# 2015 report on the progress achieved towards national energy efficiency targets

2017 Vilnius

# Contents

# 1. Executive summary

The 2015 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, foundations, companies and organisations.

The report contains 2015 data on Lithuania's economic and energy indicators, general trends in primary and financial energy consumption and energy consumption in the transport sector, data on the major legislative and non-legislative measures implemented in 2016 which contribute towards the overall national energy efficiency targets for 2020, and information on the compliance of government-owned buildings with energy performance requirements.

An analysis of the data collected between 2010 and 2015 shows the salient features of the progress made towards achieving the overall national energy efficiency targets to be as follows:

- the discrepancy between the country's GDP and initial/final energy consumption;
- the wealth of legislative measures contributing towards the overall national energy efficiency targets for 2020;
- increased public awareness in the field of energy consumption;
- deployment of smart technologies and of business-certified quality management systems based on international standards, improvement in work productivity and environmental pollution indicators;
- the apartment block renovation (modernisation) programme, which has set in motion a sustained long-term process of renovating blocks of flats in Lithuania;
- falling energy costs in various sectors of the economy.

In 2015, energy efficiency-enhancing measures at national level saved Lithuania **567.1 GWh** of energy.

The cumulative effect of all energy-saving measures in 2014 and 2015 was **2063.9 GWh**.

Lithuania's improving economic and energy indicators 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 contributes to the country's sustainable development.

# 2. Basic 2015 economic and energy indicators

This section shows Lithuania's basic economic and energy indicators for 2015 in accordance with the provisions of paragraph 14 of the description of the procedure for monitoring energy resources and energy efficiency (table 1).

*Table 1: Summary of basic economic and energy indicators 2014-15*

| Indicator (unit of measurement) | Value | | Change | |
|---|---|---|---|---|
| | in 2014 | In 2015 | Difference | % |
| Gross primary energy consumption (ktoe) | | | | |
| Gross final energy consumption (ktoe) | | | | |
| Final energy consumption in industrial sector (ktoe) | | | | |
| Final energy consumption in transport sector (ktoe) | | | | |
| Final energy consumption in households sector (ktoe) | | | | |
| Final energy consumption in services sector (ktoe) | | | | |
| Gross value added in the industrial sector [1] (EUR mill.) | | | | |
| Gross value added in the services sector [2] (EUR mill.) | | | | |
| Disposable income of households [3] (per month in EUR) | | | | |
| GDP [4] (EUR mill.) | | | | |
| Electricity generation from thermal power generation (GWh) | | | | |
| Electricity generation from combined heat and power (GWh) | | | | |
| Heat generated in boiler houses (ktoe) | | | | |
| Heat generation from combined heat and power plants, including residual heat from industry (ktoe) | | | | |
| Fuel input for thermal power plants (ktoe) | | | | |
| Total passenger kilometres (km thousand) | | | | |
| Total tonne kilometres (km thousand) | | | | |
| Population [5] (unit) | | | | |
| *Source*: Statistics Lithuania | | | | |

Between 2014 and 2015 final energy consumption in the transport sector grew by 5.4%. A more detailed overview of the fluctuations in the trends in energy consumption in this sector, along with conclusion, can be found in section 4 of the report ("Transport").

[1] Chain-link method.
[2] Chain-link method.
[3] Income (monetary and in kind) per household.
[4] Chain-link method.
[5] Average annual population.

## 3. Primary and final energy consumption [ktoe]

Between 2010 and 2015 the country's economy saw a steady decline in energy intensity (primary energy -21.4%, final energy -15.7%). Energy intensity is the indicator that measures the energy input needed to produce a specific volume of goods and services in a country's economy (ratio of a country's gross domestic energy input to its GDP[6]) (Fig.1).

A fall in Lithuania's energy intensity shows that between 2010 and 2015 primary and final energy costs were largely unchanged (primary -5.6%, final 1.22%), whereas the GDP grew over this period (20.09%). Between 2010 and 2015 Lithuania produced a fifth more goods and services for a comparable amount of energy (table 2).

