise, knowledge, motivation and incentives to switch to new technologies and implement environmentally friendly production practices that would reduce greenhouse gas emissions. In the agricultural sector, there is no system of accounting for emissions and removals at farm level that provides an economic incentive to reduce greenhouse gas emissions by comparing greenhouse gas emissions between operators. Around 66% of Lithuanian buildings are classified as below energy performance class C. These buildings are very inefficient in their energy use. According to the National Air Pollutant Inventory, emissions of pollutants of particular concern to health from household (dwelling) heating installations are increasing in Lithuania due to the production of heat energy from solid biofuels and other solid fuels, inefficiently operating heat production installations, and the inefficient use of heat. Moreover, there may be insufficient cooperation between research institutions and business to conduct research, promote experimental development and innovation and deploy the latest low greenhouse gas emission technologies in individual sectors of the economy (National Climate Change Management Agenda, 2021).

After assessing the strengths and weaknesses of climate change mitigation, the National Climate Change Management Agenda set national mitigation targets for 2030:

- Reduce greenhouse gas emissions by 30% compared to 2005, including - absorption by the land use, land-use change and forestry sectors, by shifting the economy towards innovative, low-emission and environmentally friendly technologies and renewable energy sources;
- In sectors participating in the EU Emissions Trading Scheme (energy production and supply, industrial processes), a reduction of at least 50% compared to 2005.
- in sectors not participating in the EU ETS (transport, industry, agriculture, waste, small energy), a reduction of at least 25% compared to 2005, including absorption by the Land Use, Land Use Change and Forestry sector, and within the set annual GHG quotas for the period 2021-2030.

National mitigation targets to 2040:

- Reduce greenhouse gas emissions by 85% compared to 1990 levels, with up to 15% absorption by the land use, land-use change and forestry sectors, by shifting to innovative, low-emission and environmentally friendly technologies and the use of renewable energy sources in all economic sectors.

National mitigation targets for 2050:

- Reduce greenhouse gas emissions by 100% compared to 1990 levels by shifting to innovative, low-emission, environmentally friendly technologies and renewable energy sources

in all economic sectors. Up to 20% covered by natural sinks from the land use, land-use change and forestry sectors, using environmentally sound carbon capture and use technologies. This is to offset greenhouse gas emissions in sectors where technological options for zero emissions will not be found.

Linking climate change issues to the waste sector.

The consumption of various products and irresponsible waste management contribute directly to climate change by releasing greenhouse gases into the air, which are produced during the various stages of waste generation and management. It is therefore important to stress that the changes and decisions taken in the waste management sector are not only a factor in the development of the sector, but also in the extent of its impact on climate change. This paper therefore attempts to show that waste management is directly linked to climate change, and furthermore that decisions taken in the waste management sector have a direct impact on climate change management.

In Lithuania, waste management is organised in accordance with the Waste Management Act, the State Waste Management Plan 2014-2020, the State Waste Prevention Programme, and other legislation for specific types of waste, such as the Packaging and Packaging Waste Management Act.

In general terms, waste is a wide range of materials that are no longer usable, left over after use or unwanted, whether from economic activities or households. The Waste Management Act lays down general requirements for the prevention and management of waste in order to avoid adverse effects of waste on public health and the environment; the conditions under which a substance or object may not be considered waste; and the state regulation of waste management; the basic principles of organisation and planning of waste management systems; requirements for waste holders and waste managers; economic and financial measures for waste management; the rights and obligations of producers, importers and distributors of oils, electrical and electronic equipment, vehicles, taxable products, aerobically degradable plastics, single-use plastics, plastic-containing fishing gear and packaging (the Law of the Republic of Lithuania on Waste Management 1998).

The general organisation of waste management is laid down in the Waste Management Act. It requires waste holders to manage their own waste or to transfer it to waste managers in accordance with a set procedure. Waste must be sorted at source and waste collectors must carry out sorted waste collection. Undertakings collecting, transporting and treating waste must register with the State Register of Waste Managers. Only waste management facilities of national significance recognised by the Government may use or plan to use municipal waste as fuel for energy production. Municipalities are responsible for municipal waste management. Municipal waste management is organised on the territory of the municipality in accordance with the waste management rules drawn up and approved by the municipal council, which lay down the conditions for the provision of the municipal waste management service (Law on Waste Management of the Republic of Lithuania, 1998).

