SECOND ENERGY EFFICIENCY ACTION PLAN

2011

LITHUANIA

INTRODUCTION

The Second Energy Efficiency Action Plan (hereinafter referred to as the Action Plan) was drafted pursuant to the provisions of Article 14(2) of Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC (hereinafter referred to as Directive 2006/32/EB).

The main objective of the Action Plan is to describe the results of achieving the intermediate energy saving target for 2010. The Action Plan also presents an overview of the current energy consumption situation and describes newly adopted and envisaged energy efficiency measures aimed at the improvement of energy efficiency that must ensure the achievement of the national energy savings target for 2016.

The national energy savings target for a period of nine years (2008–2016) set in the First Energy Efficiency Action Plan, which was calculated in line with the requirements laid down in Annex I of Directive 2006/32/EC equals 9% of the average final energy consumption in 2001–2005, which is 3 797 GWh. The intermediate energy savings figure for a period of three years (2008–2010) is 1.5% of the average energy end-use in 2001-2005 and is equal to **628 GWh.**

The energy end-use savings for 2010 amount to **780 GWh**, which represents 1.8% of the energy end-use consumption average for 2001–2005 established according to the scope of Directive 2006/32/EC. The energy savings were calculated using the bottom-up method with regard to the energy savings per each energy efficiency improvement measure. Savings for some of the energy efficiency improvement measures described in the Action Plan are not covered, as quantification of their effect is impossible.

The main contributions to the achievement of the 2010 target came from horizontal measures (76%, 590 GWh), the service sector (14%, 110 GWh) and the household sector (10%, 80 GWh) With regard to the impact of individual energy savings measures that have already been implemented, are being implemented or are planned, the energy end-use savings for the 2008–2016 period are estimated at 3 962 GWh, which accounts for 9.4% of the energy end-use average in 2001–2005 established according to the scope of Directive 2006/32/EC. It is estimated that horizontal measures will account for 31% (1240 GWh), the energy sector – 19% (740 GWh), industry – around 14% (565 GWh), the household sector – around 14% (558 GWh), the transport sector – 12% (472 GWh), and the service sector – 9% (374 GWh) of the 2016 savings target.

1. GENERAL CONTEXT OF THE SECOND ENERGY EFFICIENCY PLAN

1.1. National context of energy savings

Gross inland consumption and final energy consumption in 1996–2010

In the 1996–2000, gross inland consumption and final energy consumption decreased due to structural developments in the national economy, new technologies that changed the inherited old energy-intensive technologies, as well as implementation of other energy efficiency measures. With the growth of the national economy that began in 2000, gross inland consumption and final energy consumption began increasing as well. From 2000 to 2007, gross inland consumption went up by 29% and the final energy consumption surged by 34%. Since 2007, gross inland consumption has been decreasing as a result of the economic recession (decreased by 25% compared with 2010).

The intensity of primary energy and final energy consumption (energy consumption per GDP unit, chain-linked volume (hereinafter referred to as GDPi)) decreased by 1.8 times in 1996–2010 as a result of an increase in the GDPi. Figure 1 illustrates the changes in energy consumption and energy intensity during the 1996–2010 period.

Primary and final energy consumption

ktoe

toe/ m LTL

Gross inland consumption Final energy consumption

Primary energy intensity Final consumption intensity

Fig. 1. Changes in gross inland consumption, final energy consumption, primary energy intensity, and final energy consumption intensity, 1996–2010

Changes in final energy consumption over 1996–2010 in different sectors are presented in figure 2. The largest final energy consumption change in the period from 2000 and 2010 occurred in the transport sector (an increase of 48%, from 1 056 to 1 558 ktoe), and energy consumption growth was also recorded in industry (16%) and services (28%). Other sectors (household and agriculture) showed insignificant increases in energy consumption. From 2000, final energy consumption grew by 27% and totalled 4 712 ktoe in 2010.

From 2007, final energy consumption started shrinking in all sectors except for the household sector. The most significant decline in final energy consumption was recorded in the transport sector (16%), followed by industry (4.4%) and agriculture (3.6%). From 2007 to 2010 gross final energy consumption decreased by 5.2%.

In 2010, the largest share of final energy consumption (34%) went to the household sector. The transport sector accounted for 33%, industry for 18% and trade and services for 13% of consumption. The agriculture and construction sectors were responsible for a small share of energy consumption, 2% and 1% respectively.

ktoe

Industry Transport Household sector

Agriculture Services

Fig. 2. Changes in final energy consumption by sector, 1996–2010

Energy consumption in the household sector

Changes in final energy consumption for households are illustrated in figure 3. Until 2000, final energy consumption in households decreased by an average of 3.5% per year, while from 2000 to 2008 it grew by an insignificant 2.8% per year. From 1996 to 2010, a remarkable decrease of 36% in heat consumption was recorded. Natural gas consumption went down by 15% from 1996 to 2010. Those are the main reasons why final energy consumption decreased over the entire period.

ktoe

Other

Coal

Liquefied petroleum gas

Natural gas

Heat

Electricity

Firewood and wood waste

Fig. 3. Changes in final energy consumption in the household sector 1996–2010

Firewood and other wood waste for fuel accounted for the largest share of household energy consumption in 2010 (35%), followed by heat (33%), electricity (14%) and natural gas (10%).

NOTE: the increase in firewood and wood waste consumption in 2010 (a 41% increase on 2009) was predetermined by a change in the calculation methods used by Statistics Lithuania, not by factual growth in the use of the said resources. After Statistics Lithuania recalculates and updates the consumption data for previous years using the new methodology, this information will be updated accordingly.

Energy consumption in the service sector

Figure 5 presents changes in the final energy consumption in the service sector. Prior to 2000, final energy consumption in this sector was decreasing, but this was followed by an average yearly growth of 5.2% over 2000–2007. The fastest growth was recorded for electricity consumption, which rocketed by roughly 74% from 1996 to 2010. Growth in final energy consumption, which began in 2000, is a consequence of the increased consumption of electricity and heat. From 2001 to 2007, electricity and heat consumption increased by 51% and 19%, respectively.

In the 2007–2010 period, final energy consumption edged down by 4.7%, from 633 ktoe in 2007 to 603.1 ktoe in 2010. In 2010, major energy sources in this sector were electricity (40%), heat (34%), natural gas (11%), coal (8%) and firewood and wood waste (5%).

ktoe

Other

Firewood and wood waste

Coal

Natural gas

Heat

Electricity

Fig. 5. Changes in final energy consumption in the service sector

Changes in energy consumption per employee (toe/employee) in the service sector are presented in figure 6. The consumption of heat and fuel (supplied to residents for heating and food preparation purposes) energy (calculated for a standard heating season) went down by 8.6% and that of electricity by 4.3% from 2007 to 2010. The number of employees working in the service sector edged down by 3.8 per cent over the 2007–2010 period. As a result of a smaller labour force and generated added value in this sector, heat consumption also decreased. Despite the decrease in the workforce, electricity consumption in the sector decreased only insignificantly.

toe/employee

Heat and fuel energy Electricity

Fig. 6. Changes in energy consumption per employee in the service sector, 1996–2010

Changes in energy intensity (energy consumption per added value unit, chain-linked volume (hereinafter referred to as AVi)) in the service sector are presented in figure 7. From 2000 to 2008 energy intensity in the service sector declined by 34%. From 2000 to 2008, energy consumption went up by 28%, while the service sector AVi jumped by 67%. The fact that the service AVi grew faster than energy consumption resulted in a decrease in energy intensity in the service sector. In 2009, energy intensity grew by 14% due to a decrease in the added value generated by the sector without any significant changes (a 1% decrease) in energy consumption in the 2008–2009 period. In 2010, energy intensity remained virtually unchanged.

toe/ m LTL AVi

Fig. 7. Energy intensity in the service sector

Energy consumption in industry

Changes in final energy consumption in industry are illustrated in figure 8. Gross final energy consumption in industry decreased prior to 2001 but began rising from 2002.

Electricity consumption rose by 31% from 2001 to 2007. The growth in energy consumption from 2001 was mainly preconditioned by the growing consumption of electricity, natural gas, coal and heat.