Fig. 1 Energy intensity and consumption

**Graph legend, top right, reads:**

Energy intensity:

2010-2015 change: -21.4%/-15.7%

Energy consumption:

2010-2015 change: -5.6%/1.22%

Primary energy intensity
Final energy intensity
Primary energy consumption
Final energy consumption

*Source: Statistics Lithuania*

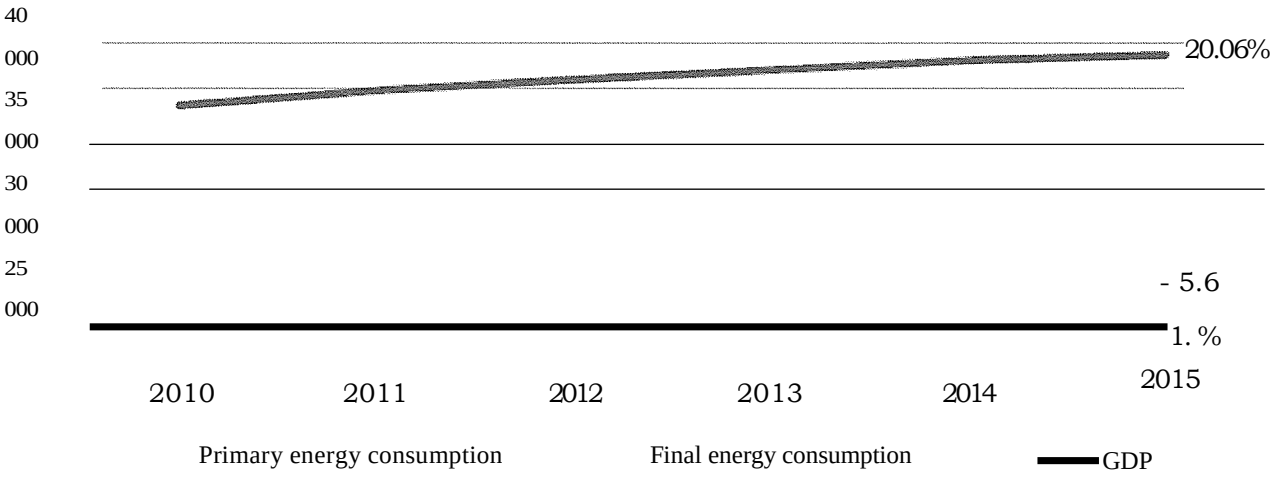
y axis reads:

kgoe/EUR '000

[6] eSTŽ Electronic dictionary of statistical terms [in Lithuanian]http://zodynas.stat.gov.lt/index/detail.aspx?id=278

According to Eurostat data, Lithuania's primary energy intensity was the lowest of the three Baltic States. In 2015, Latvia's energy intensity was 207.1 kgoe/EUR 1000 and Estonia's 358 kgoe/EUR 1000 (Fig. 3 ).

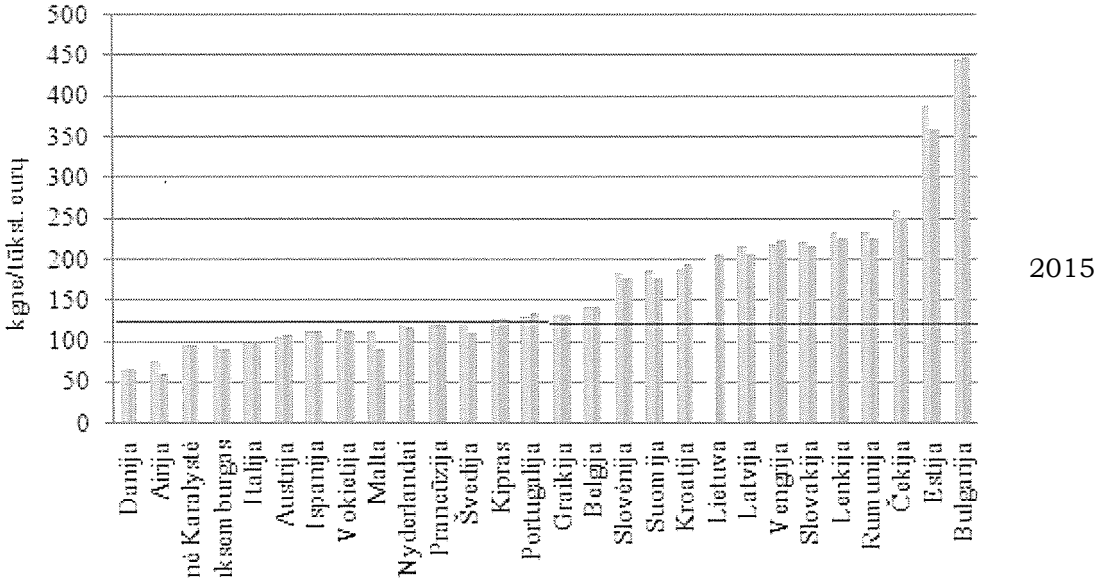
Fig. 2 Primary and final energy consumption (ktoe) and domestic GDP (EUR million)




