



MINISTER FOR ENERGY OF THE REPUBLIC OF LITHUANIA

**ORDER
APPROVING THE ENERGY EFFICIENCY IMPROVEMENT ACTION PLAN
FOR 2017-2019**

7 July 2017, No 1-181
Vilnius

Pursuant to the Procedure for monitoring energy resources and energy efficiency, as approved by Resolution No 332 of the Government of the Republic of Lithuania of 30 March 2016 approving the Procedure for monitoring energy resources and energy efficiency,

I hereby approve the Energy Efficiency Improvement Action Plan for 2017-2019 (in annex).

[Signed]

Žygimantas Vaičiūnas
Minister for Energy

APPROVED by
Order No ... of the Minister for Energy of the
Republic of Lithuania of ... 2017.

ENERGY EFFICIENCY IMPROVEMENT ACTION PLAN FOR 2017-2019

CHAPTER I GENERAL PROVISIONS

1. The Energy Efficiency Improvement Action Plan for 2017-2019 (hereinafter ‘the Action Plan’) was drawn up in accordance with the Procedure for monitoring energy resources and energy efficiency, as approved by Resolution No 332 of the Government of the Republic of Lithuania of 30 March 2016 approving the Procedure for monitoring energy resources and energy efficiency. The Action Plan is based on information from the Lithuanian legal framework, including the legal basis for the State management, regulation and supervision of the improvement of energy efficiency.

2. The Action Plan sets out important policy measures for improving energy efficiency and the resulting energy savings that make it possible to achieve the national energy efficiency target.

3. The Action Plan sets out Lithuania’s energy saving target, the efficiency policy measures that include final energy savings among their results and have been approved or are to be approved to achieve that target, the final energy savings for each efficiency policy measure (or combination thereof), the expected savings by 2020, the measurement and/or calculation methodologies used for calculating energy savings, and the energy audit and energy management system.

4. The Action Plan is based on data supplied by Statistics Lithuania, State institutions implementing or planning to implement energy efficiency improvement measures and other institutions. The Action Plan sets out the following energy efficiency improvement measures:

- 4.1. taxes and excise duties on fuel;
- 4.2. renovation of multi-apartment buildings;
- 4.3. improvement of the energy efficiency of public buildings;
- 4.4. energy audits at industrial enterprises;
- 4.5. agreements with energy suppliers on consumer education and consultation;
- 4.6. energy saving agreements with energy undertakings;
- 4.7. boiler replacement in households.

CHAPTER II OVERVIEW OF NATIONAL ENERGY EFFICIENCY IMPROVEMENT TARGETS AND SAVINGS

SECTION ONE INDICATIVE ENERGY EFFICIENCY TARGET FOR THE REPUBLIC OF LITHUANIA

5. In the National Energy Independence Strategy, as approved by Resolution No XI-2133

of the Seimas (Parliament) of the Republic of Lithuania of 26 June 2012 approving the National Energy Independence Strategy, Lithuania has set itself the energy efficiency target of improving energy efficiency by 1.5 % each year until 2020 and achieving final energy savings of 740 ktoe by 2020.

6. Energy needs in 2020 have been forecast on the basis of actual primary and final energy needs in 2015, taking into account the following key factors that will affect energy consumption in the future:

6.1. Growth in gross domestic product (GDP) and the associated increase in energy consumption (in individual sectors). The evaluation of GDP growth is based on the assumption that GDP will grow by an average of 3 % each year until 2020. Thus, in 2020 Lithuania's GDP will be 112 % of its 2016 level. The evaluation of population trends is based on the assumption that, in 2020, Lithuania's population will be 95 % of its 2015 level. Hence, it is to be expected that, GDP per capita in Lithuania in 2020 will be 24 % higher than in 2015.

6.2. Population change and the resulting change in energy consumption (in individual sectors).

7. The dependence of the final energy needs in different sectors of the economy on GDP growth and population change was also evaluated (see Table 1). Separate evaluations were carried out of how electricity needs increase or decrease in different sectors as a result of GDP growth or population change and how heat and final fuel consumption change in the various sectors of the economy.

Table 1. Dependence of final energy needs in different sectors of the economy on GDP growth and population change

	3 % annual GDP growth	1 % population decrease
Industry, construction and agriculture	+2.25	-0
Service sector	+1.05	-0.2
Transport	+0.9	-0.2
Households	+0.15	-0.5

8. Total future final energy needs in Lithuania were evaluated on the basis of the aforementioned assumptions and the actual final energy consumption data for 2015 (4 822.9 ktoe). This is a forecast of total final energy needs which does not take into account the effects of energy saving measures.

9. Without taking into account the effects of energy saving (energy efficiency improvement) measures, final energy needs are forecast to be 4 903 ktoe in 2020.