In 2007–2010, final energy consumption declined by 15% (152 ktoe). In 2010, the main energy sources in industry were gas (32%), electricity (26%), heat (21%), coal (9%) and firewood and wood waste.

ktoe

Firewood and wood waste

Other

Natural gas

Heat

Electricity

Coke and semi-coke

Coal

Fig.8. Changes in final energy consumption in industry, 1996–2010

Changes in energy intensity (energy consumption per AVi unit) in industry are presented in figure 9. From 2001 to 2008, AVi generated by industry jumped by 65%, while energy consumption increased by 22%, which predetermined a decline in energy intensity by 24%. Energy consumption growth was nearly three times smaller than that of VAi, so the intensity decreasing trends persisted. In comparison with 2008, energy intensity in the industrial sector in 2008 edged up due to a decrease in the sector's VAi. Although energy consumption also declined (by 4.4%), this change was insufficient to sustain the trend of decreasing energy intensity.

toe/m LTL VAi

Fig 9. Energy intensity in industry

Energy consumption in the transport sector

Figure 10 presents changes in final energy consumption in the transport sector in the 1996-2010 period. From 2000 to 2008, final energy consumption in transport grew continuously by an average of 8.5% per year. The main reason for this growth was rapid growth in the number of vehicles. The number of vehicles doubled from 1996 to 2008 mainly driven by growth in the number of cars, which increased by 2.2 times and the number of semi-trailer trucks, which grew by 2.8 times. The growth in the number of these vehicles may be explained by an increase in cargo flows and better economic standing of the population. Cargo turnover jumped b 2.5 times from 1996 to 2008. In the year 1996, there were only 218 cars per 1 000 residents, compared to 498 in 2008.

In 2008–2010 final energy consumption declined by 17% (290 ktoe). In 2010, compared with 2008, when energy consumption in transport was at its peak since 1996, diesel consumption went down by 8.4% (17.7 ktoe), vehicle petrol consumption decreased by

32% (146.3 ktoe), and liquefied petroleum consumption shrank by 12% (25.3 ktoe). This change in fuel consumption is a direct consequence of reduced cargo transportation flows: cargo transportation went down by 14.5% (19 581.4 thou tonnes) in 2010 against 2008.

Major energy sources in the transport sector in 2010 were diesel (63%), petrol (25%) and liquefied petroleum gas (12%).

Ktoe

Other

Kerosene type jet fuel

Diesel (gas oils)

Natural gas

Automotive petrol

Liquefied petroleum gas

Fig. 10. Changes in final energy consumption in the transport sector 1996–2010

Changes in energy consumption per vehicle equivalent (toe/vehicle equivalent) and per tonne kilometre in the transport sector are illustrated by figures 11 and 12, respectively. Energy consumption in road transport changed due to an increase (by 4.2 times) in cargo turnover and an increase (by 2.8 times) in the number of semi-trailer trucks. The energy consumption decrease per vehicle equivalent (by 20% from 1996 to 2010) is associated with the rise in the number of newer and more fuel-efficient vehicles.

toe / vehicle equivalent

Fig. 11. Changes in energy consumption per vehicle equivalent in road transport

Energy consumption in railway transport per tonne kilometre went down by 55% from 1996 to 2010. Although energy consumption decreased by 26%, turnover jumped by 66%. This resulted in a decrease of energy consumption per tonne kilometre.

ktoe/tkm

Fig. 12. Changes in energy consumption per tonne kilometre in railway transport

Changes in energy intensity (energy consumption per AVi unit) in the transport sector are illustrated in figure 13. From 2000 to 2010, energy intensity in the transport sector went down by 23%. Declining energy intensity in the transport sector during the said period was a consequence of AVi growth (by 92%). AVi growth in this period was larger than the increase in energy consumption (by 48%), therefore energy intensity in the transport sector retained a downward tendency.

toe/ m LTL AVi

Fig. 13. Energy intensity in the transport sector

1.2. Overview and results of national final energy savings targets

The national energy savings target for a period of nine years (2008–2016) set in the First Energy Efficiency Action Plan, which was calculated in line with the requirements laid down in Annex I of Directive 2006/32/EC, equals 9% of the average final energy consumption in 2001–2005, which is 3 797 GWh. The intermediate energy savings figure for a period of three years (2008–2010) is 1.5% of the average final energy consumption in 2001–2005 and is equal to 628 GWh. See Table 1.

Table 1. Calculation of the energy savings target

		Final consumption, ktoe					
		2001	**2002**	**2003**	**2004**	**2005**	**Average**
1.	Gross final energy consumption	3877.9	4028.8	4139.6	4307.5	4491.3	4169.0
2.	Final energy consumption by consumers not falling within the scope of Directive 2006/32/EC	456.0	475.0	499.9	525.6	557.1	502.7
3.	Final consumption of fuel not falling within the scope of Directive 2006/32/EC (aviation petrol, petrol and kerosene-type jet fuel)	34.8	30.6	33.0	39.4	50.8	37.7
4.	Final energy consumption according to the scope of Directive 2006/32/EC (1-2-3)	3387.1	3523.2	3606.7	3742.5	3883.4	3628.6
	Energy saving targets:				2010 (1.5%) – **54 ktoe (628 GWh)** 2016 (9%) – **327 ktoe (3797 GWh)**		

In 2008–2010, the calculated final energy savings amounted to 780 GWh and corresponded to 1.8% under the final energy consumption average for 2001–2005 determined according to the scope of Directive 2006/32/EC. In view of the valid, newly adopted and planned energy savings measures, the energy savings target for 2016 amounts to 3 962 GWh and accounts for 9.4% of the final energy consumption average for 2001–2005 determined according to the scope of Directive 2006/32/EC.

Table 2. Targets, results and projections for final energy savings

	Final energy saving targets		**Achieved or planned savings of final energy**	
	Final energy saving target set in the first energy efficiency action plan (GWh)	(%) (compared with the reference year consumption under Directive 2006/32/EC)	Achieved or planned savings of final energy (GWh)	(%) (compared with the reference year consumption under Directive 2006/32/EC)
2010	628	1.5	780	1.8
2016	3797	9	3962	9.4

2. FINAL ENERGY SAVINGS

2.1. Strategies with an impact on final energy savings

The following documents with a bearing on final energy saving have been adopted in the Republic of Lithuania:

1. The National Energy Strategy, approved by Resolution No. X-1046 of 18 January 2007 of the Seimas of the Republic of Lithuania approving the National Energy Strategy (Valstybės žinios (Official Gazette) 2007, No 11-430) sets the objective to improve the consumption efficiency of all types of energy in a way that would bring the energy consumption figures for buildings, various installations and devices, technological processes and transport systems close to those of developed EU Member States.

The National Energy Strategy sets tasks for energy efficiency improvement in the energy generation and transportation sector along with the objective, in effect as of 1 January 2008, to save 9% of final energy in nine years, compared with the final energy consumption in 2005. Pursuant to the requirements of Directive 2006/32/EC, the intermediate energy savings target for a three year (2008–2010) period was set at 1.5% of the average final energy consumption in 2001–2005.

2. One of the main national programme documents promoting energy efficiency is the National Programme for Energy Efficiency Improvement. This is an interinstitutional programme implemented since 1992 and updated every five years with respect to political, economic, social and technological changes. The 2006–2010 programme was approved by Resolution No 443 of the Government of the Republic of Lithuania of 11 May 2006 (Official Gazette 2006, No 54-1956). The objectives of the programme cover the implementation of an energy policy in line with the sustainable development goals and inclusion of energy efficiency in the general policy of the country through activity coordination among sectors, development and application of appropriate regulation and implementation of applied research studies as well as information and educational activities on the issues of efficient use of energy.

3. The Lithuanian Housing Strategy, approved by Resolution No 60 of the Government of the Republic of Lithuania of 21 January 2004 (Official Gazette 2004, No 13-387) aims at reducing the relative consumption of heat and fuel per useful area unit of housing by at least 30%. For the purposes of implementing the Housing Strategy, the Government of the Republic of Lithuania adopted Resolution No 1213 of 23 September 2004 approving the Multi-apartment Building Renovation (Upgrading) Programme (Official Gazette 2004, No 143-5232; 2009, No 112-4776; 2010, No 72-3651).

4. The Lithuanian transport sector development priorities are laid down in the Long-term (until 2025) Lithuanian Transport System Development Programme, approved by Resolution No 692 of the Government of the Republic of Lithuania of 23 June 2005 (Official Gazette 2005, No 79-2860).

2.2 Overview of final energy saving measures and calculation methodology

This chapter presents an overview of the energy efficiency improvement measures completed, currently implemented and planned in the energy consuming sectors to achieve the national indicative energy savings targets for 2010 and 2016 gives the energy savings figures and describes the relevant calculation methods.

In Lithuania, final energy savings are calculated pursuant to the following documents and methods:

1. Rules on the monitoring of efficient use of energy resources and energy, approved by Resolution No 692 of the Government of the Republic of Lithuania of 9 July 2008

(Official Gazette 2008, No 83-3296; 2010, No 7-296) (hereinafter referred to as 'Rules on the monitoring of efficient use of energy resources and energy').

The Rules on the monitoring of efficient use of energy resources and energy establish the requirements governing the conduct of monitoring of buildings, technological processes, installations or transport facilities with introduced measures for energy efficiency improvement which receive financial support from energy efficiency improvement programmes implemented by national authorities.