*Source: Statistics Lithuania*

2010-2015 final energy consumption by sector: The greatest change in energy consumption over this period was in transport (18.9%) and households (-14.7%), and the smallest in services (-4.2%) and industry (4.0%) - cf. Fig. 4.

*Fig.* 3 Energy intensity




y axis reads: kgoe/EUR '000
x axis reads:

DK, IE, GB, LU, IT, AT, ES, D, M, NL, F, SV, CYP, P, GR, B, SL, FI, HR, LT, LV, H, SK, PL, RO, CZ, EE, BG

*Source: EUROSTAT*

Energy consumption in the transport sector grew because of the steady increase in flows of carriage of freight and passengers, the sector's improving value added and the effective policy of State institutions in tackling the influx from third countries of contraband fuel (diesel) - cf. Section 4 of report "Transport".

Energy consumption in the services sector decreased owing to the increased deployment of smart technologies, the deployment by businesses of certified quality management systems based on international standards and the improvement in work productivity and environmental pollution indicators. The industry sector showed similar trends in the deployment of technology and enhanced work productivity, though development of this sector in the post-crisis period resulted in a negligible growth in final energy consumption.

In the household sector, the fall in energy consumption was the result of people becoming more aware and more informed, and energy-efficiency measures being implemented by State bodies and citizens alike (section 7 of report "Energy savings achieved through alternative measures").

Fig. 4 Final energy consumption by sector (%)

**Pie chart keys read, clockwise from top:**
Transport sector
Household sector
Services sector
Industrial sector
Agricultural sector

*2010* *2015*

*Source: Statistics Lithuania*

# 4. 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 18.9% between 2010 and 2015. This increase was largely the result of the increased use of diesel for road transport. Between 2010 and 2015, consumption of diesel in road transport increased by 34.1%, petrol decreased by 31.7%, liquefied petroleum gas decreased by 23.4%. Consumption of other types of fuel remained largely unchanged (Fig. 5).

This major increase in diesel consumption (particularly in 2014) was due to stricter border controls and restrictions on the import into Lithuania of contraband fuel from third countries. In

February 2014 an arrangement entered into force in Lithuania whereby Lithuanian customs officials were authorised to ask lorry drivers for a written declaration about the amount of fuel being brought into the country. As from February, customs officials at all road customs posts began to ask lorry drivers for a written declaration in respect of the fuel in the fuel tanks of the vehicles in question being brought into the country from third countries. Drivers had to keep the customs-approved passenger declaration for the entire duration of the journey, i.e. whilst fuel imported into Lithuania at preferential rates is being used in the vehicle in question. [7] Drivers had to complete, and submit to the customs post of entry into Lithuania, a special declaration containing odometer data, stated fuel tank capacity, type of fuel (except gas) and volume of fuel. The duplicate of the declaration had to be kept by the driver for the entire duration of the trip.

Fuel brought into Lithuania in vehicle fuel tanks may not be used in a vehicle other than that in which it was brought in. This fuel may not be drained off and stored. Fuel may be drained off only under exceptional circumstances, when the vehicle needs urgent repair. Haulage companies must immediately inform the nearest customs post of such cases. If the volume of fuel in the tank is found not to tally with the written declaration, the haulage company must pay charges to the government.

After the restrictions introduced in 2014 on the import of fuel into Lithuania, final consumption of diesel used in the road transport of heavy grades of oil increased by 25.8%, from 1 044 500 toe in 2013 to 1 314 600 toe in 2015.