SECTION TWO LITHUANIA'S ENERGY SAVING TARGET

10. On the basis of the Law of the Republic of Lithuania on improving energy efficiency (hereinafter 'the Law on energy efficiency'), the mandatory energy savings for Lithuania have been set at 11.674 TWh of final energy. This amount is equal to the sum of the amounts of energy savings achieved each year from 1 January 2014 to 1 January 2020, which, according to the statistics provided by Statistics Lithuania, corresponds to 1.5 % of the average final energy

consumption over the period 2010-2012, and is to be reduced by no more than 25 % in the following way:

10.1. by amending the percentage values as follows: 1 % in 2014 and 2015 and 1.25 % in 2016 and 2017; and/or

10.2. by excluding the amount of energy sold for use in activities requiring permits for greenhouse gas emissions, as listed in Annex 1 to the Law of the Republic of Lithuania on Financial Instruments for Climate Change Management; and/or

10.3. by evaluating the energy savings achieved by using high-efficiency cogeneration in the energy production processes and by implementing energy efficiency improvement measures in energy transmission, distribution and supply systems; and/or

10.4. by evaluating energy savings resulting from energy efficiency improvement measures implemented since 31 December 2008.

11. Total final energy consumption in the transport sector is excluded from the calculation of the energy saving target.

12. Total energy savings from measures by 2020, calculated by summation, amount to 3 932.5 GWh, which represents 33.7 % of the required energy savings of 11.67 TWh.

CHAPTER III ENERGY EFFICIENCY IMPROVEMENT POLICY MEASURES

SECTION ONE TAXES AND EXCISE DUTIES ON FUEL

13. According to data supplied by Statistics Lithuania, approximately 1 519.8 million litres of diesel, 272.8 million litres of petrol and 229.7 million litres of liquefied petroleum gas were consumed in Lithuania in 2015. In Lithuania, fuel was subject to 21 % value added tax, i.e. six percentage points higher than the minimum rate of 15 % set by the European Union. Furthermore, the excise duty levied on petrol exceeded the minimum excise duty set for petrol by the European Union by 21 % (+ EUR 0.07 per litre), and the excise duty on liquefied petroleum gas is 243 % (+ EUR 0.09 per litre) higher than the European Union's minimum excise duty on liquefied petroleum gas.

14. It follows from the cumulative effect of the higher rates of tax and excise duty that the petrol, diesel fuel and liquefied petroleum gas prices were 15 %, 5 % and 30 % higher, respectively, because the taxes and excise duties were higher than those laid down by the European Union (see Table 2). The price elasticities for petrol (-0.58), diesel (-0.25) and liquefied petroleum gas (-0.26) are taken from the assessment report 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*).

Table 2. Fuel prices and differences in taxes applied

Indicators	Year	Fuel type			Units
		Diesel	Petrol	Liquefied petroleum gas	
Consumption	2014	1 400	268	241	(million litres)
Price Δ		5	14	28	%
VAT Δ		6	6	6	%
Excise duty Δ		0	21	243	%
Consumption	2015	1 520	273	230	(million litres)
Price Δ		5	15	30	%
VAT Δ		6	6	6	%
Excise duty Δ		0	21	243	%

15. 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, Germany and Estonia) 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 in 2015 resulted in energy savings of 421.5 GWh. The lifetime of this measure is one year. Energy savings under this measure amounted to 374 GWh in 2014. Including savings in 2014, total energy savings under this measure in the period 2014-2015 amount to 795.5 GWh.

SECTION TWO RENOVATION OF MULTI-APARTMENT BUILDINGS

16. The Programme for the renovation (modernisation) of multi-apartment buildings was approved by Resolution No 1213 of the Government of the Republic of Lithuania of 23 September 2004 approving the Programme for the renovation (modernisation) of multi-apartment buildings (hereinafter ‘the Programme for the renovation of multi-apartment buildings’). The purpose of the Programme for the renovation of multi-apartment buildings is to encourage owners of multi-apartment buildings constructed in accordance with the technical construction regulations in force until 1993 to renovate (modernise) those buildings in order to improve their energy performance, and to create the conditions to enable them to do so. Heat energy consumption in multi-apartment buildings constructed in accordance with the technical construction regulations in force until 1993 is around 5 000 GWh per year.

17. The target of the Programme for the renovation of multi-apartment buildings is to reduce heat energy (fuel) consumption in multi-apartment buildings constructed in accordance with the technical construction regulations in force until 1993 by at least 20 % by the end of 2020, i.e. to reduce the calculated annual heat energy (fuel) consumption in such buildings by at least 1 000 GWh per year and carbon dioxide emissions by at least 230 000 tonnes per year in comparison with 2005 by the end of 2020.