Section 5 of the Waste Management Act sets out the roles of authorities in waste management:

- The Ministry of the Environment regulates and administers the management of all waste, monitors the implementation of established requirements and tasks, coordinates the activities of other state and municipal authorities in the field of waste management, and seeks additional sources of funding for waste management projects developed by state and municipal authorities;

- Ministry of Economy and Innovation develops and approves measures to promote waste prevention, as well as the reduction of production waste, the introduction of low-waste

technologies, and the creation of markets for products made from secondary raw materials; coordinates the implementation of these measures; and coordinates the actions of health care institutions in the setting up of capacities for the management of medical waste, as well as the initiation of projects for the establishment of such waste management capacities.

-The Ministry of Economy and Innovation develops and approves measures to promote waste prevention, as well as the reduction of production waste, the introduction of low-waste technologies, and the creation of markets for products made from secondary raw materials; it coordinates the implementation of these measures, and also coordinates the actions of industrial enterprises in the development of waste management capacity for their production.

-The Ministry of Agriculture coordinates the efforts of the agri-food industry to build up capacity to manage the waste generated by their production.

-The State Food and Veterinary Service shall lay down requirements for the on-site segregation, collection, packaging, labelling, pre-treatment, temporary storage and accounting of animal health and related research waste for the generators of such waste and shall supervise the management of biodegradable waste (except biodegradable waste from gardens and parks) generated by food business operators at the sites where such waste is generated.

-Municipalities organise the municipal waste management systems necessary for the management of municipal waste generated on their territory, ensure the functioning of those systems, organise the management of garbage and waste for which the holder cannot be identified or does not exist, and administer the municipal waste management service.

-The State Energy Regulatory Council shall approve the methodology for setting regional prices for municipal waste management and supervise their application; shall set regional prices and supervise their application; shall approve the methodology for setting the price cap for incineration of one tonne of municipal waste of energy value (hereinafter referred to as "incineration of one tonne of municipal waste per tonne of municipal waste") left over from sorting, not suitable for recycling and reuse, and supervise their application; set a cap on the rate per tonne for the incineration of municipal waste with an energy content unsuitable for recycling and reuse remaining after sorting by the incineration plant and/or the operator of the incineration plant, and supervise its application; [...] coordinate investments related to municipal waste management and municipal waste incineration made by the regional waste management centres and the operators of the co-incineration plant and/or the incineration plant; settle disputes arising between the operators of the co-incineration plant and/or the incineration plant and the regional waste management centres concerning the per-tonne rates applied by the operators of the co-incineration plant and/or incineration plant to the incineration of municipal waste by the dispute settlement procedure; [...] performs other functions prescribed by this Law and other legal acts (Waste Management Law of the Republic of Lithuania, 1998). The functions of the authorities, as laid down in the Law on Waste Management, are transposed into the regulations and activities of these authorities.

The Law on Environmental Protection of the Republic of Lithuania regulates social relations in the field of environmental protection, establishes the basic rights and obligations of legal and natural persons in preserving the biodiversity, ecological systems and landscape characteristic of the Republic of Lithuania, ensuring a healthy and clean environment, and rational use of natural resources in the Republic of Lithuania, the territorial waters, continental shelf and economic zone of the Republic of Lithuania, liability, economic sanctions for violations of legal acts regulating the protection of the environment and the use of natural resources by legal persons in order to effectively prevent such violations, and the provisions on the proceedings for the imposition of economic sanctions. (Law on Environmental Protection,

1992). The law also stipulates that "persons must comply with the laws and regulations that lay down the requirements for waste management and that the polluter pays for waste management".