Turnover of freight by road increased less dramatically. In 2013, 2014 and 2015, turnover of freight by road grew by 14.68%, from 2 540.2 million tkm in 2013 to 2 913.2 million tkm in 2015.

[7] 2014 report on the activities of Lithuanian Customs [in LT]http://www.cust.lt/mport/failai/veiklos_kryptys/2014_New_Atas_Metine.pdf

**Fig. 5 Final consumption of fuel and energy in transport (%)**

Pie chart keys read, clockwise from top:

Other
Diesel (with biofuel)
Petrol (with biofuel)
LPG
Kerosene-type jet fuel
Natural gas
Biodiesel
Bioethanol

**2010** **2015**

*Source: Statistics Lithuania*

Consumption of fuel and energy in rail transport decreased between 2010 and 2015 by 12.3%. This decrease was the result of the modernisation and upgrading of equipment used in rail transport, and resources from EU and other funds being used to implement modernisation projects (Fig. 6).

**Fig. 6 Consumption of fuel and energy in rail and road transport (toe '000)**

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

*Source: Statistics Lithuania*

5. Major legislative and non-legislative measures implemented in the previous year which contribute towards the overall national energy efficiency targets for 2020

Lithuanian laws:

Law No XII-2702 of 3 November 2016 on improving energy efficiency.

Law No XII-2704 of 3 November 2016 amending Articles 2, 7, 22, 31, 35, 39, 51, 59, 67 and 69 of, and the Annex to, the Law on electricity No VIII-1881.

Law No XII-2703 of 3 November 2016 amending Article 2, 6 and 34 of, and the Annex to, the Law on energy No IX-884.

Law No XII-2706 of 3 November 2016 amending Article 57 of, and the Annex to, the Law on natural gas No VIII-1973

Law No XII-2705 of 3 November 2016 amending Articles 2, 11, 12, 14 and 16 of the Law on the heat sector No IX-1565

Law No XII-2701 of 3 November 2016 amending Article 29 of the Law on the heat sector No IX-1565

**Resolutions of the Government of Lithuania:**

Government Resolution No 152 of 18 February 2016 amending Government Resolution No 1328 of 26 November 2014 approving the plan to improve the energy efficiency of public buildings.

Government Resolution No 332 of 30 March 2016 approving a description of the procedure for monitoring energy resources and energy efficiency.

Government Resolution No 547 of 1 June 2016 approving a description of the procedure for drawing up and implementing programmes to improve the energy efficiency of neighbourhoods.

Government Resolution No 1141 of 16 November 2016 amending Government Resolution No 1725 of 16 December 2009 approving the rules for providing State aid for the renovation (modernisation) of apartment blocks and for monitoring the implementation of projects to renovate (modernise) apartment blocks, and establishing the maximum monthly payment for the cumulative contribution and/or other payments earmarked for a project to renovate (modernise) an apartment block.

Government Resolution No 1277 of 28 December 2016 amending Government Resolution No 1725 of 16 December 2009 approving the rules for providing State aid for the renovation (modernisation) of apartment blocks and for monitoring the implementation of projects to renovate (modernise) apartment blocks, and establishing the maximum monthly payment for the cumulative contribution and/or other payments earmarked for a project to renovate (modernise) an apartment block.

**Orders of the Lithuanian Minister for Energy:**

Order No 1-3 of 6 January 2016 of the Minister for Energy approving description No 1 of the conditions for financing projects under measure No 04.3.2-LVPA-K-102 "Modernisation and development of heating supply networks" forming part of priority No 4 "Promoting energy efficiency and the production and use of renewable energy resources" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 1-14 of 22 January 2016 of the Minister for Energy on the allocation of funding for projects submitted under implementing measure 06.3.1-LVPA-V-104 "Modernisation and development of the natural gas transmission system" forming part of priority No 6 "Development of a sustainable transport and core networks infrastructure" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 1-26 of 5 February 2016 of the Minister for Energy approving the method for establishing heat losses from heating supply pipes.

Order No 1-28 of 8 February 2016 of the Minister for Energy on the allocation of funding for projects submitted under implementing measure 06.3.1-LVPA-V-104 "Modernisation and development of the natural gas transmission system" forming part of priority No 6 "Development of a sustainable transport and core networks infrastructure" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 1-33 of 12 February 2016 of the Minister for the Environment approving description No 1 of the conditions for financing project under measure No 04.4.1-LVPA-K-106 "Modernisation and development of electricity distribution networks" forming part of priority No 4 "Promoting energy efficiency and the production and use of renewable energy resources" under the 2014-2020 Operational Programme for investments from the European Union funds.