18. To achieve that target, the following objectives have been set for the Programme for the renovation of multi-apartment buildings:

18.1. Objective 1: to secure the funding and implementation of projects for the renovation (modernisation) of multi-apartment buildings which meet the requirements of the Programme for

the renovation of multi-apartment buildings, i.e. to provide preferential loans and other statutory State aid to owners of apartments and other premises and to encourage owners of apartments and other premises to take the initiative to implement energy-saving measures;

18.2.Objective 2: to develop public information, education and training on matters relating to improving the energy performance of buildings, their renovation (modernisation) and energy saving.

19. The following will have been implemented by the end of 2020 to achieve objective 1:

19.1. Some 4 000 projects for the renovation (modernisation) of multi-apartment buildings, with financing under the Programme for the renovation of multi-apartment buildings and other programmes supported by the State or approved by the municipalities (as of 2005);

19.2. Some 10 000 energy-saving measures, at the initiative of residents of multi-apartment buildings and managers of the buildings' shared facilities.

20. The following will have been implemented by the end of 2020 to achieve objective 2:

20.1. 90 % improvement of residents' awareness;

20.2 60 % increase in the number of people intending to get involved in implementing the Programme for the renovation of multi-apartment buildings or to implement energy-saving measures independently.

21. Implementation of the Programme for the renovation of multi-apartment buildings is to be coordinated by the Lithuanian Ministry of the Environment. The Ministry of the Environment's data on the results of the measures implemented in the period 2014-2016 are set out Table 3. The building renovation measures have a lifetime of 25 years. Total energy savings under these measures, calculated by summation, will amount to 2 198.7 GWh by 2020.

Table 3. Summary of the results of the measures administrated by the Ministry of the Environment

Title of the programme/measure	Energy savings, GWh		
	2014	2015	2016
Programme for the renovation (modernisation) of multi-apartment buildings	25.26	138.02	208.07
Renovation of multi-apartment buildings, primarily by improving their energy efficiency	12.31	6.44	5.65*
Energy savings, total	37.6	144.5	213.7

*Preliminary data

22 According to the accounting data on buildings registered in the Real Estate Register of the Republic of Lithuania as at 1 January 2017, 95.6 % (790 561 apartments) of the total number of registered apartments (826 613 apartments) were owned by natural persons. As the vast majority of apartments are owned by natural persons, there is no need to separately regulate investments in energy efficiency improvement measures for lessees and lessors or the division of the costs and benefits between them.

SECTION THREE IMPROVEMENT OF THE ENERGY EFFICIENCY OF PUBLIC BUILDINGS

23. Programme to improve the energy efficiency of public buildings (hereinafter 'the Public Buildings Programme'), as approved by Resolution No 1328 of the Government of the Republic of Lithuania of 26 November 2014 approving the Programme to improve the energy efficiency of public buildings. 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:

23.1. to renovate an area of 700 000 m² of public buildings by 2020, including an area of 470 000 m² of public buildings owned by the State (for which the authority responsible is the Lithuanian Ministry of Energy) and an area of 230 000 m² of public buildings owned by the municipalities (for which the authority responsible is the Ministry of the Environment);

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

24. The Public Buildings Programme has set a basic requirement for building renovation, i.e. the energy performance class of the building after renovation must not be lower than C. The Public Buildings Programme is to be financed with funds from the Lithuanian national budget, municipal budgets, the European structural and investment funds, international organisations, private investors and other sources.

25. Projects for improving the energy efficiency of public buildings are to be implemented by applying the energy service company¹ (ESCO) model, allocating a repayable subsidy, applying financial instruments, awarding subsidies or using combinations of those measures. Data on the results of energy efficiency improvement programmes implemented in public buildings in the period 2014-2016 are given in Table 4. The building renovation measures have a lifetime of 25 years. Total energy savings under these measures, calculated by summation, will amount to 938.3 GWh by 2020.

Table 4. Summary results of energy efficiency improvement programmes implemented in public buildings

Title of the programme/measure	Energy savings, GWh		
	2014	2015	2016
Programme to improve the energy efficiency of public buildings / Objective 2: Municipal public buildings	-	-	-
Renovation (modernisation) of the buildings of educational establishments in order to reduce energy consumption costs	-	6.63	9.33
Renovation (modernisation) of public and residential buildings in order to reduce energy consumption costs	-	0.12	0.14
Programme for the renovation (modernisation) of the halls of residence of higher education and vocational training institutions	-	-	162.04
Renovation of public buildings at national and regional level	4.73	1.19	-
Energy savings, total	4.73	7.94	171.5

CHAPTER FOUR ENERGY AUDITS AT INDUSTRIAL ENTERPRISES

26. 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

¹ Lithuania has no list of energy service companies and no interface for them to place information on websites.

