

OVERVIEW

IMPLEMENTATION OF THE NATIONAL ENERGY INDEPENDENCE STRATEGY

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No AFPE-1

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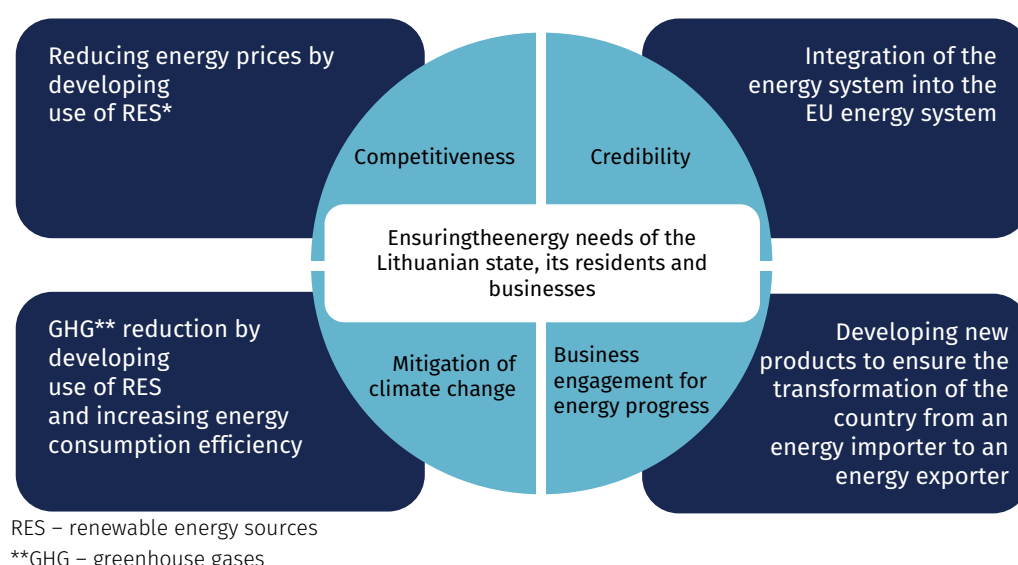
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INTRODUCTION

The National Audit Office under the 2023 Activity Plan conducted a preliminary study of the audit of the implementation of the National Energy Independence Strategy, during which it assessed the strategy and the implementation of the measures foreseen for its implementation in 2019-2022.

In order to establish the main goals of the Lithuanian energy sector, the directions for their implementation by 2020 and to provide guidelines for the development of the Lithuanian energy sector by 2030 and 2050, the National Energy Independence Strategy (NENS) was approved in 2012. This strategy sets out the vision of Lithuania's energy sector, its implementation principles, strategic directions and objectives (see Figure 1).

Figure 1. National Energy Independence Strategy sets strategic directions and goals for ensuring Lithuania's energy goal



Source: National Audit Office according to the National Energy Independence Strategy

The plan of measures¹ adopted in 2018 for the implementation of the NENS, which includes 4 strategic directions, sets 11 goals, and has developed 34 objectives with 132 measures to achieve them. The demand for these was estimated at EUR 3.9 billion, but the Ministry of Energy does not have detailed factual data on the money allocated or used to implement the measures up to 2023².

The implementation of the measures envisaged in the plan did not fully achieve the 2020 key indicators for the energy sector (see Table 1).

Table 1. Key indicators of the Lithuanian energy sector in 2020, 2030 and 2050

Indicator	2020		2022*	2030	2050
	plan	fact	fact		
Share of RES in final energy consumption balance	30 %	27.36 %	29.62 %	45 %	80 %
Share of RES and share of local resources in DH	70 %	79.81 %	80.2 %	90 %	100 %

¹ Government Resolution No 1210 of 5 December 2018 approving the Plan of Measures for the Implementation of the National Energy Independence Strategy.

² Information provided by the Ministry of Energy by e-mail of 2 October 2023.

Indicator	2020		2022*	2030	2050
	plan	fact	fact		
Share of RES in transport	10 %	5.5 %	6.28 %	15 %	50 %
Share of RES in the electricity consumption balance	30 %	20.17 %	25.50 %	45 %	100 %
Electricity generation in Lithuania	35 %	42.93 %	35.8 %	70 %	100 %

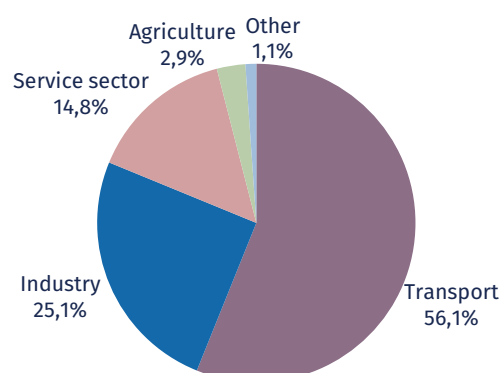
* the actual values of indicators for 2022 are presented to measure trends.

