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MINISTRY OF ENERGY OF THE REPUBLIC OF LITHUANIA

LITHUANIAN ENERGY AGENCY

**2016 LITHUANIAN REPORT  
ON THE PROGRESS ACHIEVED  
TOWARDS MEETING NATIONAL  
ENERGY EFFICIENCY TARGETS**

2020, Vilnius

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## 1. Summary

The 2017-2018 report on the progress achieved towards national energy efficiency targets (hereinafter 'the report') provides a basis for monitoring the progress made by the country in achieving the national energy efficiency targets for 2020.

The report was drawn up using official statistics supplied by Statistics Lithuania, which coordinates the drawing up of the country's official statistics, and by other government institutions and bodies, companies and organisations.

The report contains data for 2017 and 2018 on Lithuania's economic and energy indicators, general trends in primary and final energy consumption and energy consumption in the transport sector, data on the major legislative and non-legislative measures implemented in 2019 which contribute towards the achievement of the national energy efficiency targets for 2020, and information on the compliance of State-owned buildings with energy performance requirements.

The Report examines the following energy efficiency improvement measures:

- Taxes and excise duties on fuel;
- Renovation of multi-apartment buildings;
- Renovation of public buildings;
- Energy audits of industrial enterprises;
- Agreements with energy suppliers on consumer education and consultancy;
- Energy saving agreements with energy undertakings;
- Renewal of the municipal public transport fleet through the acquisition of new clean vehicles
- Energy saving measures implemented under the Climate Change programme and programmes and projects forming part of the Lithuanian Environmental Protection Investment Fund .

Measures coming under the policy of increasing energy efficiency receive funding from EU Structural Funds, the Lithuanian State budget and private sources.

The total volume of energy saved as a result of all measures deployed from 2014 to 2018, calculated by summation (cumulative method) **up to 2020** is **8 638.83 GWh**. The volumes of energy saved by Lithuanian programmes/measures to improve energy efficiency are shown in table 1.1. The volumes of energy saved are detailed in section 10 of the report 'Energy saved using alternative measures'.

**Table 1.1: Amounts of energy saved in Lithuania according to 2018 data, GWh**

Measure	Projected cumulative savings in 2020 from measures deployed in the period 2014-2018
	2014-2020
Renovation of multi-apartment buildings	2764,02
Excise duties and taxes on fuel <sup>1</sup>	2 669.89
Renovation of public buildings	540.82
Energy education and consultancy agreements <sup>1</sup>	242.91
Energy saving agreements with energy undertakings	1223.27
Energy efficiency projects implemented to renew municipal public transport fleet through the acquisition of new clean vehicles	21.71
Energy saving measures implemented under the Climate Change and the Lithuanian Environmental Protection Investment Fund Programmes	1 176.21 <sup>2</sup>
<b>Total:</b>	<b>8 638.83</b>

<sup>1</sup> Duration of measure - one year

<sup>2</sup> The value supplied varied according to individual energy efficiency projects implemented for the renewal of the municipal public transport fleet through the acquisition of new clean vehicles

Lithuania's improving economic and energy productivity indicators (€ 852/kgoe, according to EUROSTAT data) and the steady convergence of its energy efficiency level with the EU average is having a positive impact on the country's competitiveness at regional and global level and is helping enhance the effectiveness of the country's energy consumption and reduce environmental pollutants and greenhouse gases.

## 2. Basic 2018 economic and energy indicators

Statistical information for Lithuania for 2017-2018 relating to the efficient energy consumption is shown in table 2.1. of this Report.

**Table 2.1: Lithuanian statistical indicators 2017-18.**

Indicator(measure)	in 2017	in 2018	Difference	Evolution %
Volume of primary energy consumed (total gross domestic consumption) (ktoe)	7 672.4	7 712.9	40.5	0.53
Total amount of final energy consumed (ktoe)	5 348.6	5 574.1	225.5	4.22
Amount of final energy consumed:	—	—	—	—
— by industry(ktoe)	1 028	1 062.1	34.1	3.32
— by transport (ktoe)	2 077.2	2 208.4	131.2	6.32
— by the services sector (ktoe)	634.2	651.3	17.1	2.70
— by households (ktoe)	1 455.8	1 499.7	43.9	3.02
Total gross value added at current prices:	—	—	—	—
— in the industrial sector (€ million)	8 491.1	8 719	227.9	2.68
— in the services sector (€ million)	2 5616.2	2 7812	2 195.8	8.57
— in the transport and storage sector (€ million)	4 594.9	4 950.3	355.4	7.73
— in households <sup>3</sup> (€million)	35.1	38.9	3.8	10.83
Total disposable income of households at current prices (€ million)	25 753.2	27 178	1 424.8	5.53
Value of gross domestic product at current prices (€ million)	42 190.8	45 264	3 073.2	7.28
Volume of electricity generated in heat and cogeneration plants:	—	—	—	—
— electricity(MWh)	1 323 773	1 089 213	-234 560	-17.72
— heat (MWh)	3 640 174	3 726 853	86 679	2.38
Quantity of heat produced in industrial facilities using chemical process methods (MWh)	3 267 981	3 131 166	-136 815	-4.19
Amount of fuel used:	—	—	—	—
— in electric power stations to produce electricity and heat (ktoe)	519.7	487.8	-31.9	-6.14
— heat generated in boiler houses (ktoe)	607.2	591.8	-15.4	-2.54

<sup>3</sup> Activities of households as employers; undifferentiated goods and services producing activities of households for own use

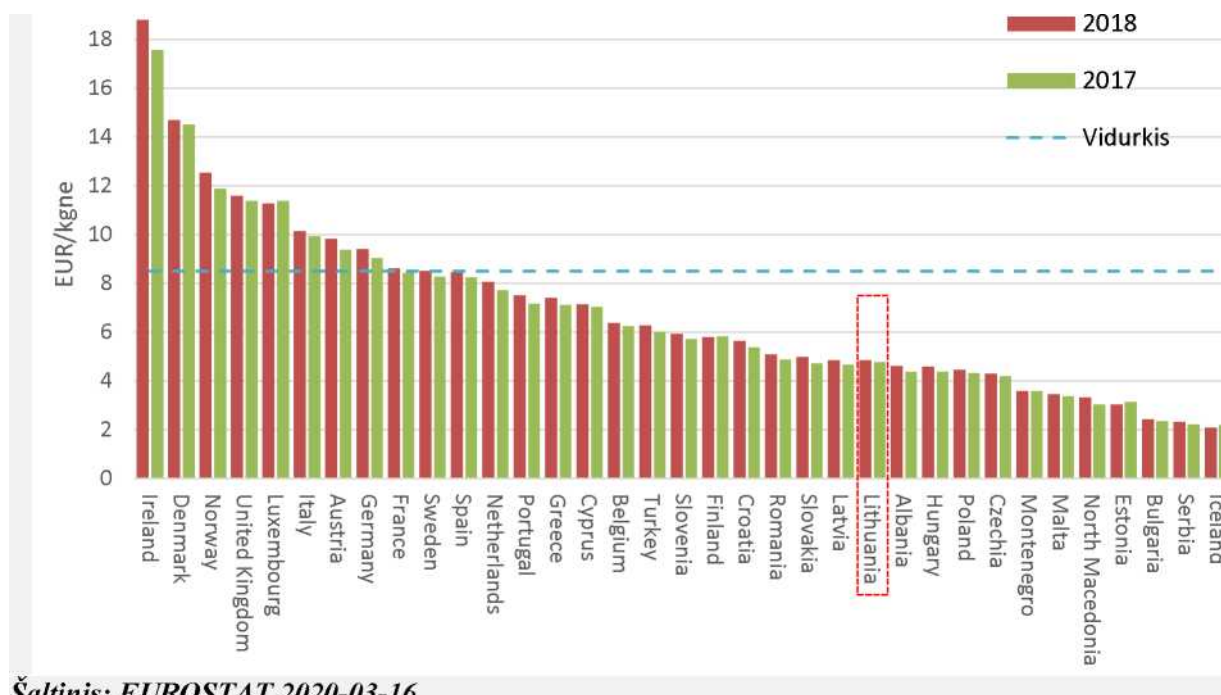
Indicator(measure)	in 2017	in 2018	Difference	Evolution %
Number of passenger kilometres ('000 <i>pkm</i> )	5 129 709	5 519 467	389 758	7.60
Number of tonne kilometres ( <i>tkm</i> )	54 904 704	60 802 897	5 898 193	10.74
No of combined transport kilometres ( <i>pkm</i> + <i>tkm</i> )	60 034 413	66 322 364	6 287 951	10.47
Annual average number of inhabitants ( <i>units</i> )	2 828 403	2 801 543	-26 860	-0.95

As laid down in the description of the procedure for monitoring energy resources and energy efficiency, approved by Government Resolution No 332 of 30 March 2016 approving the description of the procedure for monitoring energy resources and energy efficiency, explanations must be provided for sectors in which energy consumption is stable or rising, and for this reason an analysis is provided for the industry, transport, households and services sectors in the following sections of this Report.

### 3. Primary and final energy consumption

Lithuania's economic and energy indicators have improved. This is reflected in the energy productivity indicator (total energy efficiency indicator), which in 2017 was the best among the Baltic countries, reaching €4.77/kgoe, (€4.852/kgoe in 2018). The energy productivity indicator reflects the country's energy efficiency and makes it possible to decouple energy consumption from the country's economic growth. It shows how many goods and services were created in the country with a specific quantity of energy (ratio of euro to specific quantity of energy in kgoe) (Figure 3.1). The average energy productivity for all 28 EU Member States is €8.497/kgoe, i.e. €3.645/kgoe more than that of Lithuania.

**Figure 3.1 Energy productivity in EU Member States in 2018**



Key:

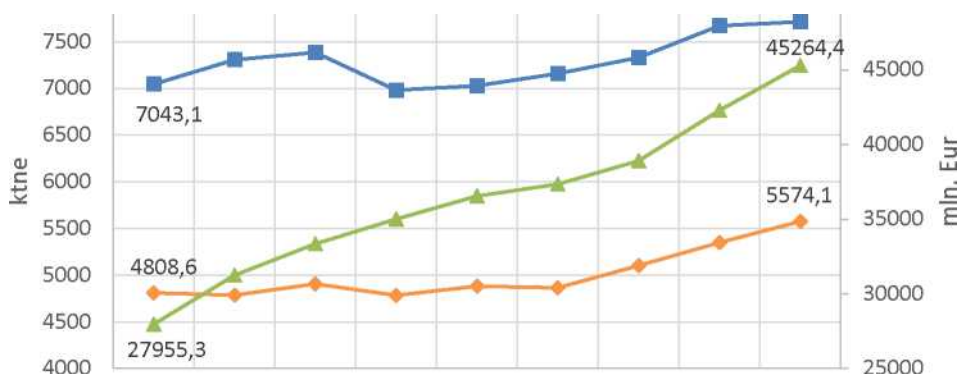
Vidurkis	Average
EUR/kgne	€/kgoe
Šaltinis: EUROSTAT 2020-03-16	Source: Eurostat 16 March 2020.