‘Audit for industry LT’, which implements Priority 4 ‘Promoting energy efficiency and production and use of renewable energy’ 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 the European Union funds, as approved by Order No 4-933 of the Minister for the Economy of the Republic of Lithuania of 19 December 2014 approving the Plan for implementing priority implementing measures under the 2014-2020 Operational Programme for investments from the European Union funds and the Schedule of instructions for calculating national monitoring indicators.

27. 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:

27.1. micro, small and medium-sized industrial enterprises;

27.2. large industrial enterprises, provided that an energy audit is performed in addition to the mandatory energy audit required under Directive 2012/27/EU.

28. Under measure No 04.2.1-LVPA-K-804 ‘Audit for industry LT’, 18 energy audits have been carried out at industrial enterprises.

SECTION FIVE AGREEMENTS WITH ENERGY SUPPLIERS ON CONSUMER EDUCATION AND CONSULTATION

29. The Law on energy efficiency governs agreements with energy suppliers on consumer education and consultation. Under this Law, energy suppliers have an obligation to conclude and make publicly available agreements with the Lithuanian Ministry of Energy on consumer education and consultation.

30. Agreements on consumer education and consultation must indicate:

30.1. the scope of consumer education and consultation and a timetable for consultation;

30.2. the procedure for submitting reports on the scope of consumer education and consultation (report form, submission timeline);

30.3. information on consumer education and consultation measures;

30.4. the period of validity of the agreement and the procedure for extending it.

31. Energy suppliers must ensure that the scope of, and measures for, consumer education and consultation specified in the agreements are implemented, either by them or by other persons. Newly established energy suppliers must conclude and make publicly available agreements on consumer education and consultation with the Ministry of Energy within six months of being established.

32. The State Energy Inspectorate under the Ministry of Energy is entitled to impose the following penalties on suppliers:

32.1. a warning, for failing to submit a report in the manner prescribed in the agreement on consumer education and consultation;

32.2. a fine of up to 3 % of annual gross income, for refusing to conclude an agreement on consumer education and consultation with the Ministry of Energy or for failing to comply with the requirements or conditions laid down by that agreement.

SECTION SIX

ENERGY SAVING AGREEMENTS WITH ENERGY UNDERTAKINGS

33. The Law on energy efficiency governs energy saving agreements. Under this Law, electricity and gas transmission system and distribution system operators in which the State owns, directly or through undertakings controlled by it, at least half of the shares conferring voting rights at the company's general meeting (hereinafter 'State-controlled operators') have an obligation to conclude and make publicly available energy saving agreements with the Ministry of Energy. Other energy undertakings may also conclude energy saving agreements with the Ministry of Energy.

34. The amounts of energy savings shall be established for energy undertakings as a proportion of the amount of final energy supplied to consumers by each undertaking in the previous year.

35. Energy saving agreements must indicate:

35.1. the mandatory energy and/or greenhouse gas savings for an energy undertaking and the timetable for making those savings;

35.2. the procedure for submitting reports on energy savings (report form, submission timeline);

35.3. information on energy efficiency improvement measures which ensure the required amount of energy savings;

35.4. the financial indicators for investments in energy efficiency improvement measures and the methods for their calculation;

35.5. the period of validity of the agreement and the procedure for extending it.

36. Energy undertakings must make the energy savings laid down in the agreements (either themselves or through other persons), by implementing economically sound energy efficiency improvement measures at final energy consumers' facilities (premises, installations, transport facilities, etc.).

37. Investments by energy undertakings in implementing the energy efficiency improvement measures laid down in the agreements at final energy consumers' facilities are not recognised as a basis for revising State-regulated prices. Energy undertakings must keep the accounts relating to the installation of energy efficiency improvement measures separate from the accounts of their regulated activities.

38. To implement these provisions, a State monetary fund may be established in accordance with the procedure laid down by the Law of the Republic of Lithuania on the State Treasury.

39. The State Energy Inspectorate under the Ministry of Energy is entitled to impose the following penalties on energy undertakings:

39.1. a warning, for failing to submit a report in the manner prescribed in the energy saving agreement;

39.2. a fine of up to 5 % of annual gross income, for refusing to conclude an energy saving agreement with the Ministry of Energy or for failing to comply with the requirements or conditions laid down by that agreement.

40. The procedure for calculating and verifying energy savings (energy resources and energy) by energy undertakings as a result of energy efficiency improvement measures is governed by the Procedure for calculating and monitoring energy savings from energy efficiency improvement measures, as approved by Order No 1-320 of the Minister for Energy of the Republic of Lithuania of 5 December 2016 approving the Procedure for calculating and

monitoring energy savings from energy efficiency improvement measures.

41. When assessing energy savings from efficiency measures, account is to be taken of the responsibility to save a certain amount of energy assumed by each energy supplier that has concluded an energy saving agreement with the Ministry of Energy, entrusted authority or implementing public authority.