Source: Lithuanian Energy Agency, State Data Agency, Lithuanian Heat Suppliers Association

Due to the under-utilisation of renewable energy sources (RES) in the transport³ and electricity sectors, the share of RES in the final energy consumption balance in 2020 was below the RES targets envisaged in NENS (see Table 1). As part of our analysis of developments, we found that the RES share of 2022 in final energy consumption, transport sector and balance of electricity consumption increased but still did not reach the targets for 2020.

Final energy consumption in Lithuania is constantly growing at around 66 TWh⁴ per year, of which the largest share (56.1 %) goes to the transport sector.

Figure 2. Final fuel and energy consumption by economic sector in 2020, %



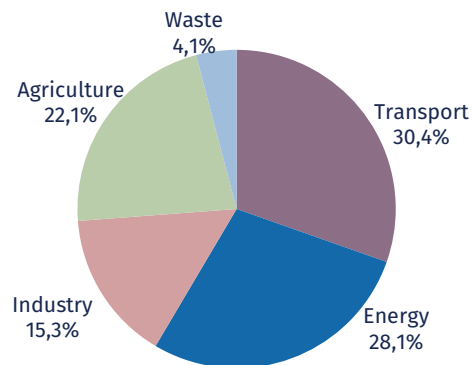
Source: National Audit Office according to the data of the State Data Agency

The increase in energy consumption and the under-utilisation of RES also lead to an increase in greenhouse gas⁵ emissions of around 20 million tonnes of CO₂ equivalent per year. The transport sector accounts for around 30.4 % of total GHG emissions, as a result of the ever-increasing consumption of petroleum fuels.

³ Information provided by the Lithuanian Energy Agency by e-mail on 14 November 2023.

⁴ TWh – terawatt hour.

⁵ greenhouse gases (CO₂, CH₄, N₂O, HFC, PFC, SF₆, NF₃), hereinafter referred to as 'GHG'.

Figure 3. Structure of greenhouse gas emissions by economic sector in 2020, %

Source: National Audit Office according to the data of the State Data Agency

Taking into account the latest developments in the energy sector, according to the data⁶ of the Ministry of Energy, it is planned to update the strategy in force from 2018 until June 2024. The aim of the draft strategy is to make Lithuania a fully satisfying country for energy needs, to ensure 100 % clean local energy consumption and to become an exporter of energy resources by taking advantage of the geographical location favourable to electricity trade and local production resources⁷.

Following a preliminary study, we share insights that will contribute to the planned changes in the design and implementation of the new strategy.

⁶ Information provided by the Ministry of Energy by e-mail on the update of NENS on 12 June 2023.

⁷ Information provided by the Ministry of Energy by e-mail on the renewal of Lithuania's energy independence strategy.

RESULTS

1. PLANNING OF STRATEGY IMPLEMENTING MEASURES TO BE IMPROVED

When analysing the implementation of the measures provided for in the NENS Action Plan, we found that:

- 11 % (15 out of 132) of the measures contained in the NENS implementation plan did not include targets (e.g. for the objective of increasing the use of other alternative fuels in transport, including municipalities, a measure to develop low-emission public transport is envisaged, but the indicator and its target are not identified).
- Of the 117 measures for which the plan set targets for 2022, 58 indicators were not met (e.g. the use of financial aid to promote the production of biodiesel produced from second-hand cooking oil had to reach 16 ktoe⁸ in 2022, but no planned support was granted).
- It is not ensured that information on the implementation of the measures envisaged in NENS is provided by all implementing entities, therefore the aggregated information on the measures taken is incomplete and not always provided in a timely manner (e.g. the envisaged measure to strengthen energy facility and infrastructure construction companies in order to increase their added value, to encourage exports of services and innovation of these companies (trainings), but the Ministry of Energy was unable to provide information on its implementation).
- There is no indication of how the measures provided for in the implementation plan were chosen and how the preliminary cash needs to meet the challenges were assessed (e.g. the preliminary cash requirement (EUR 27.7 million) due to the increase in local electricity from RES did not change, although EUR 88.7 million was actually allocated and used, i.e. 3.2 times the amount foreseen in the NENS plan).
- The risks to the achievement of the targets and the means of managing them have not been assessed.
- The plan of measures was to be reviewed and updated on an annual basis, but in 2019-2021 the need for a review was not assessed and the plan was not updated until 2022.