Monitoring of efficient use of energy resources and energy consists of:

- periodic recording of specific indicators[1] for an object's energy resources and energy consumption;
- periodic recording of ambient indicators[2] of energy;
- evaluation of an object's specific and ambient indicators;
- summarisation and forecasting of an object's specific and ambient indicators, its condition and changes in the condition.

The evaluation of an object's indicators carried out in the course of object monitoring, monitoring summary and projections are used to determine energy savings at the objects, to ensure efficient consumption of energy resources and energy on the national scale, to develop energy efficiency improvement programmes and to create mechanisms for energy resource and energy efficiency.

The monitoring process involves the recipients of financial assistance under the programme, public authorities and bodies administering the programmes implemented by public authorities as well as the Ministry of Energy of the Republic of Lithuania.

Having implemented energy efficiency measures, the recipients of financial assistance under the programmes, record the object's ambient and specific indicators for the same calendar year and the next calendar year and transfer the collected data to the administrator of the respective programme. In the course of monitoring of every object's energy resources and efficient energy consumption, the following items shall be recorded in addition to every object's specific and ambient indicators: the type, number and energy characteristics of implemented measures and the amount of investment in individual measures. Individual programme indicators are evaluated, monitoring is summarised and projections are made by the administrators of respective programmes, who provide the Ministry of Energy with a report on the monitoring of energy resource and energy consumption for the programmes of the previous calendar year.

2. Rules for the calculation of national-scale energy savings, approved by Order No 1-33 of the Minister for Energy of the Republic of Lithuania of 10 April 2009 (Official Gazette 2009, No 43-1695) (hereinafter referred to as 'Rules for the calculation of national-scale energy savings').

Rules for the calculation of national-scale energy savings establish the rules for calculating national-scale energy resource and energy savings upon implementation of the energy efficiency improvement measures, the energy efficiency indicators used in the calculations

[1] **Specific indicators** are indicators dependent on the energy end-user, such as the amount of energy resources and energy consumed in an object, the object's size, the scope of activities carried out in it, and comparative indicators on energy resource and energy consumption for the object.

[2] **Ambient indicators** are indicators independent of the energy end-user, such as the costs of energy resources, energy and facility maintenance, or climatic data of the facility's location.

and the calculation procedure. The provisions of the Rules for the calculation of national-scale energy savings are applied when making calculations of national-scale energy savings and preparing energy efficiency action plans with regard to the requirements laid down in Article 14 of Directive 2006/32/EC.

Energy savings are calculated for individual energy efficiency improvement programmes and mechanisms where their impact on energy efficiency improvement may be measured or calculated and verified. The energy savings amount and the energy efficiency indicators are established by combining the bottom-up method with the top-down method.

The bottom-up method is used to estimate energy savings resulting from each individual measure. Energy savings for individual measures may be estimated using measurement-based data:

- by direct measurement of energy consumption at the object in which the measure was implemented (consumption by a specific technological installation, process, building heating system, light equipment etc);
- the data from the energy bills for the relevant period received from energy companies before and after measure implementation;
- energy sales data of energy companies collected before and after measure implementation;
- data on the sales of equipment and devices;
- data from applied research and surveys.

The amount of saved energy is calculated by conventional methods without results verification (e.g. using default values) or by more complex methods including verification of the results.

When the top-down method is used, the amount of energy saved is calculated by taking the national or sectoral energy savings levels as the initial point. Annual data are updated with regard to external factors (degree days, structural changes, product range etc). Energy savings and energy efficiency indicators are calculated by the top-down method using the changes in energy efficiency indicators in separate sectors of economic activities or in the energy end-use sectors determined by Statistics Lithuania or using other data collected nationally.

Calculations of national energy savings are performed by the state enterprise Energy Agency.

3. Methodological guidelines prepared by the European Commission, ‘Recommendations on Measurement and Verification Methods in the Framework of Directive 2006/32/EC on Energy End-Use Efficiency and Energy Services’.

Energy savings for the 2016 energy savings target have been calculated using the bottom up method taking into account the energy savings for each individual measure. Savings are not presented for some of the energy efficiency improvement measures described in the Action Plan because it is impossible to quantify their effect. Table 3 provides summarised data on energy savings for 2010 and projections for 2016.

Table 3. Savings in 2010 and 2016 by sector (GWh)

Sector	Savings 2010	Projection 2016
Household sector	80	558

Services	110	387
Industry	N/A	565
Energy	N/A	740
Transport	N/A	472
Horizontal measures	590	1240
Total:	**780**	**3962**

For comparison, energy savings in the energy consuming sectors for 2010 was also calculated using the top-down method. The calculations are presented in Chapter 2.2.7 of the Action Plan.

2.2.1. Measures in the household sector

This Chapter presents the description of energy efficiency improvement measures completed, currently implemented or planned in the household sector as well as energy savings for 2010. The savings were calculated using the bottom-up method

No	Energy savings measure	Energy end-use facility	Timeframe (start-end)	2010 energy savings (GWh)	2016 energy savings projection (GWh)
N.1	Demonstration project in the field of energy saving (housing) *(early actions)*	Multi-apartment buildings	1998–2003	20	20
N.2	Multi-apartment building renovation/upgrading programme	Multi-apartment buildings	2005–2020	60	250
N.3	Preferential VAT rate, 9%	Thermal insulation and renovation of multi-apartment buildings	2004–2009	N/A	N/A
N.4	EU Structural Funds for 2007–2013	Multi-apartment buildings	2007–2013	N/A	73
N.5	Visaginas town multi-apartment building renovation programme 'Enervizija' *(new measure)*	Multi-apartment buildings	2011–2013	N/A	60
N.6	Special programme for climate change *(new measure)*	Single or double-apartment buildings; installations for renewable energy resources	2010 – not specified	N/A	155
			Total:	**80**	**558**

Measure title		**Demonstration project in the field of energy saving (housing) *(early actions)***
Measure index		N.1
	Category	Financial instrument
	Timeframe	Start: 1998 End: 2003 Important changes and improvements envisaged: project completed
	Aim/brief description	Aim: to increase energy efficiency in the housing sector
	Legal basis/more information	http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc l?p id=28080&p query=Energijos%20taupymo%20(b%FBsto)%20demonstracinis%20projektas%20&p tr2=2
	Final energy consumption/service facility	Multi-apartment buildings
	Target group	Residents of multi-apartment buildings

	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Energy efficiency saving measures implemented: heating unit renovation, replacement, repair and sealing of windows and doors, heating system renovation, glassing of windows in balconies, repair and thermal insulation of building walls and roofs
	Budget and financial source	Budget of the measure: LTL 52.3 million. World Bank loan of LTL 40 million and State Budget funds.
	Implementing body	Public institution Central Project Management Agency
	Monitoring authority	Ministry of Finance of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Monitoring collected data on factual energy consumption in a building following the renovation, after one heating season. The obtained values are recalculated for a standard heating season and compared with the findings of building energy efficiency audits carried out prior to the renovation. The World Bank report was drafted on the basis of the monitoring findings.
	Energy savings for 2010, 2016	20 GWh
	Assumptions	626 projects for residential building renovation were carried out. The implemented energy saving measures resulted in heat savings of 20-30% on average and 60–70% in some cases.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Programme for the renovation/upgrading of multi-apartment buildings**
Measure index		N.2
	Category	Programme document / financial instrument
	Timeframe	Start: 2005 End: 2020 Important changes and improvements are envisaged: Sate support in 2007 was increased from 30% to 50%. From the start of 2010, the Programme is implemented according to a new financial model under the national and EU initiative JESSICA (Joint European Support for Sustainable Investment in City Areas), which provides for a 15% State assistance and preferential loans at a 3% annual interest rate. By 31 December 2013, 100% of the costs of renovation/upgrading project preparation and performance of technical supervision of construction will be reimbursed to the owners of apartments and other premises. By 31 December 2013, owners of apartments and other premises will receive a 100% compensation for the administrative costs of a renovation/upgrading project, which may not exceed LTL 0.35/m^2 of the useful area of an apartment or total area of other premises per month, excluding the