42. In July 2016, the electricity supply and distribution and natural gas distribution company AB Energijos skirstymo operatorius (hereinafter 'ESO') launched the pilot project 'Išmanioji apskaita' (smart metering) to install smart electricity meters, together with the consortium of Lithuanian and foreign companies that was the successful tenderer in the international public procurement procedure. The contractors working in joint venture under the contract installed smart electricity meters for 3 000 ESO customers. ESO implemented the pilot project to assess the efficiency of smart meters and their benefits for residents. Smart meters were installed in Vilnius, Šiauliai and Alytus and in Šilutė, Trakai, Varėna and Vilnius districts. Customers were selected for the pilot phase on the basis of their average electricity consumption, the number of apartments in the building and the infrastructure. At the end of the pilot project, carried out pursuant to an obligation imposed by the European Commission, ESO is to decide whether to install smart meters for all of its customers.

43. ESO officially started to provide a new electricity metering automation service after the smart metering pilot project generated considerable interest. In December 2016, 187 smart electricity meters were installed in cooperation with the real estate developers Eika ('EIKA namai Pilaitėje' project) and Merko ('Krokvos 73' multi-apartment building project). ESO's new service also attracted the interest of other real estate companies and is also relevant to multi-apartment building associations, housing administrators, communications operators and other businesses that have a lot of metering points and wish to automate data collection.

44. Since 2017 this service has also been available to individual residents and enterprises.

45. Heat supply undertakings provide heat customers with information on the options for reducing heat consumption and reducing heating costs and useful advice on how to save energy.

SECTION SEVEN BOILER REPLACEMENT IN HOUSEHOLDS

46. The Ministry of Energy is planning to implement measure No 04.3.2-LVPA-V-111 'Boiler replacement in households', which implements Objective 4.3.2 of Priority 4 of the 2014-2020 Operational Programme for investments from the European Union funds.

47. The measure is aimed at replacing individual inefficient biomass-powered boilers with more efficient technologies (individual boilers, heat pumps, solar energy collectors and other energy efficiency devices) using renewable energy sources for heat generation in households not connected to a district heating system.

48. Information on the measure and the conditions for its implementation are set out in the Plan for implementing priority implementing measures under the 2014-2020 Operational Programme for investments from the European Union funds, as approved by Order No 1-298 of the Minister for Energy of the Republic of Lithuania of 2 December 2014 approving the Plan for implementing priority implementing measures under the 2014-2020 Operational Programme for investments from the European Union funds and the Schedule of instructions for calculating national monitoring indicators under the 2014-2020 Operational Programme for investments from the European Union funds, and the project funding conditions approved by order of the Minister for Energy.

49. The Lithuanian Business Support Agency is responsible for the implementation of the measure, and the Ministry of Energy is the supervisory authority. The measure is to be implemented by the Lithuanian Environmental Investment Fund or another institution authorised by the Ministry of the Environment.

50. Under the measure, reimbursement will cover up to 30 % of the costs incurred by households not connected to a district heating system in replacing individual inefficient biomass-powered boilers with individual boilers using more efficient technologies. Financing will be allocated to at least 9 000 households.

51. Implementing the measures envisaged in the plan will achieve the main target, i.e. by 2023, 9 000 biofuel boilers will have been installed in households and other measures will have been taken to achieve more energy-efficient heating, making it possible to save at least 209.34 GWh or 108 000 solid cubic metres of wood each year and to reduce greenhouse gas emissions by at least 2 795 t of CO₂ equivalent.

CHAPTER IV MEASUREMENT AND/OR CALCULATION METHODOLOGIES APPLIED

52. Energy savings are to be evaluated on the basis of these documents and methods:

52.1. The Procedure for monitoring energy resources and energy efficiency, as approved by Resolution No 332 of the Government of the Republic of Lithuania of 30 March 2016 approving the Procedure for monitoring energy resources and energy efficiency. Monitoring of energy resources and energy efficiency (hereinafter ‘monitoring’) encompasses assessment of energy efficiency improvement measures implemented in buildings, installations, technological processes and vehicles, as well as a results summary and forecast.

52.2. Persons who receive State financial support to implement efficiency measures and who have no energy saving agreements with the Ministry of Energy and no energy saving obligations shall, each year, submit details of the efficiency measures implemented to the State authority responsible for implementing the efficiency measures.

52.3. The Procedure for calculating and monitoring energy savings from energy efficiency improvement measures (‘the Calculation Procedure’), as approved by Order No 1-320 of the Minister for Energy of the Republic of Lithuania of 5 December 2016 approving the Procedure for calculating and monitoring energy savings from energy efficiency improvement measures. The Calculation Procedure lays down the procedure for calculating and verifying the amount of energy-resource and energy savings resulting from the implementation of energy efficiency improvement measures.