In the opinion of the auditors, in the preparation of the new strategy, all measures included in its implementation plan should be linked to the intended objectives, targets, risk management measures, and ensure that measures and funding needs are reviewed annually. The strategy is also being developed and its objectives should be linked to other strategic documents governing the energy sector.

⁸ Ktoe – thousands of tonnes of oil equivalent.

2. A SMOOTHER IMPLEMENTATION OF MEASURES WOULD HELP ADDRESS THE CHALLENGES OF THE ENERGY SECTOR

Energy efficiency needs to be improved

The energy efficiency target of 11.674 TWh has been achieved by 2020, but achieving the 2030 target of 39.3 TWh⁹ requires corresponding energy efficiency improvements across all sectors of the economy.

- Multi-apartment buildings¹⁰ have the greatest potential for saving thermal energy in the building sector. The NENS Action Plan foresees an annual renewal of 500 multi-apartment buildings. Between 2005 and 2022, 3890 multi-apartment buildings were renovated (upgraded) with savings of around 005.78 GWh¹¹/year. Out of about 38 thousand apartment buildings about 31.5 thousand (83 %) is still inefficient. In 2022, only 398 multi-apartment buildings were modernised, so renovation is not fast enough.

Following an audit of the [“Multi apartment building renovation \(modernisation\)”](#) in 2020, we made recommendations to the Ministry of the Environment in order to encourage the involvement of the population, accelerate the modernisation of multi-apartment buildings and save thermal energy, but 1 out of 2 [recommendations are still not implemented](#).

- In order to achieve a technically reliable and efficient heat supply, the NENS action plan provided for the modernisation of 2,000 heat points by 2022. According to the data provided by the Ministry of Energy, only 8 heat points were modernised as part of this measure until 2022.

In 2022, the National Audit Office carried out the [“Assessment of the district heating supply”](#), which included observations on the modernisation of heat stations. The Ministry of Energy changed the financing conditions and increased funding for the modernisation of the domestic heating and hot water systems of multi-apartment buildings. In 2022, 109 applications were received with a value of EUR 4 million, with an additional EUR 20 million foreseen for the renewal of these items from the Climate Change Programme in 2023.

- Between 2018 and 2021, only about 107 thousand sq. m. of public buildings were modernised, i.e. about 11 % of the 960 thousand sq. m area planned to be renovated by 2030, with savings amounting to 0.0573 TWh.

In order to increase energy efficiency in public buildings and increase the attractiveness of their renovation, the order of the Minister of Energy¹² amended the financing conditions in 2020: encourage the operation of energy service companies and provide funding with a 70-80 % refund rate. In 2022, 29 public buildings were renovated, with a total area of more than 75.7 thousand sq. m.

⁹ [Draft](#) updated National Energy and Climate Plan 2021-2030, page 42.

¹⁰ Public Audit Report No VA-2018-P-20-2-5 of 19 June 2018 “Achieving energy efficiency targets”, pp. 17-19.

¹¹ GWh – Gigawatt hour.

¹² 23/03/2020 No 1-59.

According to the information provided by the Lithuanian Energy Agency¹³, a EUR 40 million call for proposals for the renovation of public buildings was launched in 2023. During the implementation of the projects financed by the Modernisation Fund, it is planned to renovate about 70 thousand sq. m. of public buildings.

Unsatisfactory use of renewable energy sources and smooth implementation of projects by increasing the reliability of the electricity sector

Reducing dependence on electricity imports, Lithuania produced 42.93 % of total electricity consumption in 2020, which exceeded the targets, but by 2022, due to an increase in consumption and a decrease in electricity production in thermal power plants, electricity produced in Lithuania accounted for only about 35.8 %. According to the Lithuanian Energy Agency¹⁴, between January and October 2023, Lithuania produced 47.33 % of total electricity consumption. In order to ensure energy independence, it is necessary to further increase the generation of renewable electricity in Lithuania.

- To decarbonise, the NENS targets 30 % of electricity consumption to be generated from RES in 2020 and 45 % by 2030. There are 3 different national aspirations for the extent of RES use: The NENS, Law on RES and other planning documents have different targets, which vary by up to 25 percentage points (e.g. the Law on RES provides that as much as 70 % of electricity from RES will be produced between 2022 and 2030 and 50 % in the National Progress Plan 2021-2030).