Order No 1-63 of 26 February 2016 of the Minister for Energy amending Order No 1-7 of 22 January 2014 of the Minister for Energy on the list of heated and/or cooled buildings of State institutions and establishments owned by the Government and of buildings used by public administration authorities.

Order No 1-3 of 6 January 2016 of the Minister for Energy amending Order No 1-3 of 6 January 2016 of the Minister for Energy approving description No 1 of the conditions for financing project under measure No 04.3.2-LVPA-K-102 "Modernisation and development of heating supply networks" forming part of priority No 4 "Promoting energy efficiency and the production and use of renewable energy resources" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 1-172 of 30 May 2016 of the Minister for Energy approving description No 2 of the conditions for financing project under measure No 06.3.1-LVPA-V-103 "Modernisation and development of the electricity transmission system" forming part of priority No 6 "Development of a sustainable transport and core networks infrastructure" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 1-194 of 4 July 2016 of the Minister for Energy approving description No 1 of the conditions for financing projects under measure 04.3.1-VIPA-V-101 "Renovation of buildings owned by the Government" forming part of priority No 4 "Promoting energy efficiency and the production and use of renewable energy resources" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 1-196 of 5 July 2016 of the Minister for Energy approving description No 2 of the conditions for financing State projects proposed for co-financing from the European Union structural funds under measure No 06.3.1-LVPA-V-103 "Modernisation and development of the electricity transmission system" forming part of priority No 6 "Development of a sustainable transport and core networks infrastructure" under the Operational Programme for investments from the European Union funds.

Order No 1-200 of 11 July 2016 of the Minister for Energy on the allocation of funding for projects submitted under implementing measure 04.4.1-LVPA-K-106 "Modernisation and development of electricity distribution networks" forming part of priority No 6 "Development of a sustainable transport and core networks infrastructure" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 1-221 of 29 July 2016 of the Minister for Energy approving description No 1 of the conditions for funding projects under measure 06.3.1-LVPA-K-107 "Modernisation and development of natural gas distribution systems" forming part of priority No 6 "Development of a sustainable transport and core networks infrastructure" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 1-243 of 12 September 2016 of the Minister for Energy amending Order No 1-200 of the Minster for Energy on the allocation of funding for projects submitted under implementing measure 04.4.1-LVPA-K-106 "Modernisation and development of electricity distribution networks" forming part of priority No 6 "Development of a sustainable transport and

core networks infrastructure" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 1-247 of 15 September of the Minister for Energy on the allocation of funding for projects submitted under implementing measure 06.3.1-LVPA-V-103 "Modernisation and development of the electricity transmission system" forming part of priority No 6 "Development of a sustainable transport and core networks infrastructure" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 1-253 of 23 September 2016 of the Minister for Energy approving description No 2 of the conditions for financing State projects proposed for co-financing from the European Union structural funds under measure No 06.3.1-LVPA-V-104 "Modernisation and development of the natural gas transmission system" forming part of priority No 6 "Development of a sustainable transport and core networks infrastructure" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 1-254 of 26 September 2016 of the Minister for Energy amending Order No 1-3 of 6 January 2016 of the Minister for Energy approving description No 1 of the conditions for funding projects under measure 04.3.2-IVPA-K-102 "Modernisation and development of heating supply networks" forming part of priority No 4 " Promoting energy efficiency and the production and use of renewable energy resources" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 1-266 of 5 October 2016 of the Minister for Energy amending Order No 1-298 of 2 December 2014 approving a plan for implementing priority measures under the 2014-2020 Operational Programme for investments from the European Union funds.

Order No 1-302 of 21 November 2016 of the Minister for Energy amending order No 1-250 of 13 October 2014 of the Minister for Energy approving the schedule for deploying smart metering systems for natural gas.