53. The monitoring results shall be used to draw up national energy efficiency improvement plans, various reports and any other information relating to energy efficiency.

54. When assessing energy savings achieved as a result of efficiency measures that reduce final energy consumption, the following methods shall be used:

54.1. the impact that VAT or excise duty on energy has on reducing energy consumption shall be determined as follows:

54.1.1. on the basis of the latest official data on the elasticity of demand and other available information or on the basis of data from investigations and/or studies carried out by other EU Member States;

54.1.2. taking account of energy savings made as a result of imposing VAT or excise duty on energy at a rate that is higher than the minimum levels of taxation applicable in the European Union.

54.2. Energy savings from accompanying efficiency measures, including fiscal policy measures, are to be calculated separately.

55. Energy savings achieved by implementing energy efficiency improvement measures are to be assessed as follows:

55.1. metering, whereby the energy savings from the installation of efficiency measures or a package of efficiency measures are determined by recording the actual reduction in energy use, taking due account of factors such as the use of financial support and changes in occupancy and the weather which may affect energy consumption;

55.2. calculating energy savings theoretically, whereby the technical parameters of the installations are assessed theoretically. This approach may be used only where establishing robust measured data for a specific installation is difficult or disproportionately expensive, or where carried out on the basis of established methodologies and benchmarks by qualified experts that are independent of the parties implementing the efficiency measures;

55.3. calculating energy savings theoretically, with reference to the results of previous independently monitored energy efficiency improvements in similar installations.

56. The impact of consumer education and consultation agreements on reducing energy use shall be assessed as follows:

56.1. by taking account of the results of surveys to determine consumers' response to advice, information campaigns, energy efficiency labelling, certification schemes or smart metering. This approach may be used only for savings resulting from changes in consumer behaviour. It must not be used for the calculation of energy savings resulting from the installation of efficiency measures;

56.2. by taking account of the consumer information measures implemented by the participating party, which may include, but are not limited to, the publication on the internet, in the press and in other circulated publications of information to final consumers on the benefits of efficiency measures, the organisation of energy saving publicity events, advice given by telephone or on site, training on how to operate heating or cooling systems, reports on annual energy savings and other measures.

57. Energy savings from other energy efficiency improvement measures can be assessed on the basis of measured data by:

57.1. directly metering the energy consumption at the facility where the measure (installation of specific technological equipment, a process, heating system in a building, lighting equipment, etc.) was implemented;

57.2. using energy consumption data from the bills covering the period in question, submitted by energy undertakings before and after implementing the measure;

57.3. using energy sales data collected by energy undertakings before and after implementing the measure;

57.4. using sales data for equipment and devices;

57.5. using data from applied research and surveys;

58. Energy savings for individual energy efficiency improvement measures shall be calculated using a bottom-up approach. In this case, the bottom-up approach is used to assess energy savings from each separately installed energy efficiency improvement measure and aggregate the energy savings achieved by them.

59. The total annual national energy savings shall be calculated by adding up the savings achieved by individual energy efficiency improvement measures.

CHAPTER V PROGRESS RELATING TO THE DEVELOPMENT OF HIGH-EFFICIENCY COGENERATION

60. Under the 2014-2021 National Programme for the development of the heat sector, the goal of reducing heating prices and environmental pollution by giving priority to renewable and/or indigenous energy sources in the fuel mix used for heat production includes the objective of encouraging high-efficiency cogeneration, with a view to increasing the volume of competitive local electricity generation. One of the ways in which that objective is to be achieved is by ensuring that, when new cogeneration capacity is constructed, additional biofuel and/or biogas cogeneration units with an electrical capacity of 43 MW are installed in the district heating systems of other cities (other than Vilnius and Kaunas).

61. The plan for implementing priority implementing measures under the 2014-2020 Operational Programme for investments from the European Union funds includes measure No 04.1.1-LVPA-K-110 'Promotion of small-scale biofuel cogeneration', implementing Priority 4 'Promoting energy efficiency and the production and use of renewable energy' of the 2014-2020 Operational Programme for investments from the European Union funds. The aim of this measure is to ensure more efficient energy production and encourage increased use of renewable energy sources in the heat sector. The installation of small-scale biofuel cogeneration plants is planned in the district heating system. In order to implement this measure, EU structural fund resources (up to EUR 12.0 million) have been allocated for the installation of new biofuel-based high-efficiency cogeneration units (with an electrical capacity of up to 5 MW and a rated thermal input not exceeding 20 MW) in district heating systems (except in Vilnius and Kaunas).

62. On 17 January 2017, a call for proposals was launched in respect of measure No 04.1.1-LVPA-K-110 'Promotion of small-scale biofuel cogeneration'. The deadline for submitting proposals was 17 March 2017. A total of three proposals were received, and further procedures are currently being carried out.