In the period 2010-2018, primary and final energy consumption changed little (primary energy use increased by 9.51% (from 7 043.1 ktoe to 7712,9 ktoe) and final energy by 15.92% (from 4 808.6 ktoe to

5 574.1 ktoe)), whereas the country's GDP increased over this period by 61.92% (from €27 955.3<sup>4</sup> million to €45 264.4 million).

The country created more goods and services in 2018 as compared to 2010 while using only a slightly higher quantity of energy (Figure 3.2).

**Figure 3.2 Primary and final energy consumption (ktoe) and domestic GDP (EUR million)**



Source: Statistics Lithuania

Figure 3.3 illustrates the productivity for different energy sectors and shows changes over the 2017-2018 period.

**Figure 3.3 Energy productivity in Lithuania in the main sectors (2017-2018), €/kgoe**

[See original for figure]

Source: Statistics Lithuania

**Key:**

Pramonė	Industry
Transportas	Transport
Paslaugos	Services

Figures for 2017-2018 final energy consumption by sector are shown in fig 3.4. The greatest change in energy consumption over this period was in transport (6.7%) and households (3.3%) and the smallest in services and industry (2.5% and 2.7% respectively).

**Figure 3.4 Final energy consumption by sector**

[See original for figure]

Source: Statistics Lithuania

**Key:**

Transporto	Transport
Namų ūkių	Households
Paslaugų	Services
Pramonės	Industry

<sup>4</sup> Corrected using new Statistics Lithuania data. Each year, Statistics Lithuania reviews and revises the country's main statistical indicators for the previous year.

Energy consumption in the transport sector grew as a result of the steady increase in freight and passenger transport, the sector's improving value added and the continuing effective policy of State institutions in tackling the influx of contraband fuel (diesel) from third countries (Section 5 ('Transport') of the Report).

Consumption in the services sector in 2018 increased compared to the previous year owing to the growth of the services sector and the resultant increase in value added (Section 7 ('Services sector') of this Report).

The main energy growth trends were linked to the increase in production volumes, the introduction of technologies and the increase in labour productivity. In the industrial sector, the volume of marketed production increased on both domestic and foreign markets (2017: €20.5 billion, 2018: €22.6 billion, Statistics Lithuania data), which in turn increased energy costs in this sector (Section 4 ('Industry') of this Report).

In the households sector, energy consumption rose owing to the fall in energy costs, the improved material situation of residents (the average monthly disposable income has risen) and the increase in the number of new energy consumers (Section 6 ('Households') of this Report).



## 4. Industry

A comparison of the situation in Lithuania in the last year but one (year X-2<sup>5</sup>) and changes in industry shows that, in 2018, 34.1 ktoe more of energy (3.32% more) was consumed than in 2017. Further details on this can be found in Table 4.1.

*Table 4.1. Consumption of energy and fuel in industry 2017-2018, ktoe*

Energy/energy resources	in 2017	in 2018	Difference	Evolution %
<b>Energy consumed</b>				
Electricity	300.7	303.5	2.8	0.93
Heat energy	237.0	230.4	-6.6	-2.79
<b>Final energy consumed</b>				
Total	1 028.0	1 062.1	34.1	3.32
<b>Fuel consumed</b>				
Hard coal	72.4	81.1	8.7	12.02
Firewood and wood waste intended for fuel	95.2	104.5	9.3	9.77
Natural gas	277.4	296.6	19.2	6.92
Other fuels	45.7	45.2	-0.5	-1.09

According to the information published by Statistics Lithuania (Figure 4.1), in 2018<sup>6</sup> industrial production was sold at a total price of €22.6 billion at current prices, which was 5.1% higher, at constant prices, than in 2017. In the same year, the share of producers' production sold on foreign markets (compared to the total amount) increased to €14.4 billion (although, compared to 2017, it fell slightly in relative terms to 63.5%).

It should be noted that, in 2017<sup>7</sup>, industrial production was sold at a total price of €20.5 billion at current prices, which was 7.1 % higher than in 2016 at constant prices. In the same year, the share of producers' production sold on foreign markets (compared to the total amount) was €13.2 billion (64.2%).

In 2018, the highest growth rate was for the repair and installation of machinery and equipment (39.9%), other vehicles and equipment (23.4%), machinery and equipment n.e.c. (10.4%), chemicals and chemical products (16.2%), and motor vehicles, trailers and semi-trailers (9.4%). The production of basic metals fell by 19.5%, electrical equipment by 2.5% and refined petroleum products by 0.9%.

One of the main factors for the growth of output was exports. According to data from the Lithuanian Confederation of Industrialists<sup>8</sup>, Lithuania's exports maintained a growth trajectory in 2018 despite the relatively unstable international environment.

Of Lithuania's economic sectors, the chemical industry was the largest contributor to export growth in 2018, generating 2.9 percentage points of total annual growth, with the engineering industry generating 2.1 % and the furniture and timber industry generating 1.3 %. The clothing and textile industries were less successful, with a negative contribution to growth of -0.3%.

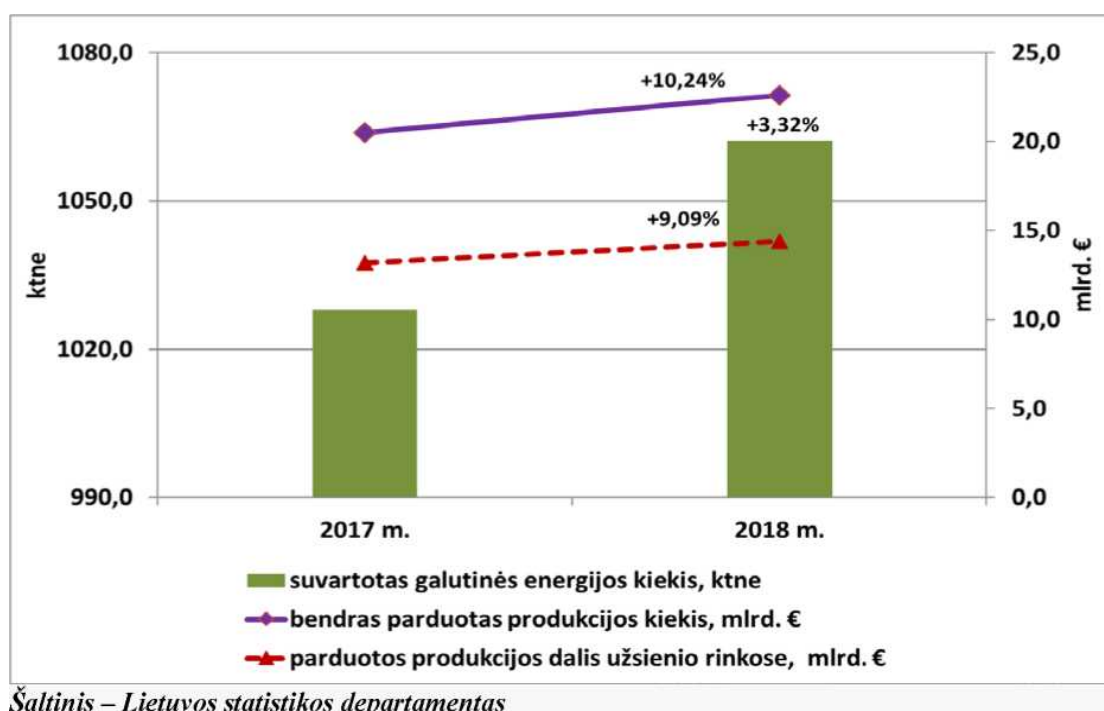
<sup>5</sup> Current year

<sup>6</sup> <https://osp.stat.gov.lt/informacini-ai-pranesimai?articleId=6104355>.

<sup>7</sup> <https://osp.stat.gov.lt/informacini-ai-pranesimai?articleId=5558821>

<sup>8</sup> <http://www.lpk.lt/ekonomines-apzvalgos/>

Figure 4.1 Comparison of final energy consumption and marketed production between 2017 and 2018



Source: Statistics Lithuania

Key:

suvartotas galutinės energijos kiekis, ktne	quantity of final energy consumed (ktoe)
bendras parduotas produkcijos kiekis, mlrd. €	total quantity of production sold (€billion)
parduotas produkcijos dalis užsienio rinkose, mlrd. €	proportion of production sold on foreign markets (€ billion)

Businesses continue to believe they can compete on the European Union market and beyond. Despite wage growth, the continued ability of Lithuanian businesses to compete on the EU market in the face of rising labour costs shows that they are focusing on production efficiency and increased productivity.

## 5. Transport

This section gives a detailed overview of the transport sector, where energy consumption has risen over the past few years.

Final consumption of fuel and energy in the sector increased by 42.9% between 2010 and 2018. This increase was largely due to the increased use of diesel for road transport. Between 2017 and 2018 consumption of diesel in road transport grew by 7.1%, motor gasoline by 9.0% and liquefied petroleum gas by 6.3% (Fig. 5.1).

Figure 5.1 Final consumption of the main types of fuel and energy in road transport

[See original for figure]

Source: Statistics Lithuania

Key:

Kelių transporto dyzelinas (su biodegalais)	On-road diesel oil (with bio-fuels)
Automobilių benzinas (su biodegalais)	Motor gasoline (with bio-fuels)
Suskystintos naftos dujos	Liquefied petroleum gas
Krovinių vežimo apimtys	Volume of goods transported

The growing use of diesel and gasoline in road transport was the result of growing volumes of freight transport in 2018, 11.5% up on the same period in 2017. The share of land transport and logistics (together with the wholesale and retail trade; accommodation and food services) in GDP rose by 8.08% in 2018<sup>9</sup>.

Fuel and energy consumption in rail transport fell in the period 2010-2016, but began to rise again from 2016; in 2018, it increased by 13.2% compared to 2017. This increase is attributable to the growth of freight and passenger transport experienced by AB 'Lietuvos geležinkeliai' between 2017 and 2018. In the period 2014-2018, fuel and energy consumption in road transport increased by around 5-7% each year to growth in freight and passenger transport. (Figure 5.2)

**Figure 5.2 Consumption of fuel and energy in rail and road transport**

[See original for figure]

**Source: Statistics Lithuania**

**Key:**

Kuro ir energijos suvartojimas geležinkelių transporte	Fuel and energy consumption in rail transport
Krovinių ir keleivių vežimo apimtys	Goods and passengers carried
Kuro ir energijos suvartojimas kelių transporte	Fuel and energy consumption in road transport

## 6. Households

Final consumption of fuel and energy in the households sector fell by 14.7% between 2010 and 2015, but grew by 5.4% in 2016, by a further 1.6% in 2017, and a further 3.6% in 2018 compared to the previous year (Fig. 7). This increase is attributable to a drop in prices of 7% for natural gas (the variable price share for Gr. II household customers fell in the period 2015-2018 from €0.42 to €0.39/m<sup>3</sup>), 8.8% for electricity (the public price of independent suppliers fell in the period 2016-2018 from €0.0985 to €0.0898/kWh) and 14.5% for thermal energy (the weighted average heat price fell in the period 2015-2018 from €0.0574 to €0.0491/kWh)<sup>10</sup>. A comparison of degree days<sup>11</sup> for various heating seasons, in particular 2015 and 2016, shows that 2016 was a colder winter, meaning that approximately 14% more heat was needed to heat premises than during the 2015 heating season. Likewise, the heat required to heat premises in the 2017 heating season was lower than in 2016. The increased energy requirement in 2017-2018 was reflected directly in an increase in energy consumption. In the period 2015-2018, 2% of new consumers joined a district heating network<sup>12</sup>.