		value-added tax.
	Aim/brief description	Aim: to encourage the owners of apartments in multi-apartment buildings and other premises to take advantage of the assistance for comprehensive upgrading of multi-apartment buildings and residential districts in order to achieve higher living standards, rational use of energy resources and compensation for reduced budgetary expenditure on heating costs .
	Legal basis/more information	Programme for the renovation/upgrading of multi-apartment buildings (Official Gazette 2004, No 143-5232; 2008, No 36-1282; 2009, No 112-4776).
	Final energy consumption/service facility	Multi-apartment buildings
	Target group	Residents of multi-apartment buildings
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Under the Programme for the renovation/upgrading of multi-apartment buildings, the State provides support to both energy efficiency improvement measures and other building renovation/upgrading measures: major repairs or reconstruction of the heating systems and hot and cold water supply systems; replacement of windows and exterior doors; roof thermal insulation, including installation of new sloping roofs (excluding construction of attic premises); glassing of balconies (loggia) under a unified project; thermal insulation of exterior walls; thermal insulation of cellar ceilings; thermal insulation of wall bases; installation of the equipment for alternative energy sources (sun, wind etc); major repairs and replacement of elevators; replacement or reorganisation of the commonal services of buildings (wastewater systems, electrical and fire prevention installations, drinking water pipes and installations)
	Budget and financial source	This programme is implemented using the funds of the owners of the apartments in multi-apartment buildings, State and municipal budgets, EU Structural Funds, the Ignalina Programme for 2007–2013 and other resources. Specific budgets are approved every year.
	Implementing body	Ministry of Finance of the Republic of Lithuania, Ministry of Social Security and Labour of the Republic of Lithuania, Ministry of Energy of the Republic of Lithuania, Housing and Urban Development Agency
	Monitoring authority	Ministry of the Environment of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings. The energy savings achieved were quantified by means of building energy certification (before and after renovation) and also by estimating factual energy consumption during the heating season. The calculations drew on data presented in the monitoring

		reports for the Programme for the renovation/upgrading of multi-apartment buildings
	Energy savings for 2010, 2016	From 2005 to 2011, 357 multi-apartment buildings were renovated. Average savings of 61 kWh/1 m^2 per year were achieved. With regard to the useful heated area of all renovated multi-apartment buildings, the calculated energy savings total 60 GWh. According to the forecasts on multi-apartment building renovation, the projection for 2016 amounts to 250 GWh.
	Assumptions	Energy savings of around 50% or more are possible following comprehensive renovation of a multi-apartment building (thermal insulation of building walls and roof, replacement of windows, glassing of balconies and renovation of the heating unit)
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Preferential VAT rate of 9%**
Measure index		N.3
	Category	Financial instrument
	Timeframe	Start: 2005 End: 2009
	Aim/brief description	The preferential VAT rate of 9% was applied to residential building construction, renovation and thermal insulation services paid for with the funds of State and municipal budgets, State-granted preferential loans and State special funds.
	Legal basis/more information	Law on the Value-added Tax (Official Gazette 2002, No 35-1271; 2008, No 149-6034).
	Final energy consumption/service facility	Thermal insulation and renovation of residential buildings
	Target group	Dwellers of residential buildings
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Supported building renovation/upgrading measures to improve energy efficiency.
	Budget and financial source	N/A
	Implementing body	Ministry of Finance of the Republic of Lithuania
	Monitoring authority	Ministry of Finance of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Impossible to measure or calculate and verify the effect of the measure
	Energy savings for 2010, 2016	N/A
	Assumptions	Improvement of building energy efficiency or other building renovation/upgrading works allow a reduction

		of energy consumption.
	Overlaps, double counting effect	This measure overlaps with the Programme for the renovation/upgrading of multi-apartment buildings.

Measure title		**European Union Structural Funds 2007–2013**
Measure index		N.4
	Category	Financial instrument
	Timeframe	Start: 2007 End: 2013
	Aim/brief description	Aim: to renovate multi-apartment buildings, in particular by improving their energy efficiency characteristics
	Legal basis/more information	The Description of the funding conditions for projects under the implementing measure VP3-1.1-VRM-03-R 'Renovation of multi-apartment buildings, in particular by improving their energy efficiency characteristics' of priority 1 'Local and urban development, preservation of cultural heritage and nature and their adaptation for tourism development' under the Operational Programme for Cohesion Promotion 2007–2013 (Official Gazette 2009, No 62-2507; 2010, No 128-6553)
	Final energy consumption/service facility	Multi-apartment buildings
	Target group	Dwellers of multi-apartment buildings
	Regional application	Regional level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Activities supported under the measure: upgrading of multi-apartment buildings (repair or reconstruction of heating systems (except radiators inside the apartments, cold and hot water supply systems of buildings, building wastewater removers (except sanitary installations), interior electricity supply systems (except light installations in apartments), fire prevention alarm systems, natural ventilation systems and garbage removal systems; replacement of windows and exterior doors; major repairs or replacement of elevators; glassing of balconies/loggias; major repairs or reconstruction of roofs – additional thermal insulation (also thermal insulation of the ceiling of the top floor), including construction of new insulated sloping roofs (excluding construction of attic premises); thermal insulation of exterior walls (including thermal insulation of building bases and ceilings over passages and construction of paving around buildings)
	Budget and financial source	Resources of EU funds (up to LTL 163 million) and other legal and/or natural persons (minimum of LTL 288 million)
	Implementing body	Public institution Central Project Management Agency

	Monitoring authority	Ministry of the Interior of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	0 GWh in 2010; 73 GWh in 2016
	Assumptions	200 multi-apartment buildings will be renovated by 2015
	Overlaps, double counting effect	This measure does not overlap with other measures

Measure title		**'Visagino Enervizija', Visaginas town Programme for energy efficiency improvement in multi-apartment buildings (*new measure*)**
Measure index		N.5
	Category	Financial instrument
	Timeframe	Start: 2011 End: 2013
	Aim/brief description	Aim: to reduce energy consumption in multi-apartment buildings
	Legal basis/more information	Measure has not been launched yet
	Final energy consumption/service facility	Multi-apartment buildings
	Target group	Dwellers of multi-apartment buildings
	Regional application	Regional level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Repair and/or reconstruction of the external envelope of multi-apartment buildings; upgrading and/or reconstruction of building energy systems by improving their energy characteristics.
	Budget and financial source	Financial sources for the measure: State Budget funds (LTL 81.8 million), funds of the Ignalina NPP Decommissioning Programme (EU funds) (LTL 24 million), preferential loans received under the JESSICA financial instrument (LTL 105 million).
	Implementing body	Public institution Central Project Management Agency, Ministry of Energy of the Republic of Lithuania, Visaginas Town Municipality
	Monitoring authority	Public institution Central Project Management Agency
Energy savings	**Method for savings monitoring/measuring**	Savings will be calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	N/A for 2010 (measure not yet launched); 60 GWh for 2016
	Assumptions	Energy consumption in Visaginas multi-apartment buildings is roughly 40 per cent above (190 kWh/m^2 per year) the average in other towns of the country

		(140 kWh/m^2 per year). It is expected that the implementation of the multi-apartment building upgrading measures for Visaginas town will reduce the factual energy consumption by an average of 82 kWh/m^2 per year (an energy consumption decrease of more than 50%)
	Overlaps, double counting effect	Possible overlap with measure No 2 if projects are financed under the JESSICA financial instrument. In case of an overlap, corrections will be applied to the calculation of energy savings in order to avoid double counting.

Measure title		**Special Programme for climate change (measure: Energy efficiency improvement in the household sector (*new measure*)**
Measure index		N.6
	Category	Financial instrument
	Timeframe	Start: 2010 End: unspecified
	Aim/brief description	Activities supported under the measure: • renovation of single or double-apartment residential buildings of natural and private legal persons to achieve class C of energy performance and reduce energy consumption by at least 20%; • the use of renewable energy sources (sun, wind, bio-fuel, geothermal energy etc) in individual residential buildings.
	Legal basis/more information	Law on the Financial Instruments for Climate Change Management (Official Gazette 2009, No 87-3662; 2010, No 145-7427).
	Final energy consumption/service facility	Single or double-apartment residential buildings, installations for renewable energy sources.
	Target group	Owners of single or double-apartment residential buildings
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	The programme finances the following measures for energy efficiency improvement and renewal: • major repairs or reconstruction of heating and hot and cold water systems; • replacement of windows and exterior doors; • roof thermal insulation; • thermal insulation of exterior walls; • thermal insulation of cellar ceilings; • thermal insulation of wall bases; • installation of equipment for renewable energy

		sources (sun, wind etc); • replacement or reorganisation of the engineering systems of buildings (wastewater systems, electrical and fire prevention installations, drinking water pipes and installations).
	Budget and financial source	LTL 94 million. Funds received for the sale of assigned amount units. Support intensity is 30% of the project value, and the rest is paid by the beneficiary.
	Implementing body	Budgetary institution Lithuanian Environmental Investment Fund
	Monitoring authority	Ministry of Finance of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Savings will be calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	N/A for 2010 (measure not yet launched); 155 GWh for 2016
	Assumptions	The following assumptions were made when calculating the energy savings: • the average area of a private house is 200 m^2, the useful heated area equals 150 m^2, and the total investment amounts to LTL 56 087 per project. The owners of a private house introduce the most efficient saving measures, such as heating system renovation, thermal insulation of the exterior walls of buildings, and replacement of windows and exterior doors. After the renovation, the annual heating costs per square metre decrease by approximately 21% or 85 kWh; • the use of renewable energy sources is expected to decrease CO_2 emissions by 2.24 tonnes per year. On average, a single project with a power of roughly 15 kW saves approximately 47MWh of energy per year.
	Overlaps, double counting effect	This measure does not overlap with other measures.