CHAPTER VI ENERGY AUDITS AND ENERGY MANAGEMENT SYSTEMS

63. The performance of energy audits is governed by the Procedure and conditions for auditing energy consumption by buildings, installations and technological processes and the Procedure for the training and certification of specialists carrying out audits of energy consumption by buildings, installations and technological processes, as approved by Order No 1-148 of the Minister for Energy of the Republic of Lithuania of 2 August 2012 approving the Procedure and conditions for auditing energy consumption by buildings, installations and technological processes and the Procedure for the training and certification of specialists carrying out audits of energy consumption by buildings, installations and technological processes.

64. The performance of energy audits for public buildings is governed by the Methodology for performing comprehensive audits of the consumption of energy, energy resources and cold water in public buildings, as approved by Order No 4-184 of the Minister for the Economy of the Republic of Lithuania of 29 April 2008 approving the Methodology for performing comprehensive audits of energy, energy resources and cold water in public buildings.

65. The performance of energy audits for technological processes and installations is

governed by the Methodology for performing audits of the consumption of energy, energy resources and water in technological processes and installations, as approved by Order No 1-141 of the Minister for Energy of the Republic of Lithuania of 10 May 2010 approving the Methodology for performing audits of the consumption of energy, energy resources and water in technological processes and installations.

66. Article 11 of the Law on energy efficiency requires enterprises other than small or medium-sized enterprises to submit their first energy audit report by 1 July 2017 and subsequently at least every four years after the previous energy audit. The energy audit report may be submitted as part of a broader environmental audit if that is performed sooner.

67. Newly established enterprises that are not small or medium-sized enterprises must submit their first energy audit report no later than within two years of the date on which the enterprise was established.

68. Enterprises which are not classed as small or medium-sized enterprises and which have implemented an energy or environmental management system certified by an independent body in accordance with the relevant European Union and international standards do not submit separate energy audit reports if their management system includes an energy audit.

69. A more detailed procedure for performing and supervising energy audits is laid down by the Procedure for the performance of energy audits by enterprises other than small or medium-sized enterprises and for supervising the submission of reports (hereinafter 'the Procedure for audits by large enterprises'), as approved by Order No 1-46 of the Minister for Energy of the Republic of Lithuania of 22 February 2017 approving the Procedure for the performance of energy audits by enterprises other than small or medium-sized enterprises and for supervising the submission of reports.

70. The Procedure for audits by large enterprises applies to enterprises registered and carrying on business in Lithuania which are not classified as micro, small or medium-sized enterprises under the conditions laid down in Article 3(1) to (3) of the Law of the Republic of Lithuania on the development of small and medium-sized enterprises (hereinafter 'large enterprises') and which are performing an energy audit in respect of buildings, installations, technological processes or railway and road vehicles that are owned by them, form an integral part of the enterprise's business activities and are necessary to carry out those activities.

71. During an energy audit, at least 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 must be analysed, provided that this is sufficient to evaluate the energy efficiency indicators and make it possible to reliably identify energy efficiency improvement measures.

72. When determining the technical characteristics of installations that consume energy and evaluating the energy profile of technological parameters, measurements should be taken where it would otherwise not be possible to identify losses of energy, energy resources and water, as required to present conclusions on savings to be made from energy efficiency improvement measures.

73. The audit system is to be supervised and managed by the authority designated by the Ministry of Energy.

74. Results of energy audits over the last three years:

74.1. The total number of energy audits performed (2014-2016) was 287;

74.2. In 2016, there were 380 enterprises with more than 250 employees or an annual turnover exceeding EUR 50 million and an annual balance sheet total exceeding EUR 43 million.

**CHAPTER VIII
FINAL PROVISIONS**

75. This Action Plan may be amended in the light of amendments to the legislation referred to herein.

[Signed]
Žygimantas Vaičiūnas
Minister for Energy
5.7 2017

[Signed]
Vidmantas Macevičius
Deputy Minister for Energy
5.7 2017

Annex to the Energy Efficiency Improvement
Action Plan for 2017-2019

CALORIFIC VALUES OF FUELS

The National Energy Efficiency Improvement Action Plan includes the following recommended conversion factors for the calorific values of fuels