**Figure 6.1 Consumption of fuel and energy in households**

[See original for figure]

**Source: Statistics Lithuania**

**Key:**

tūkst. tne	ktoe
------------	------

Between 2017 and 2016, consumption of natural gas in the households sector grew by 7.2% and electricity by 5.2%, while that of thermal energy fell slightly (Fig. 6.2). Natural gas consumption increased as a result of the expansion of the natural gas network resulting from the connection of new consumers (the number of new customers was 5 299 units in 2016, 12 536 units in 2017 and 14 741 units in 2018). The increase in electricity consumption was influenced by lower electricity prices and a 20% increase in the disposable income of households (from €403.1/month per household member to €487/month), which led to

<sup>9</sup> Data of Statistics Lithuania

<sup>10</sup> Activity report for the National Commission for Energy Control and Prices  
<http://www.regula.lt/Puslapiai/bendra/Veikla/veiklos-rezultatai.aspx>

Data: <http://www.ena.lt/skaiciuokle/index.php>

according to data of the Lithuanian District Heating Association: <https://lsta.lt>

there being more electrical equipment within households.

**Figure 6.2 Final consumption of the main types of fuel and energy in households**

[See original for figure]

**Source: Statistics Lithuania**

**Key:**

tūkst. Tne	ktoe
Malkos ir medienos atliekos	Firewood and wood waste
Šiluminė energija	Heating energy
Elektros energija	Electrical energy
Gamtinės dujos	Natural gas

## 7. Services sector

Energy consumption in the services sector grew by 2.7% between 2017 and 2018 (Fig. 7). This was the result of the development of the services sector and the generation of higher value added. According to data of Statistics Lithuania, the total added value of the services sector increased by 8.6% in 2018 compared to 2017.

**Figure 7 Final energy consumption in services sector**

[See original for figure]

**Source: Statistics Lithuania**

**Key:**

tūkst. tne	ktoe
------------	------

## **8. Major legislative measures implemented in 2019**

### **8.1. Lithuanian legislation:**

The Law on State support for the renovation (modernisation) of multi-apartment buildings regulates the payment of compensation to owners of multi-apartment buildings and other buildings who implement projects involving the renovation of multi-apartment buildings. It stipulates that State support is paid to cover 30% of the cost of carrying out measures if the renovation project involves the installation in a multi-apartment building of a separate automated heat station or the upgrading of an existing non-automated heat station, the installation of balancing valves on stands and/or the conversion or modification of heating and/or hot water systems, while at the same time installing individual heat metering devices or heat cost allocators and/or thermostatic valves in apartments or other premises. (Law No. XIII-1996 of 14 March 2019)

### **8.2. Resolutions of the Government of Lithuania**

State support is paid to cover 100% of the administrative costs of a project for the renovation (modernisation) of a multi-apartment building, up to a maximum of €3.50 (excluding VAT) per square metre of the total useful floor area of an apartment or other premises over the lifetime of the project in the case of a renovation (modernisation) project intended to achieve energy performance class C or B, and €4.50 (excluding VAT) per square metre of the total useful floor area of an apartment or other premises over the lifetime of the project in the case of a renovation (modernisation) project intended to achieve energy performance class A or higher and in the case of a multi-apartment building for which no minimum mandatory requirements for the energy performance of buildings are laid down under Lithuanian Law on Construction. (Lithuanian Government Resolution No 597 of 19 June 2019)

The plan to improve the energy efficiency of public buildings was amended. The objective of the programme was changed to improving the physical and energy performance of public buildings and their engineering systems by increasing energy efficiency. To that end, only projects to improve the energy efficiency of public buildings that improve the physical and energy performance of buildings and their engineering systems may be funded. The aim of modifying the programme is to enable and encourage institutions to renovate as many public buildings as possible by means of projects that set out to achieve not only class C but also a higher energy performance, and to introduce a simpler financing model for buildings owned by several co-owners. (Lithuanian Government Resolution No 1183 of 27 November 2019)

A procedure was laid down for calculating State support for an economic operator that owns an apartment or other premises and implements a project for the renovation (modernisation) of a multi-apartment building to enable such operators to receive State support for projects involving the renovation (modernisation) of multi-apartment buildings.

For the purposes of calculating an insignificant amount of (*de minimis*) support, each form of State support for the renovation (modernisation) of multi-apartment buildings is assessed, including support (and additional State support) to fund the energy efficiency improvement measures set out in the Annex to the programme. (Lithuanian Government Resolution No 974 of 25 September 2019)

The procedure for monitoring the use of energy sources and energy efficiency was supplemented with provisions obliging institutions to provide information on the energy efficiency measures implemented with funding from the EU Structural Funds and the State budget. (Lithuanian Government Resolution No 449 of 8 May 2019)

Additional criteria relating to ambient air pollution were added to the 2015-2021 National Programme for the development of the heating sector. In prioritising a particular type of fuel, the level of ambient air pollution, the sustainability of the potential of renewable and/or domestic energy sources and the price evolution must, in all cases, be regularly monitored. Accordingly, specific investments in heat production should be planned in order to ensure a cost-optimised heat price for consumers and to reduce emissions of greenhouse gases and ambient air pollutants in district heating. (Lithuanian Government Resolution No 1156 of 20 November 2019)

The procedure for the administration of funds for public service obligations in the electricity sector was amended. It stipulates that undertakings in electricity-intensive industries may, for annual electricity consumption exceeding 1 GWh, recover 85% of the cost of public service obligations

relating to the production of electricity from renewable energy sources. A consumer making intensive use of electricity must submit to the administrator, together with the application, an energy audit report drawn up in accordance with the procedure laid down in the Law on improving energy efficiency. The list of the best available energy efficiency improvement measures identified in the energy audit report drawn up in accordance with the procedure laid down in the Law on improving energy efficiency and the procedure for putting those measures into place, or an independent auditor's report confirming that the consumer has already put in place the best available energy efficiency improvement measures identified in the energy audit report, should also be submitted. (Lithuanian Government Resolution No 182 of 20 February 2019) In the light of the obligation under Directive (EU) 2016/2284 on the reduction of national emissions of certain atmospheric pollutants to develop, adopt and implement national air pollution control programmes, and in order to ensure that emissions into the ambient air in Lithuania do not exceed the levels laid down in international and EU legislation and the concentrations of air pollutants in ambient air do not exceed levels which are harmful to human health and the environment, the National Plan for the Reduction of Air Pollution was approved. (Lithuanian Government Resolution No 371 of 19 June 2019)

### **8.3. Orders of the Minister for Energy**

The Procedure for the performance of energy audits by enterprises other than small or medium-sized enterprises and for supervising the submission of reports was amended to ensure that, during an energy audit, at least 90% (previously 80%) of the energy consumption in all buildings, installations, technological processes and vehicles that are owned by the large enterprise form an integral part of the enterprise's activities and are necessary to carry out those activities, provided that this is sufficient to evaluate the energy efficiency indicators and make it possible to reliably identify energy efficiency improvement measures. (Order No 1-130 of the Minister for Energy of the Republic of Lithuania of 26 April 2019)

In order to assess the energy efficiency improvement measures recommended in audit reports, the procedure for conducting energy audits and the supervision of reporting by enterprises other than small and medium-sized enterprises was amended to include a provision that enterprises other than small and medium-sized enterprises must provide information when submitting a repeated audit report on whether/how the measures proposed in the previous audit were implemented (Order No 1-321 of the Minister for Energy of the Republic of Lithuania of 10 December 2019)

In order to improve the quality of the energy audits carried out, a new concept of 'verification of the conformity of audit reports' was added to the description of the procedure and conditions for the audit of energy consumption in buildings, installations and technological processes and the procedure for the training and certification of specialists involved in the audit of energy consumption in buildings, installations and technological processes, and a procedure for performing it was laid down. It was also stipulated that the results of the compliance check will be communicated to the auditor and the person commissioning the audit, and that if any non-compliance with the key requirements set out in the audit methodology is detected, the audit report will be returned to the auditor for correction. (Order No 1-320 of the Minister for Energy of the Republic of Lithuania of 10 December 2019)

In order to harmonise the data used in audit reports and other documents and to ensure that the information provided by auditors in audit reports is clearer, an amendment to the methodology for carrying out audits of the use of energy, energy resources and water in technological processes and installations was drawn up. (Order No 1-319 of the Minister for Energy of the Republic of Lithuania of 10 December 2019)

With a view to ensuring that heating consumers receive a better and more reliable supply of thermal energy and to reducing energy losses, funding was allocated to projects under Measure 04.3.2-LVPA-K-102 'Modernisation and development of heating supply networks' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds (Order No 1-204 of the Minister for Energy of the Republic of Lithuania of 19 July 2019; Order No 1-306 of 28 November 2019; Order No 1-346 of 23 December 2019).

Lists No 5 and 6 of reserve projects from the call relating to Measure 04.3.2-LVPA-K-102 'Modernisation and development of heating supply networks' coming under Priority 4 'Promoting

energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds were approved. (Orders Nos 1-203 and 1-202 of the Minister for Energy of the Republic of Lithuania of 19 July 2019)

With a view to ensuring more effective heat production and encouraging greater use of biofuels in district heating systems, Schedule of conditions for the funding of projects No 1 under Measure 04.3.2-LVPA-K-102 'Promoting the use of biofuels to produce heat energy' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds was amended. (Order No 1-75 of the Minister for Energy of the Republic of Lithuania of 21 March 2019)

With a view to ensuring more effective heat production and encourage greater use renewable energy in the heat sector and the installation of low-capacity biofuel cogeneration plants in district heating systems, Schedule of conditions for the funding of projects No 2 under Measure 04.1.1-LVPA-K-110 'Promoting low-capacity biofuel cogeneration' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds was amended. (Order No 1-330 of the Minister for Energy of the Republic of Lithuania of 18 December 2019)

With a view to reducing the annual consumption of primary energy in public buildings and greenhouse gas emissions, funding was allocated to projects falling under Measure 04.3.1-VIPA-V-101 'Renovation of State-owned buildings' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds. (Order No 1-43 of the Minister for Energy of the Republic of Lithuania of 11 February 2019; Order No 1-49 of 20 February 2019; Order No 1-78 of 25 March 2019; Order No 1-143 of 8 May 2019; Order No 1-157 of 16 May 2019).