Order No 1-315 of 29 November 2016 of the Minister for Energy on the allocation of funding for projects submitted under measure 04.3.2-LVPA-K-102 "Modernisation and development of heating supply systems" forming part of priority No 4 " Promoting energy efficiency and the production and use of renewable energy resources" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 1-320 of 5 December 2016 of the Minister for Energy approving a description of the procedure for calculating and monitoring energy savings achieved through measures to enhance energy efficiency.

Order No 1-326 of 12 December 2016 of the Minister for Energy amending Order No 1-196 of 5 July 2016 of the Minister for Energy approving description No 2 of the conditions for financing projects under measure No 06.3.1-LVPA-V-103 "Modernisation and development of the electricity distribution system" forming part of priority No 6 "Development of a sustainable transport and core networks

infrastructure" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 1-338 of 30 December 2016 of the Minister for the Environment approving description No 1 of the conditions for financing projects under measure No 04.1.1-LVPA-K110 "Modernisation and development of electricity distribution networks" forming part of priority No 4 "Promoting small-scale biofuel cogeneration" under the 2014-2020 Operational Programme for investments from the European Union funds.

Order No 1-322 of 21 December 2016 of the Minister for Energy on the allocation of funding for projects submitted under measure 06.3.1-LVPA-K-107 "Modernisation and development of the natural gas systems" forming part of priority No 6 "Development of a sustainable transport and core networks infrastructure" under the 2014-2010 Operational Programme for investments from the European Union funds.

**Orders of the Lithuanian Minister for the Environment**:

Order No D1-297 of 29 April 2016 of the Minister for the Environment on the invitation to draw up pilot investment projects to enhance the energy efficiency of public buildings owned by the municipalities.

Order No D1-438 of 22 June 2016 of the Minister for the Environment approving description No 1 of the conditions for funding projects under measure 04.3.1-APVA-V003 "Promoting the modernisation of apartment blocks and municipal buildings" forming part of priority No 4 "Promoting energy efficiency and the production and use of renewable energy" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No D1-502 of 14 July 2016 of the Minister for the Environment approving a list of State projects to be jointly financed from European Union structural funds under measure 04.3.1-APVA-V003 "Promoting the modernisation of apartment blocks and municipal buildings" forming part of priority No 4 "Promoting energy efficiency and the production and use of renewable energy" under the 2014-2010 Operational Programme for investments from the European Union funds".

Order No D1-560 of 23 August 2016 of the Minister for the Environment on the allocation of funding for a project under measure 04.3.1-APVA-V003 "Promoting the modernisation of apartment blocks and municipal buildings" forming part of priority No 4 "Promoting energy efficiency and the production and use of renewable energy" under the 2014-2010 Operational Programme for investments from the European Union funds".

Order no D1-613 of 13 September 2016 of the Minister for the Environment amending Order No D1-502 of 14 July 2016 of the Minister for the Environment approving a list of State projects to be co-financed from European Union structural funds under measure 04.3.1-APVA-V003 “Promoting the modernisation of apartment blocks and municipal buildings” forming part of priority No 4 “Promoting energy efficiency and the production and use of renewable energy” under the 2014-2010 Operational Programme for investments from the European Union funds".

Order No D1-853 of 5 December 2016 of the Minister for the Environment amending Order No D1-383 of 7 May 2015 of the Minister for the Environment on the allocation of funding to projects under the funding measure “Renovation of designated public and residential buildings (for various social groups) to reduce energy consumption costs by at least 40%”.

Order No 3-421(1.5 E) of 8 December 2016 of the Minister for the Environment approving the description of funding conditions for projects under measure 04.5.1-TID-R-518 “Renovation of local public transport fleets” forming part of priority No 4 “Promoting energy efficiency and the production and use of renewable energy” under the 2014-2010 Operational Programme for investments from the European Union funds".

Order No D1-873 of 12 December 2016 of the Minister for the Environment on the allocation of funding to a project submitted under implementing measure 04.3.1-APVA-V-003 “Promoting the modernisation of apartment blocks and municipal public buildings” forming part of priority No 4 “Promoting energy efficiency and the production and use of renewable energy” under the 2014-2020 Operational Programme for investment from the European Union funds”.

Order No D1-932 of 27 December 2016 of the Minister for the Environment amending Order No D1-383 of 7 May 2015 of the Minister for the Environment on the allocation of funding to projects under the funding measure “Renovation of designated public and residential buildings (for various social groups) to reduce energy consumption costs by at least 40%”.