Article 247 of the Code of Administrative Offences establishes the liability for non-compliance with the requirements of waste management legislation. The provisions of the Code stipulate that contamination of the environment with waste, storage, collection, transport or treatment of waste in breach of the requirements shall be punishable by appropriate sanctions.

The Šiauliai Regional Court in administrative offence case No AN2-99-744/2019 examined the case of O. J. complaint. O. J. appealed to the court, requesting to annul the resolution of the Šiauliai District Court Chamber of 27 March 2019 and to terminate the administrative offence proceedings. The appellant was punished under Article 247(13) of the Administrative Code for not ensuring the sorting of construction waste at the construction site and for allowing the employees to remove 5,25 m³ of non-hazardous wood waste on the land owned by the State, in violation of Article 4(1) of the Law on Waste Management and point 7 of the Waste Management Rules, while being the director of the Closed Joint-Stock Company ("..."), on 20 April 2017. O. J. submits in its appeal that the court, in imposing the administrative penalty, failed to take into account the fact that the waste was spilled for only a short period of time, that it was immediately collected and dealt with in accordance with the law, and that the short spillage of the decayed non-hazardous wood waste on the ground did not cause any significant damage to the environment [...]. The Court pointed out that the wording of Article 247 of the Code of Administrative Offences of the Republic of Lithuania indicates that the Article contains a blanket norm, which means that the participants in a certain legal relationship are obliged to observe rules of conduct that are not set out in the legal norm of the Code of Administrative Offences, nor in other articles or parts of the Code of Administrative Offences. Having assessed the case-file, the Court of Appeal finds that the District Court was justified in finding that O. J.'s actions were found by the district court to be within the scope of Article 247(13) of the Code of Administrative Offences (Article 247(13) of the Code of Administrative Offences provides for the administrative liability for environmental pollution with 5 m³ or more of non-hazardous waste) and cannot accept the appellant's argument that the court failed to take into account the mitigating circumstances as it is evident from the judgment of the court of first instance that, in accordance with Article 35(2) of the Code of Administrative Offences, the court considered the fact that the O. J. had made efforts to remedy the infringements committed and, when imposing the penalty, assessed the offender's conduct throughout the proceedings. Therefore, the Court upheld the contested decision of the District Court (Resolution of the Šiauliai Regional Court of 13 June 2019 in administrative offence case No AN2-99-744/2019).

In another administrative offence case No AN2-457-593/2018 concerning an offence under Article 247(30) of the Code of Administrative Offences, the Court also noted that a person may be exempted from administrative liability only in certain specific cases, and that Article 247 of the Code of Administrative Offences does not provide for such a possibility, and that, therefore, even if we take into account the positive characterisation circumstances indicated by the offender, the application of the institution of the exemption of the offender from the administrative liability is not possible, and a fine has been imposed on the basis of reasonable grounds (Kaunas District Court, Kaunas Chamber, 27 June 2018, Resolution No A11.-1432-668/2018). Similar decisions, where administrative penalties are imposed on persons for offences provided for in Article 247 of the ANC, are repeated in the case No A11.-1432-668/2018, as well as in the cases No II-51-899/2018 and No A11.-1129-416/2019. In

administrative offence case No AN2-22-317/2020, the Kaunas Regional Court heard a complaint by S. Š. Mr S. Š. disagreed with the commission of the offences provided for in Article 247(25) and (34) of the Code of Administrative Offences and requested their annulment. The applicant argued that the administrative offence against him was minor. The Regional Court noted that according to the provisions of the Administrative Offence Code, an offence may be recognised as less serious and not as minor, and there is not even a formal basis to consider the administrative offence provided for in Article 247 of the Administrative Offence Code to be of minor seriousness, therefore, the appeal of S.Š. is not upheld (ruling of 6 January 2020 of the Kaunas Regional Court in administrative offence case No AN2-22-317/2020).

Summarising these cases, it is necessary to underline that offences under the provisions of the Code of Administrative Offences, such as contamination of the environment with waste, storage, collection, transport or treatment of waste in breach of the requirements, cannot be considered as minor or low risk. Moreover, the wording of Article 247 of the Code of Administrative Offences indicates that the Article contains a blanket norm, which means that the participants in a given legal relationship are obliged to comply with rules of conduct which are not set out in the legal norm of the Code of Administrative Offences or in other articles or parts of the Code of Administrative Offences.