List No 1 of public projects proposed for co-financing from the European Union structural funds under Measure 04.3.1-VIPA-V-101 'Renovation of State-owned buildings' coming under priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' under the 2014-2020 Operational Programme for investments from European Union funds was amended. (Order No 1-27 of the Minister for Energy of the Republic of Lithuania of 28 January 2019)

With a view to reducing the annual consumption of primary energy in public buildings and greenhouse gas emissions, funding was allocated to projects falling under Measure 04.3.1-VIPA-T-113 'Renovation of State-owned buildings (II)' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds. (Order No 1-10 of the Minister for Energy of the Republic of Lithuania of 17 January 2019; Order No 1-251 of 16 September 2019; Order No 1-351 of 31 December 2019)

With a view to upgrading State-owned heated and/or cooled public buildings so as to ensure that they meet at least the minimum energy performance requirements, Schedule of conditions for the funding of projects No 1 under Measure 04.3.1-VIPA-T-113 'Renovation of State-owned buildings (II)' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds was amended. (Order No 1-67 of the Minister for Energy of the Republic of Lithuania of 15 March 2019)

With a view to ensuring more effective heat production and the use of biofuels in district heating systems, Schedule of conditions for the funding of projects No 1 under Measure 04.1.1-LVPA-K-112 'Replacement with heat production installations using biofuels' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds was amended. (Order No 1-30 of the Minister for Energy of the Republic of Lithuania of 30 January 2019)

With a view to increasing the share of renewable energy in the final energy balance, funding was allocated to measure 'No 04.1.1-LVPA-K-112 'Replacement with heat production installations using biofuels' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds. (Order No 1-54 of the Minister for Energy of the Republic of Lithuania of 28 February 2019)

With a view to increasing the generation capacity and use of electricity from renewables, Schedule of conditions for the funding of projects No 1 under Measure 04.1.1-LVPA-V-115 'RE households' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from the European Union funds was approved. (Order No 1-312 of the Minister for Energy of 3 December 2019) With a view to increasing the generation capacity and use of domestic electricity from renewables, funding was allocated to projects falling under Measure 04.1.1-LVPA-V-115 'RE [renewable energy] households' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds. (Order No 1-331 of the Minister for Energy of the Republic of Lithuania of 18 December 2019)

With a view to increasing the generation capacity and use of domestic electricity from renewables, Schedule of conditions for the funding of projects No 1 under Measure 04.1.1-LVPA-V-114 'Fitting of installations for the production of electricity from renewable sources in households' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds was approved. (Order No 1-13 of the Minister for Energy of the Republic of Lithuania of 18 January 2019)

Funding was allocated to projects falling under Measure 04.1.1-LVPA-V-114 'Fitting of installations for the production of electricity from renewable sources in households' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from the European Union. (Order No 1-126 of the Minister for Energy of the Republic of Lithuania of 18 April 2019)

With a view to increasing energy efficiency in households not connected to a district heating system, Schedule of conditions for the funding of projects No 1 under measure 04.3.2-LVPA-V-111 'Boiler replacement in households' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds was approved. (Order No 1-12 of the Minister for Energy of the Republic of Lithuania of 17 January 2019)

Funding was allocated to projects involving the replacement of inefficient biomass-fired boilers in households falling under 04.3.2-LVPA-V-111 'Boiler replacement in households' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds. (Order No 1-121 of the Minister for Energy of the Republic of Lithuania of 12 April 2019)

Amendments were made to the Energy Efficiency Improvement Action Plan for 2017-2019. (Order No 1-237 of the Minister for Energy of the Republic of Lithuania of 20 August 2019)

#### **8.4. Orders of the Minister for the Environment**

A project administrator who has signed a contract for the grant of State aid for the renovation (modernisation) of a multi-apartment building, must perform the services and works relating to the renovation (modernisation) project of the multi-apartment building within the specified deadlines. For monitoring purposes, the project manager will be required, following the implementation of the multi-apartment building (modernisation) project, to allow and enable an audit company to carry out energy audits and examine the measures taken, during which laboratory testing of both the building materials and technological solutions may be carried out, for a period of at least five years. (Order No D1-300 of the Minister for the Environment of 15 May 2019)

Funds are earmarked in the 2019 estimate for the use of funds under the Climate Change Special Programme for increasing the effectiveness of energy consumption and production by means of the modernisation of residential and public buildings and other buildings giving rise to the most efficient reduction of greenhouse gas emissions in the areas of energy, industry, construction, transport, agriculture, waste management, etc. (Order No D1-129 of the Minister for the Environment of 7 March 2019)

The funding axes for the use of funds of the 2019 Lithuanian Environmental Protection Investment Fund Programme were approved (Order No D1-260 of the Minister for the Environment of 2 May 2019; Order No. D1-496 of 26 August 2019)



The detailed plan of the 2019 estimate for the use of funds under the Climate Change Special Programme includes measures to improve energy efficiency, such as the renovation (modernisation) of public and residential buildings (for persons from different social groups), the modernisation of indoor heating and hot water systems in multi-apartment buildings, and measures to make payments for the renovation (modernisation) of EPMA [European Projects Management Agency] public and residential buildings (for persons from different social groups) so as to reduce energy consumption costs; the renovation (modernisation) of one or two apartments by natural and private legal persons so as to reduce energy consumption costs and BETA [Housing Energy Savings Agency] State support for owners of apartments and other premises in a multi-apartment building which implement projects for the renovation (modernisation) of a multi-apartment building. (Order No D1-275 of the Minister for the Environment of 9 May 2019)

The procedure for the use of funds under the Climate Change Special Programme was amended by changing its name to 'Climate Change Programme'. A separate procedure was also established for granting support in the form of compensatory payments for natural persons, which makes it easier for them to understand the opportunities for receiving support. (Order No D1-266 of the Minister for the Environment of 6 May 2019)

The description of the procedure for granting compensatory payments to natural persons under the Climate Change Programme was approved. Compensatory payments are granted to natural persons in accordance with the measures to reduce greenhouse gas (GHG) emissions approved in the annual estimate for the use of funds from the Climate Change Programme and detailed plan of the annual estimate for the use of funds from the Climate Change Programme. (Order No D1-266 of the Minister for the Environment of 6 May 2019)

The description of the procedure for compensatory payments under the Climate Change Programme for the modernisation of internal heating and hot water systems in multi-apartment buildings was approved; this lays down the procedures and conditions for the monitoring and evaluation of applications, the payment of compensation, and the procedure and conditions governing the supervision of projects for the modernisation of heating and hot water systems in multi-apartment buildings. Compensatory payments are granted in accordance with a measure approved in the annual estimate for the use of funds from the Climate Change Programme and detailed plan of the annual estimate for the use of funds from the Programme aimed at the modernisation of domestic heating and hot water systems with a view to reducing greenhouse gas emissions in the household sector and increasing energy efficiency. (Order No D1-680 of the Minister for the Environment of 18 November 2019)

The description of the procedure for promoting the acquisition of less polluting means of mobility by means of compensatory payments to natural persons under the Climate Change Programme was approved; this lays down the procedure and conditions for the submission and assessment of applications and the allocation of compensatory payments. Compensatory payments are granted to natural persons in accordance with the measure aimed at the promotion of less polluting means of mobility with a view to reducing greenhouse gas emission in the transport sector and improving air quality approved in the annual plan for the use of funds under the Climate Change Programme and the detailed plan of the annual estimate for the use of Programme funds (Order No D1-605 of the Minister for the Environment of 11 October 2019)

Amendments were made to the Schedule of conditions for the funding of projects under Measure 04.3.1-APVA-V-023 'Technical support for the modernisation of multi-apartment buildings' of Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from the European Union funds in order to supplement the eligible costs. The eligible costs of drawing up an investment plan for the renovation (modernisation) of a multi-apartment building include the costs of the technical (design) work, the preparation of the topographical plan, the conditions for access, the receipt of special requirements and the issuing of a building permit (Order No D1-46 of the Minister for the Environment of the Republic of Lithuania of 5 August 2019).

Amendments were made to the description of the procedure for drawing up a renovation (modernisation) investment plan for a multi-apartment building. Since 100% of the costs of a project for the renovation (modernisation) of a multi-apartment building are paid or reimbursed, the description of the procedure for drawing up a renovation (modernisation) investment plan for a multi-

apartment building waived the requirement to obtain the prior consent of the project financier to the drawing-up of the draft text on the technical work and/or the funding of and credit approval for the renovation (modernisation) project. In view of the fact that the investment plan is paid for or reimbursed from European Union Structural Funds, it is envisaged that they be procured via the electronic purchasing systems of CPO LT, a public agency which performs the functions of a central purchasing body. The preliminary cost of implementing measures for the renovation (modernisation) of a building (construction works) is to be determined by the rates published on the website of CPO LT. The price of project works was adjusted, indicating its various components. For the purposes of comparing the prices of works for each measure at the time the works are procured, the price and maximum cost of each energy efficiency and other measure are indicated. (Order No D1-488 of the Minister for the Environment of 7 August 2019)

The retraining programme for experts in the certification of the energy performance of buildings was amended. New requirements entered into force on 1 February 2019 regarding the thermal properties of the building envelopes of energy classes B, A, A+ and A++, the assessment of linear thermal bridges, the efficiency of ventilation systems, the leakage resistance of buildings, mandatory leakage measurements, the efficiency of ventilation systems and the assessment of ventilation units with a heat exchanger, the reference thermal energy consumption for the heating of buildings, and the C1 values of energy efficiency indicators for energy classes. The newly introduced requirements have also amended the values of primary energy factors for energy sources and increased the share of renewable primary energy in the thermal energy supplied by district heating networks. All of these are of great importance to the assessment of the energy performance of buildings. As a result of the amendments, a new computer-based calculation programme, NGR5, was developed for the energy performance certification of buildings with different technical properties compared to the previous one, and familiarisation with the principles of its use is now required. (Order No D1-767 of the Minister for the Environment of 20 December 2019)

## **8.5. Orders of the Minister for Transport and Communications**

Funding was allocated for the installation of charging stations for electric vehicles in Vilnius, Kaunas and Mažeikiai for the purposes of implementing Specific objective 4.5.1 'Promotion of sustainable mobility and environmentally friendly transport to reduce carbon emissions' of Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds. (Order No 3-344 of the Minister for Transport and Communications of 8 July 2019; Order No 3-154 of 4 April 2019 and Order No 3-20 of 11 January 2019)

The Schedule of conditions for the funding of projects under Measure 04.5.1-TID-V-517 'Renewal of the urban public transport vehicle fleet' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds was amended. The administration of the measure was assigned to the Central Project Management Agency. The amount earmarked for implementing projects was increased. (Order No 3-364 of the Minister for Transport and Communications of 19 July 2019;

Funding was allocated to Kaunas City municipality for the acquisition of new clean public transport vehicles (trolleybuses) under Measure 04.5.1-TID-V-517 'Renewal of the urban public transport vehicle fleet' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds (Order No 3-47 of the Minister for Transport and Communications of 28 January 2019).