2.2.2. Measures in the service sector

This chapter provides a description of completed, currently implemented and planned measures for energy efficiency improvement as well as energy savings for 2010. Savings were calculated using the bottom-up method.

No	Energy savings measure	Energy end-use facility	Timeframe (start-end)	2010 energy savings (GWh)	2016 energy savings projection (GWh)
P.1	EU Structural Funds 2004–2006 (*early actions*)	Public buildings	2005–2007	40	40
P.2	School improvement programme (*early actions*)	School buildings	2002–2005	11	11
P.3	Energy saving investment programme for the buildings of	Public authority	2003–2005	4	4

	public authorities (*early actions*)	buildings			
P.4	EU Structural Funds for 2007–2013	Public buildings	2007–2015	16	100
P.5	Programme for the renovation of student dormitories of schools of higher education	Schools of higher education	2006–2009	4	4
P.6	Programme 2006–2008 for the reconstruction of general education and vocational schools and for providing them with teaching aids for	Schools of general education	2006–2008	23	23
P.7	Programme for the renovation and reconstruction of scientific and educational institutions in 2007–2009	Buildings of scientific and educational institutions	2007–2009	1	1
P.8	Programme for the upgrading of educational institutions	Educational institutions	2009–2012	N/A	13
P.9	Programme for library renovation and upgrading in 2003-2013	Library buildings	2003–2013	1	4
P.10	Programme for the upgrading of community centres in 2007–2020	Buildings of community centres	2007–2020	1	6
P.11	Museum upgrading programme 2007–2015	Museum buildings	2007–2015	N/A	1
P.12	Programme for the renovation of prisons and humanization of imprisonment conditions for 2004–2009	Prison buildings	2004–2009	N/A	5
P.13	Special programme 'Implementation of energy saving projects'	Schools, kindergartens-nurseries, hospital buildings	2004–2008	6	6
P.14	Programme for the construction, reconstruction and repair of municipal buildings of educational, cultural, health care, social and other designations and for the provision of material resources to such buildings	Public buildings of municipalities	2003–2008	N/A	5
P.15	Energy efficiency improvement in the pubic buildings of the municipalities in the Ignalina nuclear power plant region	Public buildings of the municipalities in the Ignalina nuclear power plant region	2008 – unspecified	3	19
P.16	Schemes for qualification and certification	All end-users	2005 – unspecified	N/A	N/A
P.17	Requirement to buy energy efficient goods	Domestic appliances, stationery, lighting lamps, heating system	2008 – unspecified	N/A	N/A

		components, vehicles			
P.18	National Programme for the implementation of green procurement	Products and materials, passenger vehicles, passenger transportation services, institutions' equipment and equipment maintenance services, design services, construction work	2008–2011	N/A	N/A
P.19	Special programme for climate change *(new measure)*	Public buildings	2010 – unspecified	N/A	145
			Total:	**110**	**387**

Measure title		**EU Structural Funds 2004–2006 (*early actions*)**
Measure index		P.1
	Category	Financial instrument
	Timeframe	Start: 2005 End: 2007
	Aim/brief description	Aim: to improve energy efficiency in the public building sector
	Legal basis/more information	Resolution No 935 of the Government of the Republic of Lithuania of 2 August 2004 (Official Gazette 2004, No 1123-4486)
	Final energy consumption/service facility	Public buildings
	Target group	Persons working in and visiting public buildings
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Thermal insulation and renovation of public buildings, including external partitions, and renovation of energy installations.
	Budget and financial source	LTL 129 million have been allocated for project implementation. The measure was financed from EU Fund's resources and the budgetary funds of the Republic of Lithuania
	Implementing body	Public institution Lithuanian Business Support Agency, Ministry of the Economy of the Republic of Lithuania
	Monitoring authority	Public institution Lithuanian Business Support Agency
Energy savings	**Method for savings monitoring/measuring**	Monitoring collected data on factual energy consumption in a building following the renovation, after

		one heating season. The obtained values are recalculated for a standard heating season and compared with the findings of building energy efficiency audits carried out prior to the renovation.
	Energy savings for 2010, 2016	40 GWh
	Assumptions	Support (up to 100%) was granted for the implementation of energy savings projects in public buildings. The total of 86 projects were implemented.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**School improvement programme (*early actions*)**
Measure index		P.2
	Category	Financial instrument
	Timeframe	Start: 2002 End: 2005
	Aim/brief description	Main Aim: to essentially improve the teaching of and the teaching environment for pupils in forms 5–10 of general education schools (basic and secondary)
	Legal basis/more information	Resolution No 759 of the Government of the Republic of Lithuania of 28 May 2002 (Official Gazette 2002, No 54-2130).
	Final energy consumption/service facility	Buildings of basic, secondary and boarding schools
	Target group	Employees and pupils of basic, secondary and boarding schools
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	The programme financed the following energy saving measures: replacement of windows and exterior doors, upgrading of engineering systems, thermal insulation of roofs and walls.
	Budget and financial source	Total budget of the measure amounts to LTL 124 million. Programme funding proportions: World Bank loan – 50%, State Budget of the Republic of Lithuania – 25%, participating municipalities – 25%; World Bank loan – LTL 62 million, State Budget of the Republic of Lithuania – LTL 30.8 million; municipality budgets – LTL 30.8 million.
	Implementing body	Ministry of Education and Science of the Republic of Lithuania, municipalities
	Monitoring authority	Ministry of Education and Science of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Monitoring collected data on factual energy consumption in a building following the reconstruction, after one heating season. The obtained values are recalculated for a standard heating season and

		compared with the findings of building energy efficiency audits carried out prior to the reconstruction. The project implemented under the programme was expected to produce heat and electricity savings of 30-40%. Actual energy savings reached roughly 31%.
	Energy savings for 2010, 2016	11 GWh
	Assumptions	In the course of programme implementation, 10 schools were reconstructed in 2002, 29 in 2003, 17 in 2004 and 6 in 2005. Overall, 62 basic education schools were reconstructed during the programme implementation period. The total heated area of the reconstructed buildings is 253 813m^2.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Energy saving investment programme for the buildings of public authorities (*early actions*)**
Measure index		P.3
	Category	Financial instrument
	Timeframe	Start: 2003 End: 2005
	Aim/brief description	The programme's objective is to upgrade and renovate dormitories of schools of higher education, health care institutions and public institutions.
	Final energy consumption/service facility	Buildings of student dormitories, heath care institutions and public institutions
	Target group	Residents of student dormitories, employees and visitors of health care institutions, employees of public institutions
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	When implementing the programme, funds were allocated for the upgrading of the energy facilities of the student dormitories of schools of higher education with the aim of improving student living conditions, hygiene standards and conditions for the use of premises, and to improve energy efficiency in buildings. 50% of the funds provided for projects for the reconstruction of health care institutions went to the replacement of windows and doors and the renovation of building partitions, while the remaining investments were used to renovate the heating facilities (heating unit upgrading and local boiler-house reconstruction). Energy consumption audits as well as investment and technical projects were prepared for every building reconstructed from the programme funds.
	Budget and financial source	The programme's budget is LTL 37 million. The source of the funds is the loan agreement of 28 October 2002 between the Ministry of Finance of the Republic of