Waste management can be managed in two ways, i.e. by means of enforcement and control measures implemented by the authorities discussed above and by means of administrative penalties for offences under the Code of Administrative Offences, as well as economic measures. Economic measures include the Environmental Pollution Tax Act, which establishes the object of the environmental pollution tax, the payers, the rights and obligations of the payers, the benefits, the procedure for setting and indexing the rates, the tax period, the rates, the procedure for calculating, declaring and paying the tax, the procedure for conducting a tax inspection, and the allocation and targeting of the revenue. The purpose of this law is to reduce environmental pollution by economic means, to limit the production and sale of polluting substances, to encourage the use of new environmentally friendly technologies, to support sustainable economic development, to carry out waste prevention and management, to encourage the reusable use of products, to ensure that the norms of pollutant emissions are not exceeded, and to enable the accumulation of funds to be used from the environmental pollution tax for the implementation of measures for the protection of the environment (Environmental pollution tax law, 1999).

The Supreme Administrative Court of Lithuania has noted that "the purpose of the environmental pollution tax is to provide economic incentives to polluters to reduce environmental pollution, to prevent and manage waste, and to raise funds from the tax for the implementation of environmental protection measures. The declaration of the tax in the prescribed manner and within the prescribed time limits under the Environmental Pollution Tax Act is a sufficient legal basis for the application of the established tax assessment procedure, whereas the failure to declare the tax constitutes a concealment of the amount of the harmful activity and the related obligations to the State, which poses a greater risk to the interests protected by the law and results in greater monetary obligations to the State." (Summary of the practice of the Supreme Administrative Court of Lithuania in environmental cases). The decision of 11 April 2019 in Administrative Case No I-189-189/2019 recognises non-compliance with the obligation to declare as concealment of taxable products and packaging. The same decision applies in administrative cases No I-2433-644/2016 and No EI-2055-739/2018. In the latter case, the applicant appealed against the decision to pay the higher rate of tax on undeclared quantities of taxable packaging. The Court dismissed the complaint as

unfounded because the failure to submit the declaration and the failure to pay the tax amounted to concealment of the taxable packaging, which led to an increase in the pecuniary obligations of the State. (Decision of 7 December 2016 of Kaunas Chamber (Regional Administrative Court) No. I-2433-644/2016, Decision of 10 April 2018 of Panevėžys Chamber (Regional Administrative Court) No. eI-2055-739/2018). Climate change and waste management processes operate over a similar time period, suggesting that these processes are closely correlated. In most developed and developing countries with growing populations, affluence and urbanisation, municipalities in developed and developing countries continue to face a major challenge in collecting, recycling, treating and disposing of increasing quantities of solid waste, especially in the face of climate change. Before a material or product becomes waste, it goes through a series of stages, from the preparation of raw materials to the production of the product, to the transport of materials and products to markets, and the consumption of energy to transform the product. Each of these activities can lead to greenhouse gas emissions.

Waste management activities and different types of waste have different impacts on energy consumption, methane emissions and carbon storage. Waste prevention and recycling, together known as waste minimisation, help to better manage the waste generated. However, waste prevention and recycling are also effective greenhouse gas reduction strategies. They also reduce energy consumption. Recycling saves energy because the production of products from recycled materials generally requires less energy than the production of products from virgin raw materials. Prevention is even more effective because waste is simply avoided, i.e. less energy is needed to extract, transport and recycle raw materials and to produce products when people reuse things or avoid unnecessary items in their household. Reduced energy demand means less fossil fuels are burned and less carbon dioxide is emitted into the atmosphere (Climate Change and Municipal Solid Waste (MSW), 2023).