Having carried out an audit of the [Management of the electricity sector](#) in 2023, in order to ensure the development of renewable energy sources, we recommended to harmonise the targets for the development of renewable energy sources provided for in different documents, to select and adopt measures to achieve these objectives.

The draft National Energy and Climate Plan¹⁵ 2021-2030 published on the website of the Ministry of Energy and the new draft National Energy Independence Strategy under preparation plan to set a new target of 90 % for the share of RES in 2030 compared to the annual final consumption of electricity.

- The project to connect the electricity system to the European electricity grid in synchronous mode led to some delays (2 out of the 19 planned to be implemented by the end of 2022) due to delays in equipment, longer than planned public procurement procedures, and failure to reach agreements on the implementation of actions with Latvia and Estonia. Synchronisation of the Baltic States' electricity grids with Western Europe is planned by February 2025.

The progress of the Harmony Link project shows that this connection with Poland will not be built before 2028. Until then, the volume of electricity trade with Europe will not increase without further measures.

Having carried out an audit of the [Management of the electricity sector](#) in 2023, in order to increase energy security, we recommended to ensure the full integration

¹³ Information provided by the Lithuanian Energy Agency by e-mail on 14 November 2023.

¹⁴ Information provided by the Lithuanian Energy Agency by e-mail on 14 November 2023.

¹⁵ Draft updated National Energy and Climate Plan 2021-2030, page 31, viewed 14/11/2023.

of the Lithuanian electricity system with the Continental European networks by implementing all actions foreseen in the synchronisation action and measures plan.

- In order to create a competitive economy and prosperity of the country, it is important to promote cooperation between science and business, technological innovations that lead to progress in energy, help attract private domestic and foreign investments and contribute to the sustainability of the country's economic development. Cooperation between scientific institutions and business in carrying out research and promoting experimental development and innovation in energy must continue to be developed in a targeted manner.

The National Audit Office, which carried out the "[Overview of scientific research and experimental development](#)" in 2022, pointed out that the cooperation between science and business is not increasing and the implementation of some of the recommendations of previous audits is delayed.

Under-use of renewable energy sources and energy efficiency in the transport sector

In order to contribute to the EU's energy and climate change and air pollution reduction targets, it is necessary to develop the country's RES use and increase energy efficiency. The transport sector consumes over 50 % of all final fuels and energy consumed in Lithuania. In 2022, the share of RES in the transport sector was only 6.28 %. Given the insufficient development of RES in the transport sector and the steady increase in the number of vehicles and oil fuel consumption, the pollution generated by the transport sector is constantly increasing.

- In 2020, the share of RES in the transport sector was only 5.5 % of the 10 % target and 6.28 % in 2022 envisaged in NENS. While the use of electricity in this sector can make a significant contribution to increasing the share of RES, electricity accounted for only around 0.28 % of total energy consumption in transport in 2020.
- Despite excise duties and other taxes, the consumption of petroleum fuels in transport increased by 45 % between 2005 and 2020, leading to an increase in GHG emissions from 4.195 to 6.125 million tonnes of CO₂ equivalents. Transport GHG emissions account for 30.4 % of total GHG emissions in Lithuania.
- In Lithuania, the passenger car fleet is one of the oldest and most polluting in the EU (the average age is 15 years)¹⁶. Road transport accounts for 95 % of all emissions from transport. Passenger cars (about 1.71 million in Lithuania) account for 54 % of total GHG emissions from transport and 37 % for heavy-duty vehicles (0.09 million)¹⁷.

¹⁶ Action Plan for the Use of Electric Vehicles and the Development of Charging Infrastructure for Electric Vehicles, approved by Order No 1-210/3-344 of 1 July 2022 of the Ministers of Energy and Transport, p. 5.

¹⁷ Ibid.

3. TRANSPORT SECTOR'S CONTRIBUTION TO ENERGY STRATEGY OBJECTIVES MUST BE IMPROVED

In order to achieve the long-term energy targets set by the state, it is necessary to ensure that all sectors of the economy increase the use of RES and energy efficiency, thereby contributing accordingly to the achievement of the EU's overall strategic objectives.

The problems identified in the energy efficiency and electricity sector have already been addressed in previous audits and evaluations of the National Audit Office. Observations and recommendations have been made to address the problems, which are still being implemented and their expected impact is expected.

Achieving the objectives set out in the Energy Independence Strategy requires a greater contribution of the transport sector, as the largest energy consumer and the worst performing sector, to the development of renewable energy sources and energy efficiency. In order to accelerate the development of renewable energy sources in the transport sector, we will continue our audit to analyse the causes of the problems in this area and the means to address them.

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