Funding was allocated for the acquisition of clean public transport vehicles in Druskininkai municipality under Measure 04.5.1-TID-V-518 'Renewal of the local public transport vehicle fleet' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds. (Order No 3-37 of the Minister for Transport and Communications of 21 January 2019)

Funding was allocated for the acquisition of clean public transport vehicles in Lazdijai district municipality under Measure 04.5.1-TID-V-518 'Renewal of the local public transport vehicle fleet' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable

energy resources' of the 2014-2020 Operational Programme for investments from European Union funds. (Order No 3-45 of the Minister for Transport and Communications of 25 January 2019)

Funding was allocated for the acquisition of environmentally-friendly public transport vehicles under Measure 04.5.1-TID-R-518 'Renewal of the local public transport vehicle fleet' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds. (Order No 3-401 of the Minister for Transport and Communications of 29 August 2019).

## 8.6. Orders of the Minister of the Economy and Innovation

Schedule of conditions for the funding of projects No 1 under joint measure J03-IVG-T 'Partial reimbursement of interest' coming under Priority 3 'Promoting the competitiveness of small and medium-sized enterprises' and Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds was amended. (Order No 4-368 of the Minister for the Economy and Innovations of 13 June 2019).

## 9. Compliance of government buildings with energy performance requirements

In order to comply with the requirements of Article 5 of Energy Efficiency Directive 2012/27/EU (hereinafter 'the Directive'), Lithuania drew up a list of central government public buildings, which was approved by Order No 1-7 of the Minister for Energy of the Republic of Lithuania of 23 January 2014 approving the list of heated and/or cooled buildings owned by the State for use by public authorities and bodies (hereinafter 'List No 1-7'). The floor area of central government buildings contained in List No 1-7 falling with energy performance classes A, B and C, D, E, F and G and without an energy performance class is 942 526 m<sup>2</sup>, 1 068 759 m<sup>2</sup> and 1 154 686 m<sup>2</sup> respectively.

These figures also include buildings officially protected as part of a designated environment or because of their special architectural or historical merit (171 036 m<sup>2</sup>), which are exempted under Article 5(2) of Directive 2012/27/EU, and unheated buildings (172 888 m<sup>2</sup>). The total floor area of officially protected and unheated buildings is 344 189 m<sup>2</sup>. This area should have been excluded from the calculation of the mandatory renovation rate. Consequently, the calculated **total annual mandatory renovation rate for 2014 is 56 378**  $(1\,068\,759 + 1\,154\,686 - 344\,189) \times 0.03$  m<sup>2</sup>.

It should be noted that, in accordance with Article 5(4) of Directive 2012/27/EU, central government authorities submitted data during 2014 to the effect that they no longer used and had vacated buildings covering an area of 33 447 m<sup>2</sup> (cf. the 2016 progress report of the Ministry of Energy of the Republic of Lithuania on the progress achieved towards meeting national energy efficiency targets); moreover, according to data submitted by central government authorities and data from the register of energy performance certificates for buildings, buildings contained in List No 1-7 covering an area of 34 725 m<sup>2</sup> buildings were renovated. In total, buildings with an area covering 68 195 m<sup>2</sup> were renovated or vacated in 2014.

To ensure implementation of the requirements of Article 5 of Directive 2012/27/EU, a programme to enhance the energy efficiency of public buildings was approved by Government Decree No 1328 of 26 November 2014 (hereinafter 'the Public Buildings Programme').

In view of the fact that a building area of 68 195 m<sup>2</sup> was renovated or no longer used in 2014, the calculated **total annual mandatory renovation rate for 2015 is 54 332**  $(1\,068\,759 + 1\,154\,686 - 344\,189 - 68\,195) \times 0.03$  m<sup>2</sup>. In accordance with Article 5(4) of the Directive, and on the basis of data supplied by central government institutions and taken from the register of energy performance certificates, central government institutions no longer used and vacated and renovated 62 612 m<sup>2</sup> of building area in 2015 (of which 2 143 m<sup>2</sup> was no longer used and vacated, and 60 469 m<sup>2</sup> was renovated).

In accordance with Article 5(5) of the Directive, the list of buildings was amended, increasing it by an area of 500 m<sup>2</sup>, by Order No 1-63 of the Minister for Energy of the Republic of Lithuania of 26 February 2016 amending the list of heated and/or cooled buildings owned by the State for use by public authorities and bodies. According to this list of buildings, the area of central government buildings falling within energy class G, F, E or D and without an energy class is 1 600 676 m<sup>2</sup> and 993 953 m<sup>2</sup> respectively. Similarly, the area of buildings falling within energy class G, F, E or D and

without an energy class included in the list of buildings of 250 m<sup>2</sup> to 500 m<sup>2</sup> approved by Order No 1-291 of 16 December 2015 of the Minister for Energy approving the list of heated and/or cooled buildings of 250 m<sup>2</sup> to 500 m<sup>2</sup> of State institutions and establishments owned by the Government and of buildings used by public administration authorities is 7 488 m<sup>2</sup> and 174 925 m<sup>2</sup> respectively. The total floor area of officially protected and unheated buildings also included in these areas is 344 189 m<sup>2</sup>. This area should have been excluded from the calculation of the mandatory renovation rate. After deduction of this area and the area renovated and vacated in 2015, **the calculated total annual mandatory renovation rate for 2016 is 71 107** ((1 600 676 + 7 488 + 993 953 + 174 925 - 344 189 - 62 612) x 0.03) m<sup>2</sup>. In accordance with Article 5(4) of the Directive, and on the basis of data supplied by central government institutions and taken from the register of energy performance certificates, central government institutions no longer used and vacated 41 217 m<sup>2</sup> and renovated 49 017 m<sup>2</sup> of building area in 2016, giving a total of 91 017 m<sup>2</sup> [sic].

In view of the fact that a building area of 91 017 m<sup>2</sup> was renovated or no longer used in 2016, the calculated **total annual mandatory renovation rate for 2017 is 68 377** ((2 370 241 - 91 017) x 0.03) m<sup>2</sup>. In accordance with Article 5(4) of the Directive, and on the basis of data supplied by central government institutions and taken from the register of energy performance certificates, central government institutions renovated 82 658 m<sup>2</sup> of building area in 2017.

In view of the fact that a building area of 82 658 m<sup>2</sup> was renovated in 2017, the calculated **total annual mandatory renovation rate for 2018 is 65 897** ((2 279 224 - 82 658) x 0.03) m<sup>2</sup>. In accordance with Article 5(4) of the Directive, and on the basis of data supplied by central government institutions and taken from the register of energy performance certificates, central government institutions no longer used and vacated 31 216 m<sup>2</sup> and had renovated 11 217 m<sup>2</sup> of building area in 2018, giving a total of 42 433 m<sup>2</sup>.

In view of the fact that a building area of 42 433 m<sup>2</sup> was renovated in 2018, the calculated **total annual mandatory renovation rate for 2019 is 64 624** ((2 196 566 - 42 433) x 0.03) m<sup>2</sup>. In accordance with Article 5(4) of the Directive, and on the basis of data supplied by central government institutions and taken from the register of energy performance certificates, central government institutions no longer used and vacated 19 722 m<sup>2</sup> and renovated 44 614 m<sup>2</sup> of building area in 2019, giving a total of 64 366 m<sup>2</sup> [sic].

Data concerning public buildings not meeting the minimum energy performance requirements needing, in the period 2014-2020, to be renovated or transferred to the manager of centrally managed public assets in order to be sold, demolished or renovated, and the areas actually renovated or vacated are shown in Table 9.1.

**Table 9.1: Public buildings not meeting the minimum energy performance requirements needing to be renovated or transferred to the manager of centrally managed public assets in order to be sold, demolished or renovated, and the proportion of areas actually renovated or vacated**

Indicators	floor area of public buildings, m <sup>2</sup>							
	2014	2015	2016	2017	2018	2019	2020	Total
Total floor area of buildings exceeding an area of 500m <sup>2</sup> of classes F, E and D to	1 879 256	1 811 061						
Total floor area of buildings exceeding an area of 500m <sup>2</sup> and from 250 to 500 m <sup>2</sup> of classes G, F, E and D,			2 370 241	2 279 224	2 196 566	2 154 133	2 089 797	
Calculated total rate requiring renovation (3%)	56 378	54 332	71 107	68 377	65 897	64 624	62 694	443 409
Total renovated or vacated:	68 195	62 612	91 017	82 658	42 433	64 336	0	411 251
renovated	34 725	60 469	49 800	82 658	11 217	44 614		

vacated in accordance with Article 5(4) of the	33 470	2 143	41 217	0	31 216	19 722		
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## 10. Energy savings achieved through alternative measures

### 10.1. Renovation of multi-apartment buildings

With a view to implementing the requirements of Article 7 of Directive 2012/27/EU by 2020, the multi-apartment building renovation (modernisation) programme was amended by Government Resolution No 213 of 25 February 2015.

Implementation of the objectives of the said programme between 2014 and 2018, lifetimes of measures and overall energy saving up to 2020:

1. Secure the funding and implementation of projects for the renovation (modernisation) of multi-apartment buildings meeting the programme requirements, grant preferential loans and other statutory State aid to owners of flats and other buildings, and encourage owners of flats and other buildings to implement energy-saving measures.

According to implementation monitoring data for the multi-apartment building renovation (modernisation) programme supplied by the Ministry of the Environment, 224 multi-apartment buildings were renovated in 2018 alone. Based on the data provided, the amount of energy saved in **2018 was 56.473 GWh.**

The duration of building renovation measures is 20 years.

The total savings effect of this measure from **2014 to 2018 (2020)** was **2764.02 GWh.**

2. Ensure that the public is better informed, better educated and more aware of issues relating to building energy performance, renovation (modernisation) and energy savings.

According to data supplied by the Ministry of the Environment, 757 measures were implemented in 2018 under Objective 2 of the programme, the amount of energy saved being 6.88 GWh.

The duration of the measure 'Ensuring that the public is better informed, better educated and more aware of issues relating to building energy performance, renovation (modernisation) and energy savings' is one year.

The total savings effect of this measure from **2014 to 2018** reached **69.27 GWh.**

Order No 1-205/1K-282 of 3 September 2015 of the Lithuanian Minister for Energy and Minister Finance approving the rules for the implementation in Lithuania of the Ignalina programme for 2014-2010 approved the rules for the implementation in Lithuania of the Ignalina programme for 2014-2020. These rules govern the funding of a programme to deploy EU financial support measures to implement the decommissioning of blocks 1 and 2 of the Ignalina nuclear power plant in Lithuania (hereinafter 'Ignalina programme'). One of the areas eligible for funding under the Ignalina programme includes projects to renovate multi-apartment buildings in municipalities in the region of the Ignalina power plant.