Conclusions

- Sustainable development is the long-term, continuous development of society to meet humanity's needs now and in the future, through the rational use and replenishment of natural resources and the preservation of the earth for future generations. Sustainable development is a strategy to ensure a clean and healthy environment and an improved quality of life for present and future generations. The United Nations 2030 Agenda for Sustainable Development, as well as Lithuania's strategic documents, identify the vast majority of the UN Sustainable Development Goals and targets relevant to Lithuania and Europe. Moreover, the implementation of the SDGs is covered by an identical EU framework of indicators.

- A sustainable development strategy requires economic growth to accelerate social progress and improve the environment, social policies to promote economic growth and environmental policies to be cost-effective. However, employment and economic indicators show that income inequality and poverty have not decreased in recent years, despite good economic performance. Thus, in Lithuania, the implementation of Agenda 2030 has not been entirely successful and is still an aspiration. In order to achieve the sustainable development goals, the state must first of all establish an appropriate legal and institutional framework in the environmental and other fields, and effective administrative supervision and control.

- The increased intensity of the industrial sector in recent decades and changes in the human population are actively influencing climate change around the world, faster than expected. Europe has taken a leading role in promoting sustainable development and combating climate change by adopting the first strategic legislation and involving all sectors: agriculture,

industry, energy, forestry, etc. Meanwhile, Lithuania has ratified the most important international instruments on climate change, thereby assuming the relevant obligations set out in these instruments. As climate change processes continue to intensify, green technologies in the energy sector, circular economy and sustainable technology solutions need to be developed rapidly. Adequate legal regulation, changing public attitudes towards the environment, the development of the knowledge economy - and the abundance of a relatively unspoiled and attractive natural environment in Lithuania - make it likely that such an ambition can be realised.

- The waste management sector has direct links to the Sustainable Development Goals and climate change. Different waste management practices have different impacts on climate change. It should be stressed that greenhouse gases are emitted to the atmosphere at different stages of the transformation of a product into waste. Therefore, every country, including Lithuania, must concentrate on the proper management and recycling of waste, creating an effective legal mechanism for natural and legal persons, depending on the field of activity. In line with EU legislation and the Lithuanian Waste Management Law, waste management should prioritise the further development of separate collection systems and recycling infrastructure, rather than encouraging landfilling or incineration.

- Article 247 of the Code of Administrative Offences of the Republic of Lithuania provides for liability for non-compliance with the requirements of legal acts regulating waste management. This Article does not provide for the possibility of exempting a person from administrative liability, and infringements cannot be considered as minor or low risk, as is also confirmed by the analysed case law, even in cases where the infringements are eliminated by the offenders. This demonstrates the strong political and legal will of the State. The provisions of the Environmental Pollution Tax Law and administrative cases illustrate the economic means of waste management, which influences producers/importers/potential polluters not to pollute the environment with waste and to carry out waste management efficiently.

References

1. Bukantis A. et al, 100 Questions on Climate Change (Vilnius: Mokslo ir enciklopedijų leidybos centras, 2017), 12.
2. Bukantis A., Intergovernmental Panel on Climate Change. Global Lithuanian Encyclopedia. 2023., viewed 11 November 2023, <https://www.vle.lt/straipsnis/tarpvyriausybine-klimato-kaitos-komisija/>.
3. "Causes and Consequences of Climate Change", Lithuanian Hydrometeorological Service, accessed 11 November 2023. <http://www.meteo.lt/lt/klimato-kaita>.
4. .Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. A strategy for sustainable and smart mobility. Europe's transport path to the future. 2020, accessed 11 November 2023, <https://eur-lex.europa.eu/legal-content/LT/TXT/?uri=CELEX%3A52020DC0789>.
5. Dodson J. et al. "Climate - a 'stone chronicle'". Vilnius: Lithuanian Geological Survey, 2008. https://www.lgt.lt/uploads/1262769735_Klimatas_5.pdf.
6. EBRD Environmental Policy 2003. Approved by the EBRD Council: 29 April 2003, accessed 28 October 2023, <http://www.ebrd.com/about/policies/enviro/policy/lith/policylt.pdf>.