List of recommended conversion factors for the calorific values of fuel¹

Type of fuel	Net calorific value		
	kJ	kgoe	kWh
1 kg coke	28 500	0.676	7.917
1 kg hard coal	17 200-30 700	0.411-0.733	4.778-8.528
1 kg brown coal briquettes	20 000	0.478	5.556
1 kg black lignite	10 500-21 000	0.251-0.502	2.917-5.833
1 kg brown coal	5 600-10 500	0.134-0.251	1.556-2.917
1 kg oil shale	8 000-9 000	0.191-0.215	2.222-2.500
1 kg peat	7 800-13 800	0.186-0.330	2.167-3.833
1 kg peat briquettes	16 000-16 800	0.382-0.401	4.444-4.667
1 kg residual fuel oil (heavy oil)	40 000	0.955	11.111
1 kg light fuel oil	42 300	1.010	11.750
1 kg motor spirit (petrol)	44 000	1.051	12.222
1 kg paraffin	40 000	0.955	11.111
1 kg liquefied petroleum gas	46 000	1.099	12.778
1 kg natural gas (93 % methane)	47 200	1.126	13.10
1 kg liquefied natural gas	45 190	1.079	12.553
1 kg wood (25 % moisture content)	13 800	0.330	3.833
1 kg sawdust pellets/wood bricks	16 800	0.401	4.667
1 kg waste	7 400-10 700	0.177-0.256	2.056-2.972
1 MJ derived heat	1 000	0.024	0.278
1 kWh electrical energy	3 600	0.086	1 ²

¹The calorific value equivalents applied to fuels by Statistics Lithuania may be used.

² Applicable when energy savings are calculated in primary energy terms using a bottom-up approach based on final energy consumption. Electricity savings, expressed in kWh, are calculated by applying a coefficient of 2.5.

[Signed]
Žygimantas Vaičiūnas
Minister for Energy
5.7 2017

[Signed]
Vidmantas Macevičius
Deputy Minister for Energy
5.7 2017



MINISTER FOR ENERGY OF THE REPUBLIC OF LITHUANIA

ORDER

AMENDING ORDER NO 1-149 OF THE MINISTER FOR ENERGY OF THE REPUBLIC OF LITHUANIA OF 30 MAY 2014 APPROVING THE ENERGY EFFICIENCY ACTION PLAN

7 July 2017, No 1-182
Vilnius

I hereby amend Order No 1-149 of the Minister for Energy of the Republic of Lithuania of 30 May 2014 approving the Energy Efficiency Action Plan.

1. I hereby amend Order No 1-149 of the Minister for Energy of the Republic of Lithuania of 30 May 2014 approving the Energy Efficiency Action Plan to read as follows:

‘MINISTER FOR ENERGY OF THE REPUBLIC OF LITHUANIA

ORDER

**APPROVING THE ENERGY EFFICIENCY IMPROVEMENT ACTION PLAN
FOR 2014-2016**

Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (OJ L 315, 14.11.2012, p. 1),

I hereby approve the Energy Efficiency Improvement Action Plan for 2014-2016 (in annex).’

2. I hereby amend the Energy Efficiency Improvement Action Plan for 2014-2016, as approved by Order No 1-149 of the Minister for Energy of the Republic of Lithuania approving the Energy Efficiency Action Plan (hereinafter ‘the Plan’):

2.1. I hereby amend the title of the Plan to read as follows:

**‘ENERGY EFFICIENCY IMPROVEMENT ACTION PLAN
FOR 2014-2016’**

2.2. I hereby amend Annex 4 to the Plan:

2.2.1. I hereby add the following new point 35:

‘35 Each year from 2017 to 2020, it is planned to renovate 3 % of the total floor area of heated and/or cooled buildings owned and occupied by the central government. An Energy Efficiency Fund of EUR 79.65 million has been set up for this purpose and there are also plans to raise private investment. The Energy Efficiency Fund is administered by the private limited liability company Viešųjų investicijų plėtros agentūra (Public Investment Development Agency), which was set up by Government Resolution and is managed by the Ministry of Finance.’;

2.2.2. I hereby add the following new point 36:

‘36 In the 2017-2020 financing period for public buildings, two financing models are

planned to be implemented: The energy service company (ESCO) model or a repayable subsidy, the latter being a new form of financing not yet used in Lithuania. Under the Energy Efficiency Fund, the ESCO model is targeted towards improving the energy profile of public buildings and modernising street lighting. The model is based on the principle that benefits derived from the renovation of buildings are shared by the building's owner and the ESCO. A total of EUR 30 million has been allocated from the European Union structural funds for the repayable subsidy. The repayable subsidy is one of the forms of support, along with financial instruments. National legislation defines a repayable subsidy as a form of project financing where the funds allocated towards financing the project must be repaid by the project promoter, either in full or in part, under the conditions stipulated in the project contract. Preliminary estimates indicate that up to 250 000 m² of public buildings could be renovated by 2020, and the savings achieved by those buildings could, by means of financial engineering measures, ensure the renovation of public buildings in the long term.

2.2.3. The former points 35 to 49 are hereby renumbered as points 37 to 51.

[Signed]
Žygimantas Vaičiūnas
Minister for Energy

[Signed]
Vidmantas Macevičius
Deputy Minister for Energy
5.7 2017