According to information on renovated multi-apartment buildings supplied by the Ignalina, Visaginas and Zarasai regional authorities, 2.00 GWh of energy were saved in 2014, 1.62 GWh in 2015, 1.63 GWh in 2016 and 1.14 GWh in 2017.

The duration of building renovation measures is 20 years.

The total savings effect of the Ignalina Programme from **2014 to 2017 (2020)** was **36.43 GWh.**

The total energy saved under the renovation (modernisation) of multi-apartment buildings and Ignalina programmes is shown in table 10.1. This and the other tables provide details of the results of energy performance enhancement measures. Figures in bold show the result for industry - i.e. the amount of energy saved - for specific years. Depending on the lifetime of the measure, the benefit is felt either just for one year (information and advisory measures to change energy consumers' habits or impact of excise and taxes on the decreased use of fuel), or over a number of years to come (financial measures for energy at final energy consumers' facilities). If a measure has a lifetime of more than one year, the energy saving is multiplied by the number of years until 2020.

In the data submitted in 2020, a correction was made to the previously reported data after overlapping savings had been identified between the Ignalina programme and the multi-apartment building renovation (modernisation) programme. This correction does not include previous years' energy savings under the Ignalina programme as they are covered by savings under objective 1 of the

multi-apartment building renovation (modernisation) programme.

The more detailed data supplied in Table 10.1 is used in calculations

**Table 10.1: Total amount of energy saved, GWh**

Measure	Quantity of energy saved, GWh							
	2014	2015	2016	2017	2018	2019	2020	Total
Multi-apartment building renovation (modernisation) programme, objective 1	<b>25.3</b>	25.3	25.3	25.3	25.3	25.3	25.3	<b>177.10</b>
		<b>138.00</b>	138	138	138	138	138	<b>828.00</b>
			<b>208.07</b>	208.07	208.07	208.07	208.07	<b>1 040.35</b>
				<b>119.97</b>	119.97	119.97	119.97	<b>479.88</b>
					<b>56.473</b>	56.473	56.473	<b>169.42</b>
Multi-apartment building renovation (modernisation) programme, objective 2	<b>41.12</b>	<b>6.45</b>	<b>7.28</b>	<b>7.54</b>	<b>6.88</b>	-	-	<b>69.27</b>
Ignalina programme*	<b>2</b>	2	2	2	2	2	2	<b>14</b>
		<b>1.62</b>	1.62	1.62	1.62	1.62	1.62	<b>9.72</b>
			<b>1.63</b>	1.63	1.63	1.63	1.63	<b>8.15</b>
				<b>1.14</b>	1.14	1.14	1.14	<b>4.56</b>
								<b>Total: 2 764.02</b>

\* The energy savings under the Ignalina Programme are covered by Objective 1 of the multi-apartment building renovation (modernisation) programme, meaning that they are not included in the total quantity of energy saved

## 10.2. Tax and excise on fuel

According to 2018 data provided by Statistics Lithuania, Lithuania used around 1 654 700 tonnes of diesel, 234 800 tonnes of petrol and 143 600 tonnes of liquefied natural gas.

Lithuania applied a VAT rate of 21% to fuel, 6% higher than the minimum rate of 15% set by the European Union. The 21% excise duty on petrol (+0.08 euro/l) was higher than the minimum excise duty for petrol set by the European Union, whilst the excise duty on liquefied natural gas is 243% (+0.18 euro/l), which is higher than the minimum excise duty set for LPG by the EU. As regards the cumulative impact of higher taxes and excise rates, it can be said that the price of petrol was 13.9% higher, diesel 5.2% higher and LPG 64.7% higher than the average tax and excise rates elsewhere in the European Union.

Taking into account the quantity of fuels (petrol, diesel and liquefied petroleum gas) sold in Lithuania and the elasticity of demand, and in the light of the experience of other countries (Sweden, Spain and Germany) in calculating the impact of fiscal energy efficiency improvement measures on fuel consumption, it is calculated that the higher rates of tax and excise duty on fuel resulted in **energy savings of 610.7 GWh in 2018**. The total quantity of energy saved **from 2014 to 2018** under this measure is **2 669.89 GWh** (Table 10.2.1).

**Table 10.2.1. Tax and excise on fuel, total amounts of energy saved, GWh**

Measure	Quantity of energy saved, GWh							
	2014	2015	2016	2017	2018	2019	2020	Total
Tax and excise on fuel	<b>374.00</b>	<b>534.19</b>	<b>541.81</b>	<b>609.19</b>	<b>610.70</b>	-	-	<b>2 669.89</b>

## 10.3. Renovation of public buildings

This section provides information on public building renovation programmes and measures aimed at reducing energy consumption. Data have been supplied by the authority responsible for/implementing the programmes and measures in question.

The total energy savings from the renovation of public buildings is shown in table 10.3.

**Table 10.3: Total energy savings from the renovation of public buildings, GWh**

No	Programme/Measure	Quantity of energy saved, GWh							
		2014	2015	2016	2017	2018	2019	2020	Total
10.3.1	Public buildings programme		-	-	-	-	-	-	-
10.3.2	Renovation of public buildings at national level		<b>10.8</b>	10.8	10.8	10.8	10.8	10.8	<b>64.80</b>
				<b>7.09</b>	7.09	7.09	7.09	7.09	<b>35.45</b>
					<b>0.61</b>	0.61	0.61	0.61	<b>2.44</b>
10.3.3	Renovation of public buildings at regional level		<b>7.7</b>	7.7	7.7	7.7	7.7	7.7	<b>46.20</b>
				<b>4.32</b>	4.32	4.32	4.32	4.32	<b>21.60</b>
10.3.4	Programme for the renovation (modernisation) of halls of residence of higher education and vocational training institutions		<b>0.81</b>	0.81	0.81	0.81	0.81	0.81	<b>4.86</b>
				<b>5.80*</b>	5.80	5.80	5.80	5.80	<b>28.98</b>
					<b>0.56</b>	0.56	0.56	0.56	<b>2.23</b>
10.3.5	Programme for the renovation (modernisation) of buildings of educational institutions by decreasing energy consumption costs.		<b>6.63</b>	6.63	6.63	6.63	6.63	6.63	<b>39.78</b>
				<b>9.33</b>	9.33	9.33	9.33	9.33	<b>46.65</b>
					-	-	-	-	-
					-	-	-	-	-
10.3.6	State investments, climate change and other programmes		*	<b>0.919*</b>	0.919	0.919	0.919	0.919	<b>4.59</b>
					<b>4.524*</b>	4.524	4.524	4.524	<b>18.09</b>
					<b>1.586</b>	1.586	1.586	1.586	<b>4.76</b>
10.3.7	Ignalina region public buildings programme		<b>9</b>	9	9	9	9	9	<b>54.00</b>
				<b>15.52</b>	15.52	15.52	15.52	15.52	<b>77.60</b>
					<b>21.2</b>	21.2	21.2	21.2	<b>84.80</b>
					-	-	-	-	-
10.3.8	Municipal public buildings projects involving the implementation of measures to increase energy efficiency				<b>0.274</b>	0.274	0.274	0.274	<b>1.10</b>
					<b>0.965</b>	0.965	0.965	0.965	<b>2.89</b>
<b>Total:</b>									<b>540.82</b>

\* The savings have been corrected in the light of the results of the verification of reports submitted and the data from the energy certificates of buildings.

### **10.3.1. Programme to improve the energy efficiency of public buildings**

Programme to improve the energy efficiency of public buildings approved by Government Resolution No 1328 of 26 November 2014 approving the programme to enhance the energy efficiency of public buildings (hereinafter 'public buildings programme'). With a view to renovating at least 3% of the total floor area of heated and/or cooled public buildings owned and occupied by the State each year, the Lithuanian Government set the following targets when approving the Public Buildings Programme:

- to renovate an area of 700 000 m<sup>2</sup> of public buildings by 2020, including an area of 470 000 m<sup>2</sup> of public buildings owned by the State (responsibility for which lies with the Lithuanian Ministry of Energy)

- and an area of 230 000 m<sup>2</sup> of public buildings owned by the municipalities (responsibility for which lies with the Ministry of the Environment);

- to save 60 GWh of annual primary energy in renovated public buildings by 2020.

The Public Buildings Programme has set a basic requirement for building renovation, i.e. the energy performance class of the building after renovation must be no lower than C. The Public Buildings Programme is financed from the Lithuanian national budget, municipal budgets, the European structural and investment funds, international organisations, private investors and other sources.

The public buildings programme is being implemented in line with the following measures approved by the Ministry of Energy, the Ministry of Finance and the Ministry of the Environment: Schedule of conditions for the funding of projects under Measure 04.3.1-VIPA-V-101 'Renovation of State-owned buildings' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds; Measure 04.3.1-VIPA-T 'Renovation of State-owned buildings (II)' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds; Measure No 04.3.1-FM-F-002 'Renovation of municipal public buildings' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds, and measure No 04.3.1-FM-F-105 'Increasing energy efficiency in the public infrastructure' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds.

Projects under measures 04.3.1-VIPA-V-101 'Renovation of State-owned buildings' and 04.3.1-VIPA-T-113 'Renovation of State-owned buildings (II)' from the responsible/implementing body UAB 'Viešųjų investicijų ir plėtros agentūra' [public investment development agency, 'VIPA'] were being implemented in 2018, and no energy savings have yet been achieved. The responsible/implementing body VIPA has indicated regarding measures 04.3.1-FM-F-002 'Renovation of municipal public buildings' and 04.3.1-FM-F-105 'Increasing energy efficiency in the public infrastructure' that there were no energy savings in 2018.

Under Measure 04.3.1-FM-F-105, funding contracts were concluded by the end of 2019 for the renovation of approximately 64 900 m<sup>3</sup> of public buildings, of which 9 500 m<sup>3</sup> were completed in 2019. The renovation of the area of buildings indicated will lead to energy savings of around 3.8 GWh per annum.

Orders of the Minister for Energy of 30 October 2018 and of 28 January 2019 provide for funding under Measure 04.3.1-VIPA-V-101 (more than €4.43 million) for the renovation of eight public buildings involving the renovation of approximately 43 000 m<sup>2</sup>, with annual energy savings of about 2.5 GWh. Funding under this measure takes the form of a repayable subsidy.



### **10.3.2. Renovation of public buildings at national level**

According to data supplied by the Lithuanian Business Support Agency, Measure VP3-3.4-ŪM-03-V 'Renovation of public buildings at national level' coming under Priority VPS-3-3 of the Operational Programme for the promotion of cohesion, 'Environment and sustainable development' (hereinafter the 'Renovation of buildings at national level' measure) resulted in a saving of 0.61 GWh in 2017. Total energy savings **up to 2020 from measures deployed in the period 2015-2017** amount to **102.69 GWh**. Energy savings in the period 2015-2017 are shown in Table 10.3.