**Orders of the Lithuanian Minister for Transport and Communications:**

Order No 3-215(1.5 E) of 29 June 2016 of the Minister for Transport and Communications approving the description of funding conditions for projects under measure 04.5.1-TID-V-513 “Creation of sustainable mobility systems” forming part of priority No 4 “Promoting energy efficiency and the production and use of renewable energy” under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 3-265(1.5 E) of 28 July 2016 of the Minister for Transport and Communications approving the description of funding conditions for projects under measure 04.5.1-TID-R-516 "Reconstruction and development of pedestrian and cycle paths" forming part of priority No 4 "Promoting energy efficiency and the production and use of renewable energy" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 3-420(1.4 E) of 8 December 2016 of the Minister for Transport and Communications approving a description of conditions for funding projects under measure 04.5.1-TID-V-517 "Renovation of the urban public transport vehicle fleet" forming part of priority No 4 "Promoting energy efficiency and the production and use of renewable energy" under the 2014-2010 Operational Programme for investments from the European Union funds.

**Orders of the Lithuanian Minister for Agriculture**:

Order No 3D-681 of 17 November 2016 of the Minister for Agriculture approving the rules for the implementation of the measure "Energy efficiency and mitigation of climate change - Replacement or modernisation of main or ancillary engines" forming part of priority one "Promoting environmentally sustainable, resource-efficient, innovative, competitive and knowledge-based fisheries" under the Lithuanian Operational Programme for the fisheries sector 2014-2020.

**Orders of the Lithuanian Minister for the Economy:**

Order No 4-187 of 7 March 2016 of the Minister for the Economy approving description No 1 of the conditions for financing projects under supplementary measure J03-IVG-T "Partial reimbursement of interest" 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" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 4-516 of 5 August 2016 of the Minister for the Economy amending Order No 4-187 of 7 March 2016 approving description No 1 of the conditions for financing projects under supplementary measure J03-IVG-T "Partial reimbursement of interest" 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" under the 2014-2010 Operational Programme for investments from the European Union funds.

Order No 4-647 of 20 October 2016 of the Minister for the Economy approving the conditions for financing project under measure No 04.2.1-LVPA-K-836 "Renewable energy resources for industry LT+" forming part of priority No 4 "Promoting energy efficiency and the

production and use of renewable energy" under the 2014-2020 Operational Programme for investments from the European Union funds.

**Decisions by municipal councils:**

Lithuania's city and district municipalities have implemented programmes to enhance energy efficiency in apartment blocks. Between 2014 and 2016 these programmes were approved by the regional councils of Birštonas, Utena, Skuodas, Panevėžys, Kaišiadoriai, Kėdainiai, Ignalina and Šiauliai, and by Šiauliai municipal council.

The programmes for 2016 were amended in the light of recent data by the regional councils of Molėtai, Mažeikiai and Radviliškis and by Alytus municipal council.

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

In 2014 and 2015, lists of heated and/or cooled buildings of State institutions and establishments owned by the Government and of buildings used by public administration authorities were drawn up and approved by Order No 1-7 of 23 January 2014 of the Minister for Energy approving the list of heated and/or cooled buildings of State institutions and establishments owned by the Government and of buildings used by public administration authorities and by Order No 1-291 of 16 December 2015 approving the list of heated and/or cooled buildings of State institutions and establishments owned by the Government and of buildings used by public administration from 250 to 500 square metres.

**Fig. 7 Floor area of buildings belonging to the Government and not complying with minimum energy performance requirements, energy performance class C ($m^2$)**

Pie-chart keys read:
Floor area of other buildings
Floor area of class D, E, F and G buildings

*Total floor area 250-500 $m^2$* *Total floor area over 500 $m^2$*

*Source: Ministry of Energy of the Republic of Lithuania*

Pursuant to the provisions of Article 5(4) of Directive 2012/27/EU, the Ministry of Energy collects data from central government institutions on new buildings occupied and owned as replacements for specific central government buildings demolished in 2016 and buildings that have been sold, demolished or taken out of use in 2016 due to more intensive use of other buildings. This floor area, according to data provided by the relevant institutions, totalled 41 217 square metres in 2016.