7. Guidelines for the preparation of Sustainable Mobility Plans. Approved by Order of the Minister of Transport and Communications of the Republic of Lithuania of 27 December 2022. No. 3-586 accessed 11 November 2023, <https://e-seimasx.lrs.lt/rs/legalact/TAD/764bf031862a11edbdcebd68a7a0df7e/>.
8. IPCC, Climate Change 2014 Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects (New York, Cambridge University, 2014), 23, 16. IPCC, Climate Change 2014 Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects.
9. Jarimavičiūtė N., "Legal Instruments of the United Nations and the European Union to Address Climate Change" (Master's thesis, Vilnius University, 2008), accessed 11 November 2023, <https://epublications.vu.lt/object/elaba:1966910/>.
10. Juknys R., Environmental Science // Kaunas, 2005, p. 86-93, also Venckus Z., Environmental policy and law // Vilnius, 2007, p. 11-18.
11. Juknys R., Environmental Science // Kaunas, 2005, p. 93-101.
12. Klimavičienė I., Vaičiulėnaitė J., Sustainable Development Goals and Implementation Indicators. Applied Research in Lithuanian Colleges, 2019 No. 15, p115-121.
13. Measuring progress on poverty reduction, 15 December 2021 No. CEE-4 Supreme Audit Institution. Accessed 2 December 2023. [file:///C:/Users/Ricardas%20Milasauskas/Downloads/skurdo-mazinimo-pazangos-vertinimas%20\(1\).pdf](file:///C:/Users/Ricardas%20Milasauskas/Downloads/skurdo-mazinimo-pazangos-vertinimas%20(1).pdf)
14. Public Institution Natural Heritage Foundation, Preparation of a study identifying the vulnerability of individual sectors to climate change impacts, risk assessment and adaptation options, the most effective climate change adaptation measures and assessment criteria. Final report (Vilnius, 2015), https://www.academia.edu/36247903/STUDIJOUS_NUSTATAN%C4%8CIOS_ATSKIR%C5%B2_SEKTORI%C5%B2_JAUTRUM%C4%84_KLIMATO_KAITOS_POVEIKIUI_RIZIKOS_VERTINIM%C4%84_IR_GALIMYBES_PRISITAIKYTI_PRIE_KLIMATO_KAITOS_VEIKSMINGIAUSIAS_PRISITAIKYMO_PRIE_KLIMATO_KAITOS_PRIEMONES_IR_VERTINIMO_KRITERIJUS_PARENGIMAS_Galutin%C4%97_ataskaita_
15. Punytė I., Simonaitytė K., Sustainable Development Goals and the Planning System in Lithuania: Analysis of the Current Situation", 2018, Accessed 28 October 2023, https://data.kurkl.lt/wp-content/uploads/2023/04/darnus-vystymasis-ir-planavimas-Lietuvoje_esama-situacija.pdf
16. State Data Agency. Sustainable Development Goals. 13 Combating climate change. Accessed 22 October 2023, <https://lithuaniasdg-ls-osp-sdg.hub.arcgis.com/pages/tikslas13>.
17. "Summary of the Practice of the Supreme Administrative Court of Lithuania in Environmental Protection Cases", Supreme Administrative Court of Lithuania, viewed 15 November 2023, <https://www.lvat.lt/data/public/uploads/2018/01/lvat-biuletinis-nr.-28-apibendrinimas.pdf>.
18. Sustainable Development and Lithuania. 2018. accessed 25 October 2023. <https://am.lrv.lt/lt/veiklos-sritys-1/es-ir-tarptautinisbendradarbiavimas>.
19. Supreme Administrative Court Bulletin.,2015, No 28 "Summary of the practice of the Supreme Administrative Court of Lithuania in environmental protection cases", Lithuanian Courts, viewed 28 October 2023, <https://www.lvat.lt/veikla/teismu-praktika/teismupraktikos-apibendrinimai/206>