The implementation of projects financed using EU funds in the 2007-2013 programming period was completed on 31 December 2015 and Lithuania successfully reported on them to the European Commission on 28 March 2017. For this reason, no new savings were made in the period 2018-2020.

### **10.3.3. Renovation of public buildings at regional level**

According to data supplied by the Lithuanian Business Support Agency, Measure VP3-3.4-ŪM-03-V 'Renovation of public buildings at national level' coming under Priority VPS-3-3 of the Operational Programme for the promotion of cohesion, 'Environment and sustainable development' (hereinafter the 'Renovation of buildings at national level' measure) resulted in no renovated buildings or new savings in 2017. Total energy savings **up to 2020 from measures deployed in the period 2015-2017** amount to **67.80 GWh**. Energy savings in the period 2015-2017 are shown in Table 10.3.

The implementation of projects financed using EU funds in the 2007-2013 programming period was completed on 31 December 2015, and Lithuania successfully reported on them to the European Commission on 28 March 2017.

### **10.3.4. Programme for the renovation of halls of residence of higher education and vocational training institutions**

According to data provided by VIPA, implementation of the programme for the renovation (modernisation) of the halls of residence of higher education and vocational training institutions resulted in a saving of 0.56 GWh in 2017. Total energy savings **up to 2020 from measures deployed in the period 2015-2017** amount to **36.07 GWh**. Energy savings in the period 2015-2017 are shown in Table 10.3.

### **10.3.5. Programme for the renovation of buildings of educational establishments**

No data were received concerning the results of the implementation of the programme for the renovation (modernisation) of buildings of educational establishments in terms of a reduction of energy consumptions costs. Total energy savings **up to 2020 from measures deployed in the period 2015-2017** amount to **86.43 GWh**. Energy savings in the period 2015-2017 are shown in Table 10.3.

### **10.3.6. Public buildings for the State Investment, Climate Change and other programmes**

For the purposes of implementing the State Investment programme and using other State budget funds, the data provided by the Lithuanian ministries and their subordinate bodies on the public buildings which they manage and which have been renovated show that in 2018 the energy saving was 1.586 GWh. Total energy savings **up to 2020 from measures deployed in the period 2016-2018** amount to **27.45 GWh**. Energy savings in the period 2016-2017 are shown in Table 10.3.

### **10.3.7. Energy efficiency improvement projects for municipal public buildings in the area of the Ignalina nuclear power plant**

Another of the areas eligible for funding under the Ignalina regional public buildings programme relates to projects to increase the energy efficiency of public buildings in the municipal region of the Ignalina power plant. According to information on renovated public buildings supplied by the Ignalina, Visaginas and Zarasai regional authorities, 21.2 GWh of energy were saved in 2017.

It should be noted that, owing to a technical error, the 2016 report on the progress achieved towards national energy efficiency targets included 7.55 GWh in 2015 and 14.26 GWh in 2016 in energy savings from buildings renovated under the State Investment programme. Correcting this error

produces a total energy saving for the Ignalina programme **up to 2020 for buildings renovated in the period 2015-2017 of 216.4 GWh**. There were no energy savings under the Ignalina programme in 2018.

Energy savings in the period 2015-2017 are shown in Table 10.3.

The building renovation measures have a lifetime of 25 years.

### **10.3.8. Municipal public buildings projects involving the implementation of measures to increase energy efficiency**

For the purposes of implementing the measure of improving energy efficiency in municipal public buildings, data supplied by the Central Project Management Agency show that **0.965 GWh** was saved **in 2018**. Total energy savings **up to 2020 from measures deployed in the period 2017-2018** amount to **3.99 GWh**. Energy savings in the period 2017-2017 are shown in Table 10.3.

### **10.4. Energy audits of industrial enterprises**

In Lithuania, industrial enterprises seeking to perform energy audits and implement the energy efficiency improvement measures recommended in the audit report receive support from the European Union structural funds and budgetary funds. Measure No 04.2.1-LVPA-K-804 'Audit for industry LT', which implements Priority 4 'Promoting energy efficiency and production and use of renewable energy resources' of the Operational Programme, was approved as part of the Plan for implementing priority implementing measures under the 2014-2020 Operational Programme for investments from European Union funds, as approved by Order No 4-933 of the Minister for the Economy of 19 December 2014 approving the Plan for implementing priority implementing measures under the 2014-2020 Operational Programme for investments from European Union funds and the schedule of instructions for calculating national monitoring indicators.

Measure No 04.2.1-LVPA-K-804 'Audit for industry LT' provides funding for performing energy audits at industrial enterprises, and the funding takes the form of a non-repayable subsidy. The following applicants may apply for EU support under this measure:

- micro, small and medium-sized industrial enterprises;
- large industrial enterprises, provided that an energy audit is performed in addition to the mandatory energy audit required under Directive 2012/27/EU.

**Under Measure 04.2.1-LVPA-K-804 'Audit for industry LT', 11 energy audits were carried out at industrial enterprises in 2018.** In the audits completed, the proposed energy performance enhancement measures must be deployed within three years of completion of the audit. According to the data from the competent authority, the Ministry of the Economy and Innovation, information on energy consumption and consumption trends is not gathered or assessed as an indicator for monitoring the implementation of the measure. For this reason, the competent authority is unable to provide figures for energy savings.

### **10.5. Implementation of energy awareness and consultancy agreements**

The energy awareness and consultancy agreements are implemented pursuant to the provisions of the Lithuanian Law on improving energy efficiency and of the description of the procedure for the conclusion of energy awareness and consultancy agreements approved by Order 1-221 of 25 August 2017 of the Lithuanian Minister for Energy approving the description of the procedure for the conclusion of energy awareness and consultancy agreements. The purpose of these agreements is to educate and advise consumers on energy-saving measures and decisions that change consumer behaviour and habits and increase energy efficiency.

By the end of 2018, 64 energy awareness and consultancy agreements had been concluded between the Ministry of Energy and energy supply companies on issues relating to the improvement of energy efficiency.

During the third quarter of 2019, the Lithuanian Energy Agency checked documents relating to the implementation of suppliers' educational and consultancy measures.

In most cases, suppliers achieved energy savings by implementing the measure 'Publication of information on websites' and 'Publication of information in the press or printed matter'. For the purposes of implementing this type of measure, consumer education and consultancy agreements signed by suppliers create the conditions for consumers to access relevant available information. In 2018, the implementation of these measures most commonly allowed general information and

household energy savings advice to be supplied in a readily understandable form for final consumers. Greater potential for saving energy comes from implementing the measure ‘Consultancy provided at the consumer’s premises’, during which a visit is paid to the consumer’s premises, deficiencies are identified and recommendations are given on matters relating to the improvement of energy efficiency. This measure was planned in many supplier agreements, but when it came to implementation, funding and human resources were limited, meaning that suppliers’ employees could only pay direct visits to some final consumers. There were some suppliers with no more than several dozen consumers, mainly in industry and services, most of which provided consultancy services, thus ensuring that the purpose of the agreement was achieved.

The established savings effect of this measure from **2014 to 2018** reached **201.05 GWh**.

**Table 10.5: Total amount of energy saved, GWh**

Measure	Quantity of energy saved, GWh				
	2017	2018	2019	2020	Total
Energy education and consultancy agreements	41.86	201.05	-	-	<b>242.91</b>
<b>Total:</b>					<b>242.91</b>

### 10.6. Implementation of energy saving agreements

Agreements with energy companies on energy savings are one of the energy-saving measures mentioned in the Law on improving energy efficiency. This measure will help domestic consumers save **1 905.14 GWh** of final energy by **2020**.

These agreements are entered into by domestic electricity and gas companies (transmission and distribution system operators) which have set themselves the targets of achieving energy savings with final energy consumers in terms of smart metering and other energy efficiency measures.

The electricity distribution company LITGRID AB has undertaken to achieve savings of **146.60 GWh**, the gas distribution operator AB “Amber Grid” **122.54 GWh** and AB “Energijos skirstymo operatorius” **1 636.00 GWh** with final consumers.

The Lithuanian Energy Agency has verified a representative sample of data on savings measures declared by energy companies and implemented in 2017 and 2018.

**Table 10.6: Total amount of energy saved, GWh**

Measure	Brief description of the measure	Quantity of final energy saved, GWh			
		Total annual final energy savings in 2018 (on the basis of measures/ actions/projects implemented from 2014 to 2018 that continued to produce savings in 2018)	Total annual final energy savings in 2018 (solely on the basis of new measures/ actions/projects implemented in 2018).	Total accumulated final energy savings in the period 2014-2018.	Projected total accumulated final energy savings up to 2020.
Energy saving agreements	Individual activities of transfer system and distribution network operators under individual energy saving agreements between undertakings and the Lithuanian Ministry of Energy.	276.65*	12.33	636.55*	1223.27*

\*Figures corrected further to verification of the data gathered

## 10.7 Energy efficiency projects implemented for the renewal of municipal public transport fleet through the purchase of new clean vehicles

In accordance with the description of the procedure for the use of funds from the Climate Change Special Programme approved by Order No D1-275 of the Minister for the Environment of 6 April 2010, funding was allocated by Order No D1-70 of 26 January 2012 to projects under the measure ‘Replacement with low-emission urban buses when renewing bus fleet vehicles’ in respect of the bus fleets managed by nine undertakings. For the purposes of implementing this measure, 93 low-emission vehicles with internal combustion engines and 10 hybrid-drive vehicles were purchased. Owing to the lack of information in the reporting period, the savings reported in the calculations for this measure will be updated for inclusion in the 2019 report.

Energy efficiency objectives in the transport sector focus on developing sustainable urban mobility, improving road safety, deploying smart transport systems and more efficient vehicles, and developing green transport. The renewal of public transport vehicle fleets by municipal authorities by replacing vehicles with new, more efficient ones was promoted by measures 04.5.1-TID-V-517 ‘Renewal of the urban public transport vehicle fleet’ and 04.5.1-TID-R-518 ‘Renewal of the local public transport vehicle fleet’ coming under Priority 4 ‘Promoting energy efficiency and the production and use of renewable energy resources’ of the 2014-2020 Operational Programme for investments from European Union funds.

The energy savings resulting from projects relating to the renewal of municipal public transport fleets through the purchase of new clean vehicles are shown in Table 10.7.