		Lithuania and the Nordic Investment Bank.
	Implementing body	Ministry of Finance of the Republic of Lithuania
	Monitoring authority	Public body Central Project Management Agency
Energy savings	**Method for savings monitoring/measuring**	Monitoring collected data on factual energy consumption in a building following the reconstruction, after one heating season. The obtained values are recalculated for a standard heating season and compared with the findings of building energy efficiency audits carried out prior to the reconstruction.
	Energy savings for 2010, 2016	4 GWh
	Assumptions	25 student dormitories of university-level schools of higher education were renovated. A technical energy audit as well as investment and technical projects were prepared for each project. Renovation of the buildings of health care institutions. The provided financial assistance was distributed among 25 health care institutions with regard to the energy audits carried out and the investment projects prepared for their buildings. Renovation of administrative buildings of State institutions. Part of the programme was intended for the renovation of the buildings of public authorities. This included replacement of windows and exterior doors and reconstruction of boiler-houses and over 2 km of heat pipelines. 17 heat units were renovated and 500 m^2 of windows were replaced.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**EU Structural Funds 2007–2013 (Programme for Cohesion Promotion)**
Measure index		P.4
	Category	Financial instrument
	Timeframe	Start: 2007 End: 2015
	Aim/brief description	Aim: to reduce energy consumption in public buildings
	Legal basis/more information	Order No 4-298 of the Minister for the Economy of the Republic of Lithuania of 14 July 2008 amending Order No 4-265 of the Minister for the Economy of the Republic of Lithuania on the approval of the forms for the special part (B) of project funding under the measures ‘National-level renovation of public buildings', 'Regional-level renovation of public buildings' and ‘Public building renovation projects meeting the benefit and quality assessment criteria for measure 1.2 ‘Ensuring energy supply, stability and

		availability and higher energy efficiency‘ under the Lithuanian Single Programming Document 2004–2006’ (Official Gazette 2008, 83-3323).
	Final energy consumption/service facility	Public buildings
	Target group	Persons working at public buildings and visitors
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Repair and/or renovation of public buildings’ external envelope, and upgrading and/or reconstruction of building energy systems by improving their technical characteristics.
	Budget and financial source	The measure is financed from EU funds (LTL 930.9 million) and the budgetary funds of the Republic of Lithuania (LTL 139.6 million)
	Implementing body	Public body Lithuanian Business Support Agency, Ministry of the Economy of the Republic of Lithuania
	Monitoring authority	Public body Lithuanian Business Support Agency
Energy savings	**Method for savings monitoring/measuring**	Monitoring is carried out in accordance with the Rules on the monitoring of efficient use of energy resources and energy. Savings are calculated pursuant to the Rules on the calculation of national-scale energy savings. Energy savings for 2010 were calculated on the basis of data received from 26 project implementing institutions. The benefits brought by the energy efficiency improvement measures implemented in reconstructed buildings are attested by a comparison of actual heat consumption calculated for a standard heating season before and after the reconstruction. The energy savings projection for 2016 was obtained by adding the expected energy savings of the current projects, calculated during the energy consumption audits performed for each building to be reconstructed.
	Energy savings for 2010, 2016	16 GWh in 2010; 100 GWh in 2016
	Assumptions	285 projects will be implemented under the measure ‘National-level renovation of public buildings'. Another 248 projects will be implemented under the measure 'Regional-level renovation of public buildings'. The measure ‘Public building renovation projects meeting the benefit and quality assessment criteria for measure 1.2 ‘Ensuring energy supply, stability and availability and higher energy efficiency‘ under the Lithuanian Single Programming Document 2004–2006’ was used to finance 21 projects, including 14 projects for the reconstruction of the buildings of institutions in the education system, 6 projects for health care institutions and 1 project for the reconstruction of the building of a body providing social services.
	Overlaps, double counting	This measure overlaps with measures P.6 and P.8 and

	effect	part of the funds provided in the budget of this measure was allocated for the implementation of projects under measures P.6 and P.8. In order to avoid double counting, energy savings resulting from measures P.6 and P.8 achieved in projects implemented with the funds taken from the budget of this measure was subtracted from the energy savings under measures P.6 and P.8.

Measure title		**Programme for the renovation of dormitories of schools of higher education**
Measure index		P.5
	Category	Financial instrument
	Timeframe	Start: 2006 End: 2009
	Aim/brief description	Aim: to renovate dormitory buildings, to ensure their compliance with the essential requirements for buildings, and to improve energy efficiency, student living conditions and the conditions of hygiene and use of premises.
	Legal basis/more information	Resolution No 843 of the Government of the Republic of Lithuania of 1 September 2006 (Official Gazette 2006, No 96-3699)
	Final energy consumption/service facility	Buildings of student dormitories of schools of higher education
	Target group	Residents of dormitories of schools of higher education
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Implementing measures: replacement of heating units; reconstruction of heat supply networks; roof repair and thermal insulation; window replacement; external door replacement; repair and thermal insulation of external walls; repair of existing heating systems, installation of new heating systems; repairs of hot, cold and circulation water systems and wastewater systems; repairs of electrical installation and light systems.
	Budget and financial source	The total of LTL 44 million was allocated for Programme implementation. Programme financial sources: State funds (LTL 40 million) and funds of schools of higher education (LTL 4 million).
	Implementing body	Ministry of Education and Science of the Republic of Lithuania
	Monitoring authority	Ministry of Education and Science of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Monitoring is carried out under the Rules on the monitoring of efficient use of energy resources and energy. Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings.

		Monitoring collected data on factual energy consumption in a building following the reconstruction, after one heating season. The obtained values are recalculated for a standard heating season and compared with the findings of building energy efficiency audits carried out prior to the reconstruction.
	Energy savings for 2010, 2016	4 GWh
	Assumptions	In the course of programme implementation, reconstruction work was carried out at the dormitories of 78 Lithuanian schools of higher education. The total heated area of reconstructed buildings amounts to 286 568.86m^2.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Programme 2006–2008 for the reconstruction of general education and vocational schools and for providing them with teaching aids**
Measure index		P.6
	Category	Financial instrument
	Timeframe	Start: 2006 End: 2008
	Aim/brief description	The programme's aim is to enhance the learning conditions for pupils by means of renovation of school buildings and teaching aids and adaptation of the buildings for the introduction of informational and other technologies. Programme tasks: to make better use of the funds allocated for education; to use the funds saved by reducing energy consumption for the improvement of education quality and accessibility; to ensure healthy and safe learning and development conditions for pupils; to teach school personnel to use the structures of reconstructed buildings and installations, to conserve heat and electricity and to ensure adequate maintenance of reconstructed buildings so as to prolong building service time.
	Legal basis/more information	Resolution No 1230 of the Government of the Republic of Lithuania of 16 November 2005
	Final energy consumption/service facility	Buildings of general education and vocational schools
	Target group	Pupils and teachers of general education and vocational schools
	Regional application	National level
Information on measure	**List and description of energy saving actions**	Energy saving measures for programme implementation: replacement of windows and exterior

implementation	**substantiating the measure**	doors, reconstruction of heating units (boiler-houses), heating, water, hot water and wastewater supply systems; thermal insulation of roofs and walls; renovation and installation of electrical and ventilation systems.
	Budget and financial source	In 2006–2007, funding for 52 schools was allocated from the funds of the State Budget and municipal budgets. In 2006–2007, each school received LTL 187 000 of State Budget funds and LTL 625 000 of municipal funds.
	Implementing body	Ministry of Education and Science of the Republic of Lithuania, administrations of municipalities and county governors
	Monitoring authority	Ministry of Education and Science of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Monitoring is carried out under the Rules on the monitoring of efficient use of energy resources and energy. Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings. Monitoring collected data on factual energy consumption in a building following the reconstruction, after one heating season. The obtained values are recalculated for a standard heating season and compared with the findings of building energy efficiency audits carried out prior to the reconstruction.
	Energy savings for 2010, 2016	23 GWh
	Assumptions	52 projects were implemented before 2010. The total area of reconstructed buildings is 286 696.19 m^2.
	Overlaps, double counting effect	This measure overlaps with measure P.4. Under measure 48, P.6 projects were transferred to List No 1 of measure P.4 "State projects, financed under measure VP3-3.4-ŪM-03-V 'National-level renovation of public buildings' of priority 3 'Environment and sustainable development' under the Operational Programme for Cohesion Promotion'". LTL 145 million of EU structural assistance funds and LTL 25 million of State Budget funds were allocated for the implementation of these projects. Energy savings due to project implementation are estimated at 17 GWh. To avoid double counting, these energy savings are specified under measure P.4.

Measure title		**Programme for the renovation and reconstruction of scientific and educational institutions in 2007-2009**
Measure index		P.7
	Category	Financial instrument
	Timeframe	Start: 2007 End: 2009