20. Šimelevičienė J., "The biggest ecological disasters in Lithuania: the events that caused the greatest damage to the environment", 11.01.2020, accessed 28.10.2023, <https://www.15min.lt/verslas/naujiena/bendroves/didziausios-ekologines-nelaimes-lietuvoje-ivykiai-tureje-didziausios-zalos-aplinkai-663-1258830>
21. "Code of Administrative Offences of the Republic of Lithuania", 25 June 2015. XII-1869 (Consolidated version from 1 September 2023 to 31 December 2023) accessed 15 November 2023, https://www.infolex.lt/portal/start_ta.asp?act=doc&fr=pop&doc=336765&title=LR%20administracini%F8%20nusi%FEengim%F8%20kodeksas
22. "Climate Change and Municipal Solid Waste (MSW)", United States Environmental Protection Agency, viewed 15 November 2023, <https://archive.epa.gov/wastes/conservation/tools/payt/web/html/factfin.html#5>.
23. Climate Change Mitigation and Adaptation Guidelines for Municipalities, 2017., viewed 11 November 2023, <https://www.krea.lt/images/angle180/klimato-kaita-gaires-savivaldybems.pdf>.
24. Law on Alternative Fuels of the Republic of Lithuania., 23 March 2021. No. XIV-196, accessed 11 November 2023, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/0409c522915c11eb998483d0ae31615c/asr>.
25. "Law on Climate Change Management of the Republic of Lithuania", 7 July 2009. No. XI-329., viewed 11 November 2023, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.349514/asr>
26. "Law on Environmental Pollution Tax of the Republic of Lithuania", 13 May 1999. No VIII-1183, accessed 15 November 2023, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.80721/asr>.
27. "Law on Waste Management of the Republic of Lithuania", 16 June 1998. No VIII-787, viewed 15 November 2023, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.59267/asr>.
28. "Law on Environmental Protection of the Republic of Lithuania", 21 January 1992. No. I-2223, viewed 15 November 2023, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.2493/asr>.
29. National Agenda for Climate Change Management., Resolution No. XIV-490 of 30 June 2021, viewed 11 November 2023, <http://e-seimas.lrs.lt/portal/legalAct/lt/TAD/7eb37fc0db3311eb866fe2e083228059?positionInSearchResult>
30. National strategy for sustainable development. Approved by the Government of the Republic of Lithuania Resolution No. 1160 of 11 September 2003 (wording of Resolution No. 1247 of 16 September 2009 of the Government of the Republic of Lithuania). Accessed 2 December 2023 <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.217644/asr>
31. Paris Agreement on Climate Change, 2015., viewed 11 November 2023, <https://www.consilium.europa.eu/lt/policies/climate-change/paris-agreement/>.
32. "United Nations Framework Convention on Climate Change", accessed 11 November 2023, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.19849>.
33. "Kaunas Chamber (Regional District Administrative Court) Decision No. I-2433-644/2016 of 7 December 2016", Infolex, accessed 15 November 2023, <https://www.infolex.lt/tp/1409142>.

-
34. "Kaunas Regional Court ruling of 6 January 2020 in administrative misconduct case No AN2-22-317/2020", Infolex, 15 November 2023, <https://www.infolex.lt/tp/1795628>.
 35. "Marijampolė District Court of Marijampolė District Court ruling of 21 October 2019 in administrative misconduct case No. A11.-1129-416/2019", E-teismai, viewed 15 November 2023, https://e-teismai.lt/byla/46749730150602/A11_-1129-416/2019.
 36. "Panevėžys Chamber (Regional District Administrative Court) Decision No. eI-2055-739/2018 of 10 April 2018", E-teismai, viewed 15 November 2023, <https://eteismai.lt/byla/237770896414560/eI-2055-739/2018>.
 37. "Resolution of the Šiauliai Regional Court of 13 June 2019 in Administrative Misconduct Case No. AN2-99-744/2019", Infolex, viewed 15 November 2023, <https://www.infolex.lt/tp/1757488>.
 38. "Resolution of the Kaunas District Court Kaunas Chamber of 27 June 2018 No. A11.-1432-668/2018", Infolex, accessed 15 November 2023, <https://www.infolex.lt/tp/1629118>.