**Table 10.7: Quantity of energy saved by transport vehicles, GWh**

Measure	Brief description of the measure	Quantity of final energy saved, GWh			
		Total annual final energy savings in 2018 (on the basis of measures/ actions/projects implemented from 2014 to 2018 that continued to produce savings in 2018)	Total annual final energy savings in 2018 (solely on the basis of new measures/ actions/projects implemented in 2018).	Total accumulated final energy savings in the period 2014-2018.	Projected total accumulated final energy savings up to 2020.
Renovation of public buildings	Public (passenger) transport vehicle fleet renewal in towns and cities. During 2018, 41 transport vehicles were renewed by replacing old vehicles with new, more efficient ones.	5.09	0.15	10.03	21.71

## 10.8 The Climate Change and Lithuanian Environmental Protection Investment Fund programmes

The Lithuanian Climate Change Programme, approved in 2010 by the Law on financial instruments for climate change management, is intended to provide support for measures to improve energy consumption and production efficiency in relation to the modernisation of residential and public buildings, and for the implementation of other projects giving rise to the most efficient reduction of greenhouse gas emissions in the fields of energy, industry, construction, transport, agriculture, waste management, etc. Programme funds are to be used in accordance with the annual estimates for the use of the funds and the detailed plans set out therein. The description of the procedure for the use of Climate Change Special Programme funds, approved by the Lithuanian Minister for the Environment by Order No D1-275 of 6 April 2010, stipulates that not less than 40% of the programme funds must be allocated to projects aimed at increasing energy consumption and production efficiency. The annual estimates for the use of the funds and the detailed plans set out

therein (which also determine the funding intensity when awarding grants), which calculate the energy savings for projects implemented, are approved by orders of the Lithuanian Minister for the Environment, as follows:

Order of the Minister for the Environment No D1-328 of 25 April 2018 approving the estimate for the use of Climate Change Special Programme funds in 2018;

Order of the Minister for the Environment No D1-67 of 6 June 2018 approving the plan detailing the estimate for the use of Climate Change Special Programme funds in 2018;

Order of the Minister for the Environment No D1-279 of 4 April 2017 approving the estimate for the use of Climate Change Special Programme funds in 2017;

Order of the Minister for the Environment No D1-450 of 26 May 2017 approving the plan detailing the estimate for the use of Climate Change Special Programme funds in 2018;

Order of the Minister for the Environment No D1-130 of 22 February 2016 approving the estimates for the use of Climate Change Special Programme funds in 2016;

Order of the Minister for the Environment No D1-165 of 7 March 2016 approving the plan detailing the estimate for the use of Climate Change Special Programme funds in 2016;

Order of the Minister for the Environment No D1-127 of 17 February 2015 approving the estimate for the use of Climate Change Special Programme funds in 2015;

Order of the Minister for the Environment No D1-278 of 7 April 2015 approving the plan detailing the estimate for the use of Climate Change Special Programme funds in 2015;

Order of the Minister for the Environment No D1-118 of 7 February 2014 approving the estimates for the use of Climate Change Special Programme funds in 2014;

Order of the Minister for the Environment No D1-286 of 17 March 2014 approving the plan detailing the estimate for the use of Climate Change Special Programme funds in 2014;

Order of the Minister for the Environment No D1-280 of 24 April 2013 approving the estimate for the use of Climate Change Special Programme funds in 2013;

Order of the Minister for the Environment No D1-310 of 2 May 2013 approving the plan detailing the estimate for the use of Climate Change Special Programme funds in 2013;

Order of the Minister for the Environment No D1-248 of 21 March 2012 approving the estimates for the use of Climate Change Special Programme funds in 2012;

Order of the Minister for the Environment No D1-300 of 6 April 2012 approving the plan detailing the estimate for the use of Climate Change Special Programme funds in 2012.

Energy saving measures are also implemented in Lithuania by means of financial support in the form of subsidies to industrial and other business enterprises under the **Lithuanian Environmental Investment Fund programme** established by the Lithuanian Pollution Tax Law. The use of funds under this programme, the selection of investment projects, the funding conditions and the monitoring of implementation are regulated by the description of the Procedure for the implementation and supervision of investment projects funded by the Lithuanian Environmental Investment Fund programme, approved by Order No 437 of the Minister for the Environment of the Republic of Lithuania of 29 August 2003 (hereinafter 'the description of the Procedure'). The description of the Procedure stipulates that financial support in the form of subsidies is to be granted to legal persons operating in the Republic of Lithuania which implement environmental protection investment projects reducing the negative impact of economic activities on the environment and ensuring a sustained environmental-protection effect. It also stipulates that financial support (subsidies) should be granted in accordance with the funding axis approved each year by order of the Lithuanian Minister for the Environment. Under the said funding axis, one type of preventive project eligible for support is that of projects relating to the introduction of production technologies to reduce emissions into ambient air, which, in addition to reducing emissions into the environment, also give rise to an energy effect, e.g. the recovery of up to 20% of the energy from smoke or cooling installations through the implementation of technological measures by producers of heat and other products (e.g. economisers and heat pumps). The funding axes for the use of funds under the Lithuanian Environmental Investment Fund programme according to which the energy savings for implemented projects are calculated were approved by:

Order of the Minister for the Environment No D1-361 of 4 May 2017 approving the funding axes for the use of Lithuanian Environmental Investment Fund programme funds **in 2017**;

Order of the Minister for the Environment No D1-153 of 1 March 2016 approving the funding

axes for the use of Lithuanian Environmental Investment Fund programme funds **in 2016**;

Order of the Minister for the Environment No D1-92 of 3 February 2015 approving the estimate for the use of Lithuanian Environmental Investment Fund programme funds **in 2015**;

Order of the Minister for the Environment No D1-452 of 3 May 2014 approving the funding axes for the use of Lithuanian Environmental Investment Fund programme funds **in 2014**;

Energy savings under the Climate Change and Lithuanian Environmental Protection Investment Fund Programmes are shown in Table 10.8.

**Table 10.8: Total amount of energy saved, GWh**

Item No	Measure	Brief description of the measure	Total annual final energy savings in 2018 (on the basis of measures/actions/projects implemented from 2014 to 2018 that continued to produce savings in 2018)	Total annual final energy savings in 2018 (solely on the basis of new measures/actions/projects implemented in 2018).	Total accumulated final energy savings in the period 2014-2018.	Projected total accumulated final energy savings up to 2020.
1	Lithuanian Environmental Protection Investment Fund Programme	Projects were implemented in accordance with the funding axes of the Lithuanian Environmental Protection Investment Fund Programme. Measures are aimed at achieving more efficient heat production in industrial and business entities. In the period 2014-2018, economisers with a combined power of 2. 812 MW were installed in industrial and business entities for efficient heat recovery from exhaust fumes.	22.68	0.00	96.41	141.77
2	Climate change programme	Projects were implemented in accordance with the funding axes of the Climate Change Programme. Measures are aimed at achieving more efficient heat production in public and residential buildings by replacing inefficient heating installations with efficient ones and renovating/modernising residential buildings. In the period 2014-2018, biofuel boilers with a total heat	204.55	27.53	625.34	1 034.44

		capacity of 39.3 MW and heat pumps with a combined heat capacity of 8.9 MW were installed to replace other installations. In the same period, residential buildings with the lowest or no energy class were modernised to become A class buildings (1 unit of 357 m <sup>3</sup> ), B class buildings (131 units with for a total area of 26 477 m <sup>3</sup> , or C class buildings (434 units for a total area of 68 630 m <sup>3</sup> ).				
<b>Combined final energy savings under the funding axes of the Lithuanian Environmental Protection Investment Fund Programme and the Climate Change Programme</b>			<b>227.22</b>	<b>27.53</b>	<b>721.76</b>	<b>1 176.21</b>

The measure of installing economisers is aimed at achieving more efficient heat production in industrial and business entities. In the period 2014-2018, economisers with a combined power of 2.812 MW were installed for efficient heat recovery from boiler exhaust fumes. The principle/methodology applied to calculate energy savings is based on the additional heat recovery principle, where the main indicators used in the calculations are: the power of installations, the year of their installation, and the equivalent number of operating hours.

The measure of replacing heating equipment is aimed at achieving more efficient heat production in public and residential buildings by replacing inefficient heating installations with efficient ones using renewable energy sources. In the period 2014-2018, biofuel boilers with a combined power of 39.3 MW and heat pumps with a combined heat capacity of 8.9 MW were installed in order to replace old inefficient boilers. The principle/methodology applied to calculate energy savings is based on the reduction of the quantity of primary fuel (in the heating installation) required to produce the annual volume of heat energy. The following main estimates are used in performing calculations: the coefficient of performance of the heating installation, its power, the year of installation, and the equivalent number of operating hours of the installation per year.

The measure of renovating (modernising) buildings is aimed at improving the energy characteristics of residential buildings. In the period 2014-2018 buildings with the lowest or no energy class were modernised to become A class buildings (for an area of 357 m<sup>3</sup>), B class buildings (for an area of 26 477 m<sup>3</sup>, or C class buildings (for an area of 68 630 m<sup>3</sup>). The principle (methodology) applied to calculate energy savings is based on comparing energy costs per 1m<sup>3</sup> before and after modernisation (according to data taken from buildings' energy performance certificates).

## **10.9 Additional energy efficiency measures taken by Lithuania to reach the 2020 targets**

In recent years, Lithuania has been continuously monitoring and analysing primary and final energy trends. This covers not only the monitoring of the impact of energy efficiency measures since 2014 but also other influencing factors such as climate fluctuations, the impact of economic growth, etc.

Given the slight increase in primary and final energy consumption over the last few years, and in order to adequately meet the targets set for 2020, Lithuania is taking additional measures to improve energy efficiency. During 2019, the following new energy efficiency improvement measures were launched, and the resulting energy savings will be presented in forthcoming progress reports:

1. A financial instrument to encourage the population to replace inefficient heating equipment with more efficient technologies using renewable energy sources. The purpose of Measure 04.3.2-LVPA-V-111 'Boiler replacement in households' coming under Priority 4 'Promoting energy efficiency and the production and use of renewable energy resources' of the 2014-2020 Operational Programme for investments from European Union funds is to encourage households to replace heating installations supplying heat to a water-based heating system with more efficient installations using energy from renewable sources in order to achieve and maintain an adequate level of indoor temperature in one or more enclosed spaces.

2. A voluntary energy savings agreement between the Ministry of Energy of the Republic of Lithuania and UAB 'Vilniaus šilumos tinklai' was signed on 27 March 2019.

3. Financial support measure for the modernisation of indoor heating and hot water



systems in multi-apartment buildings. The description of the procedure for compensatory payments under the Climate Change Programme for the modernisation of indoor heating and hot water systems in multi-apartment buildings, approved by Order No D1680 of the Minister for the Environment of 18 November 2019. This encourages residents to replace elevated heat points to new automatic heat points or to renovate old worn-out automatic heat points which do not automatically maintain efficient hot water temperatures in the domestic hot water supply system of a building, depending on various factors. Residents of multi-apartment buildings are also encouraged to replace radiators, install thermostatic valves, upgrade pipes, install individual heat metering devices or heat cost allocators, and to install smart metering to enable simultaneous readings from allocators and hot water meters.