	Aim/brief description	The aim of the programme is to renovate the buildings of science and higher education institutions, to ensure their compliance with the essential requirements for buildings, to increase the energy efficiency of buildings, to enhance the quality of the process of science and higher education, and to improve the conditions of use and maintenance. The programme's tasks include the reconstruction of the building structures and engineering systems; upgrading of buildings' energy systems; ensuring of compliance of the premises with the requirements laid down in construction technical regulations and hygiene standards; reduction of building use and maintenance expenditure and ensuring of effective use of State funds; renovation and upgrading of buildings and improvement of their energy characteristics.
	Legal basis/more information	Order No ISAK-2456 of the Minister for Education and Science of the Republic of Lithuania of 28 December 2006 (Official Gazette 2007, No 4-174).
	Final energy consumption/service facility	Buildings of science and higher education institutions
	Target group	Employees and students of science and higher education institutions
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	The following measures are implemented to achieve the tasks set in the programme: replacement of windows; roof repair without thermal insulation; roof repair including thermal insulation; replacement of external walls and heating units; reconstruction of exterior heat supply networks; partial renovation of heating systems; installation of new heating systems; repairs of hot, cold and circulation water supply systems and wastewater systems; installation of air supply and removal systems; replacement of exterior doors; repairs of electrical installation and light systems.
	Budget and financial source	The programme budget amounts to LTL 36 million, including LTL 30 million of State funds and LTL 6 million of the funds of science and higher education institutions.
	Implementing body	Ministry of Education and Science of the Republic of Lithuania
	Monitoring authority	Ministry of Education and Science of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Monitoring is carried out under the Rules on the monitoring of efficient use of energy resources and energy. Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings. Monitoring collected data on factual energy consumption in a building following the reconstruction, after one heating season. The obtained values are recalculated for a standard heating season and compared with the findings of building energy efficiency

		audits carried out prior to the reconstruction.
	Energy savings for 2010, 2016	1 GWh
	Assumptions	The programme included 42 projects implemented before 2009. Reconstruction work was carried out at 67 buildings of scientific designation. The total heated area of reconstructed buildings amounts to 334 762 m^2.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Programme for the upgrading of educational institutions**
Measure index		P.8
	Category	Financial instrument
	Timeframe	Start: 2009 End: 2012
	Aim/brief description	The programme's objective is to upgrade educational institutions in order to enable a reduction of energy consumption in buildings and to improve the teaching environment and education quality. The programme's tasks are to renovate the buildings of educational institutions in order to reduce energy consumption; to ensure health and safety conditions for learning and education; to provide some of the general education and vocational schools being upgraded with up-to-date teaching aids, to enable teachers to work with new teaching aids, and to prepare technical projects for building upgrading.
	Legal basis/more information	Resolution No 1290 of the Government of the Republic of Lithuania 3 December 2008 (Official Gazette 2008, 142-5638); Resolution No 559 of the Government of the Republic of Lithuania of 10 June 2009 (Official Gazette 2009, 72-2916).
	Final energy consumption/service facility	Buildings of educational institutions
	Target group	Employees and pupils of educational institutions
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Replacement of windows and exterior doors, renovation of heating units and boiler-houses, upgrading of heating and hot water supply systems, thermal insulation of building roofs and walls, installation of a ventilation system, renovation of electrical fire prevention and security systems; development of technical projects for building upgrading.

	Budget and financial source	Programme implementing measures are funded from the general appropriations for the Ministry of Education and Science in the State Budget of the Republic of Lithuania and the State Investment Programme, European Union and co-financing resources, resources of the Privatisation Fund, and municipal budget funds. Funds requirement for Programme implementation totals LTL 508.2 million, including LTL 490.7 million for building upgrading.
	Implementing body	Ministry of the Economy of the Republic of Lithuania, Ministry of Education and Science of the Republic of Lithuania, municipality administrations, educational institutions.
	Monitoring authority	Ministry of the Economy of the Republic of Lithuania, public body Lithuanian Business Support Agency, Ministry of Education and Science of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Monitoring is carried out under the Rules on the monitoring of efficient use of energy resources and energy. Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings. The energy savings projection for 2016 was obtained by adding the expected energy savings calculated during the energy consumption audits performed for each building to be reconstructed.
	Energy savings for 2010, 2016	N/A for 2010; 13 GWh for 2016
	Assumptions	14 building upgrading projects were implemented before the end of 2010. 148 buildings of educational institutions will be upgraded and technical projects for the upgrading of two buildings will be prepared. The upgrading of buildings is expected to result in energy savings of 20%.
	Overlaps, double counting effect	This measure overlaps with measure P.4. For the purposes of programme implementation, lists of educational institutions to be reconstructed were drawn up, which have been transferred to measure P.4. The amount allocated for the upgrading of educational institutions is LTL 153.56 million. Implementation of these projects will result in energy savings of 27 GWh. To avoid double counting, the said savings have been added to the amount of energy saved under measure P.4. Energy savings for 2016 were determined by adding up the savings that were not transferred to measure P.4. Savings were calculated after reconstruction and implementation of other measures by multiplying the average heat savings per square metre of heated area by the area to be reconstructed. Energy savings expected following energy consumption audits in buildings were also taken into account.

Measure title	**Programme for library renovation and upgrading in 2003-2013**

Measure index		P.9
	Category	Financial instrument
	Timeframe	Start: 2003 End: 2013
	Aim/brief description	The programme's objective is to enable libraries to collect, store and provide the public with the objects of natural cultural and scientific heritage and to ensure the accessibility of library stocks. One of the tasks is to improve library activities by renovating library buildings.
	Legal basis/more information	Resolution No 1454 of the Government of the Republic of Lithuania of 17 September 2002
	Final energy consumption/service facility	Library buildings
	Target group	Library visitors and employees
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Energy saving measures for programme implementation: replacement of windows and exterior doors, renovation of heating units and boiler-houses, upgrading of heating and hot water systems, thermal insulation of building roofs and walls, installation of ventilation systems, renovation and installation of electricity, fire prevention and security systems.
	Budget and financial source	LTL 188.7 million have been allocated for building reconstruction and repairs. Programme measures are financed form the funds of the State Budget of the Republic of Lithuania and municipal budgets.
	Implementing body	Ministry of Culture of the Republic of Lithuania, municipalities
	Monitoring authority	Ministry of Culture of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Monitoring is carried out under the Rules on the monitoring of efficient use of energy resources and energy. Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings Monitoring collected data on factual energy consumption in a building following the reconstruction, after one heating season. The obtained values are recalculated for a standard heating season and compared with the findings of building energy efficiency audits carried out prior to the reconstruction. Calculation of the average heat savings per square metre of heated area after reconstruction and introduction of other measures established the expected heat savings for 2016.
	Energy savings for 2010, 2016	1 GWh for 2010; 4 GWh for 2016
	Assumptions	Buildings with a total area of 5 967 were reconstructed prior to 2010. Reconstruction of buildings with a total area of 28 000 m^2 should be completed by 2016. Based

		on the presented data on reconstructed buildings, it was found that similar measures implemented in buildings save 92 kWh/m^2 of energy on average.
	Overlaps, double counting effect	This measure partially overlaps with measure P.4. Funds (LTL 8 million) for the savings measures in the reconstruction of the National Martynas Mažvydas Library have been allocated under measure P.4. Calculation of the saved amount will require the respective corrections to avoid double counting.

Measure title		**Programme for the upgrading of community centres 2007–2020**
Measure index		P.10
	Category	Financial instrument
	Timeframe	Start: 2007 End: 2020
	Aim/brief description	To create the necessary conditions for the cultural activities of municipal community centres; to improve the working conditions of the staff of municipal community centres; to reduce the operating costs of the buildings of municipal community centres
	Legal basis/more information	Resolution No 785 of the Government of the Republic of Lithuania of 4 August 2006 (Official Gazette 2006, No 88-3470).
	Final energy consumption/service facility	Buildings of municipal community centres
	Target group	Staff and visitors of municipal community centres
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Reconstruction and major repairs of buildings by replacing windows and exterior doors, thermally insulating building partitions and modernising and renovating the engineering systems of buildings.
	Budget and financial source	The programme's budget is LTL 321.8 million. The sources are the funds of the State Budget of the Republic of Lithuania and municipal budgets, EU financial assistance mechanisms and other funds.
	Implementing body	Ministry of Culture of the Republic of Lithuania
	Monitoring authority	Ministry of Culture of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Monitoring is carried out under the Rules on the monitoring of efficient use of energy resources and energy. Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings Monitoring collected data on factual energy consumption in a building following the reconstruction, after one heating season. The obtained values are recalculated for a standard heating season and compared with the findings of building energy efficiency

		audits carried out prior to the reconstruction. Calculation of the average heat savings per square metre of heated area after reconstruction and introduction of other measures determined the expected heat savings for 2016.
	Energy savings for 2010, 2016	1 GWh for 2010; 6 GWh for 2016
	Assumptions	Buildings with a total area of 14 161 were reconstructed prior to 2010. Reconstruction of buildings with a total area of 96 000 m^2 should be completed by 2016. Based on the presented data on reconstructed buildings, it was found that similar measures implemented in buildings save 59 kWh/m^2 of energy on average.
	Overlaps, double counting effect	This measure does not overlap with other measures .