## 7. Energy savings achieved through alternative measures

### Apartment block renovation (modernisation) programme

With a view to implementation of the requirements of Article 7 of Directive 2012/27/EU by 2020, the apartment block renovation (modernisation) programme was amended by Government Decree No 213 of 25 February 2015 amending Government Decree No 1213 of 23 September 2004 approving the apartment block renovation (modernisation) programme.

The object of the programme is to reduce, by the end of 2020, heating energy (fuel) costs in apartment blocks built according to the technical construction standards in force up prior to 1993 by at least 20%, i.e. to reduce the computed annual heating energy (fuel) costs in such buildings by the end of 2020 by at least 1 000 GWh per year.

By way of implementation of the programme's first objective, the plan is to implement 1 500 apartment block renovation (modernisation) projects by 2015, these being financed under the programme and other programmes supported by the Government or approved by the municipalities (from 2005), with this figure rising to at least 4 000 by 2020.

Implementation of programme objectives in 2015, lifetimes of measures and savings effect by 2020:

l. Securing the funding and implementation of projects for the renovation (modernisation) of apartment blocks meeting the programme requirements, granting preferential loans and other statutory State aid to owners of flats and other buildings, encouraging owners of flats and other buildings to implement energy-saving measures.

According to the programme implementation monitoring data provided by the Ministry of the Environment and the publicly-owned Housing Energy Savings Agency, 574 blocks of flats were renovated in 2015 alone. Based on the data submitted, the volume of energy saved in 2015 was 138 GWh, cumulatively equivalent to 828 GWh. The lifetime for building renovation measures is 20 years.

According to the data submitted by the Ministry of the Environment, the volume of energy saved under this programme in 2014 was 25.3 GWh, cumulatively equivalent to 177.1 GWh.

2. Ensuring 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 provided by the Ministry of the Environment, 1 280 measures were implemented in 2015 under objective 2 of the programme, the volume of energy saved being 6.45 GWh. The lifespan 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.

According to the data submitted by the Ministry of the Environment, the volume of energy saved under this measure in 2014 was 41.12 GWh.

The total saving effect of this measure in the two years 2014 and 2015 is 47.57 GWh.

The total saving effect of this programme in the two years 2014 and 2015 is 1 052.67 GWh.

**Tax and excise on fuel**

According to data provided by Statistics Lithuania, Lithuania consumed around 1 519.8 million litres of diesel in 2015, 272.8 million litres of petrol and 229.7 million litres of liquefied natural gas. Lithuania applied a VAT rate of 21% to fuel, 6% higher than the minimum rate of 15% stipulated by the European Union. The 21% excise duty on petrol (+0.07 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 % (+0.09 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 15%, diesel 5% and LPG 30% higher than the higher tax and excise rates found in the European Union. The price elasticities for petrol (-0.58), diesel (-0.25) and LPG (-0.26) are taken from the assessment reports drawn up by Europe Economics for the European Commission (Europe Economics, 15 December 2016, Evaluation of Fiscal Measures in the National Policies and Methodologies to Implement Article 7 of the Energy Efficiency Directive).

Given the volume of fuel sold in Lithuania (petrol, diesel and LPG), the elasticity of demand and in the light of the experience of other countries (Sweden, Spain and Germany) in calculating the fiscal impact of energy savings measures on the consumption of fuel, it is calculated that the higher rates of tax and excise on fuel in 2015 resulted in energy savings of **421.5 GWh**.

The volume of energy saved under this measure in 2014 was **440.42 GWh**.

The total savings effect of this measure from 2014 to 2015 was **861.92 GWh**.

**Renovation of municipal buildings**

The cumulative energy savings for buildings belonging to the Lithuanian municipalities according to 2014 data provided by the Lithuanian business support agency was **15.58 GWh, representing a cumulative amount of 109.06 GWh.** The lifetime for this measure is 20 years.

**Renovation of public buildings at national and regional level**

Implementation of measures to renovate public buildings at national and regional level, according to 2014 data provided by the Lithuanian business support agency, resulted in a saving of **4.73 GWh**, and **1.19 GWh** in 2015. The lifetime for this measure is 20 years.

The total savings effect under this measure between 2014 and 2015 **was 40.25 GWh.**