Measure title		**Museum upgrading programme 2007–2015**
Measure index		P.11
	Category	Financial instrument
	Timeframe	Start: 2007 End: 2015
	Aim/brief description	To enable museums to collect, store, restore, exhibit and protect cultural heritage.
	Legal basis/more information	Resolution No 275 of the Government of the Republic of Lithuania of 14 March 2007 (Official Gazette 2007, No 34-1238)
	Final energy consumption/service facility	Museum buildings
	Target group	Staff and visitors of national, republican and municipal museums
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Replacement of windows and exterior doors, renovation of heating units and boiler-houses, upgrading of heating and hot water systems, thermal insulation of building roofs and walls, installation of ventilation systems, renovation and installation of electricity, fire prevention and security systems.
	Budget and financial source	LTL 7.1 million have been allocated for building reconstruction. The sources are the funds of the State Budget of the Republic of Lithuania and the funds of the capital investments envisaged in the State Investment Programme, distributed according to appropriations managers and investment projects, also EU financial assistance.
	Implementing body	Ministry of Culture of the Republic of Lithuania
	Monitoring authority	Ministry of Culture of the Republic of Lithuania
Energy savings	**Method for savings**	Monitoring is carried out under the Rules on the

	monitoring/measuring	monitoring of efficient use of energy resources and energy. Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	N/A for 2010; 1 GWh for 2016
	Assumptions	Buildings with a total area of 3 500 m^2 should be reconstructed by 2016. Judging from the data on analogous reconstructed buildings, implementation of similar measures in buildings is expected to result in average heat savings of 50 kWh/m^2.
	Overlaps, double counting effect	This measure does not overlap with other measures .

Measure title		**Programme for the renovation of prisons and humanization of imprisonment conditions for 2004-2009**
Measure index		P.12
	Category	Financial instrument
	Timeframe	Start: 2004 End: 2009
	Aim/brief description	Aim: to reconstruct prisons by 2010 in order to bring them into compliance with Lithuanian hygiene standards and the requirements laid down in the European Prison Rules, to improve the living environment and health care for prisoners, to move the prison hospital and to provide penal institutions with long-term assets.
	Legal basis/more information	Resolution No 619 of the Government of the Republic of Lithuania of 24 May 2004 (Official Gazette 2004, No 85-3081).
	Final energy consumption/service facility	Prison buildings
	Target group	Prisoners
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Reconstruction of prisons' heat, water and wastewater removal systems in order to reduce their operating costs and enhance the living environment and health care for prisoners. 16 objects have been included in the list of reconstructed facilities.
	Budget and financial source	Programme measures are funded from the State Budget of the Republic of Lithuania and municipal budgets. The total of LTL 81 million has been allocated for the implementation of this programme.
	Implementing body	Prison Department under the Ministry of Justice of the Republic of Lithuania

	Monitoring authority	Prison Department under the Ministry of Justice of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Monitoring is carried out under the Rules on the monitoring of efficient use of energy resources and energy. Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	N/A for 2010; 5 GWh for 2016
	Assumptions	Facilities and structures that have been recognised as requiring emergency care will be reconstructed. The reconstructed heat, water and wastewater removal systems of prisons will allow a reduction of the operating costs of this sector and improve the living environment and health care for prisoners.
	Overlaps, double counting effect	This measure does not overlap with other measures .

Measure title		**Special programme 'Implementation of energy saving projects'**
Measure index		P.13
	Category	Financial instrument
	Timeframe	Start: 2004 End: 2008
	Aim/brief description	The programme objective is to promote energy efficiency by providing financial support (up to 100%) for the implementation of projects improving energy efficiency.
	Legal basis/more information	Order No 4-143 of the Minister for the Economy of the Republic of Lithuania of 27 April 2006 (Official Gazette 2006, No 54-1966)
	Final energy consumption/service facility	Buildings of schools, kindergartens-nurseries and hospitals
	Target group	Employees and visitors of schools, kindergartens-nurseries and hospitals
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	The projects funded the upgrading, repairs and/or reconstruction/construction of a building's heating, ventilation, hot water supply and electricity systems, also the repairs and/or reconstruction/construction of a building's external partitions, external walls, doors, windows, roofs and ceilings bordering on the exterior intended to improve their thermal characteristics, design and engineering services, as well as additional work related to the implementation of the mentioned measures.
	Budget and financial	LTL 15 million were allocated for programme implementation. The funds were transferred to the

	source	special programme by *AB Lietuvos dujos.* From 1999, *AB Lietuvos dujos* repaid the funds received by this company in the form of assistance under the memorandums signed on 12 September 1997 by the European Commission, *AB Lietuvos dujos* and the Ministry of the Economy of the Republic of Lithuania concerning the construction of the Šiauliai gas pipeline and the construction of the Utena gas distribution network.
	Implementing body	Ministry of the Economy of the Republic of Lithuania
	Monitoring authority	Ministry of the Economy of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings Monitoring collected data on actual energy consumption in a building following the reconstruction, after one heating season. The obtained values are recalculated for a standard heating season and compared with the findings of building energy efficiency audits carried out prior to the reconstruction.
	Energy savings for 2010, 2016	6 GWh
	Assumptions	Overall, 22 projects were implemented. Schools, kindergartens-nurseries and hospitals were renovated. The total area of renovated premises amounts to LTL 63 365.3 m^2.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Programme for the construction, reconstruction and repair of municipal buildings of educational, cultural, health care, social and other designations and for the provision of material resources to such buildings for 2003–2008**
Measure index		P.14
	Category	Financial instrument
	Timeframe	Start: 2004 End: unspecified
	Aim/brief description	The aim of the programme is to promote energy efficiency by providing financial assistance (up to 100%) for the implementation of energy efficiency improvement projects.
	Legal basis/more information	Resolution No 425 of the Government of the Republic of Lithuania of 8 April 2003; Resolution No 449 of 19 April 2004; Resolution No 595 of 30 May 2005; Resolution No 481 of 29 May 2006; Resolution No 720 of 11 July 2007; Resolution No 694 of 9 July 2008 (respectively: Official Gazette 2003, No 35-1480; 2004, No 58-2059; 2005, No 69-2674; 2006, No 61-2192; 2007, No 80-3237; 2008, No 83-3298).

	Final energy consumption/service facility	Municipal buildings of educational, cultural, health care, social and administrative designations, street lighting networks, heat sector systems
	Target group	Employees and visitors of municipal buildings of educational, cultural, health care, social and administrative designations
	Regional application	Regional level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Programme funds are used for the repairs and reconstruction of the buildings of kindergartens-nurseries, kindergartens, kindergartens-schools, schools-kindergartens, schools, health care institutions, institutions providing social services, cultural institutions and sports institutions, reconstruction and repairs of municipal and sub-district administrative buildings, reconstruction of street lighting networks, and maintenance of heating, gas supply and water management systems.
	Budget and financial source	LTL 156.45 million were allocated for programme implementation. These funds were allocated for the implementation of the programme from the Privatisation Fund of 2003 under Resolution No 102 of the Government of the Republic of Lithuania of 28 January 2003 on the distribution, according to programmes and appropriations managers, of a part of the resources of the Privatisation Fund of 2003 designated by the Seimas of the Republic of Lithuania for the implementation of the programmes approved by the Government of the Republic of Lithuania and for the reimbursement of experts for their services (Official Gazette 2003, No 11-399)
	Implementing body	Ministry of the Interior, municipality administrations
	Monitoring authority	Ministry of the Interior, municipality administrations
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	N/A for 2010; 5 GWh for 2016 Shortage of data prevents the determination of savings for 2010. The savings projection for 2016 was calculated on the basis of the area of buildings to be reconstructed and average energy savings to result from the envisaged savings measures.
	Assumptions	105 projects included in the programme for 2008. 94 projects included in the programme for 2007. 87 projects included in the programme for 2006. 82 projects included in the programme for 2005. 85 projects included in the programme for 2004. 82 projects included in the programme for 2003.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		Energy efficiency improvement in the pubic buildings of the municipalities in the Ignalina nuclear power plant region
Measure index		P.15
	Category	Financial instrument
	Timeframe	Start: 2009 End: unspecified
	Aim/brief description	The aim is to reduce energy consumption in public buildings
	Legal basis/more information	http://www.cpva.lt/ignalinos-programa/
	Final energy consumption/service facility	The buildings of schools, hospitals, support and art centres in Visaginas, Ignalina and Zarasai municipalities
	Target group	Employees and visitors of schools, hospitals, support and art centres in Visaginas, Ignalina and Zarasai municipalities
	Regional application	Regional level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Repair and/or reconstruction of the external partitions of public buildings, upgrading and/or of building energy systems and improvement of their energy characteristics.
	Budget and financial source	The measure is financed from the Ignalina Nuclear Power Plant Decommissioning Fund. The measure's budget is LTL 21 million.
	Implementing body	Ministry of Energy of the Republic of Lithuania; Visaginas, Ignalina and Zarasai municipalities
	Monitoring authority	Central Project Management Agency
Energy savings	**Method for savings monitoring/measuring**	Monitoring is carried out under the Rules on the monitoring of efficient use of energy resources and energy. Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings. Monitoring collected data on factual energy consumption in a building following the renovation, after one heating season. The obtained values are recalculated for a standard heating season and compared with the findings of building energy efficiency audits carried out prior to the renovation
	Energy savings for 2010, 2016	3 GWh or 2010; 19 GWh for 2016
	Assumptions	Objects already renovated under the programme: Visaginas Town Hospital; a kindergarten-nursery and a gymnasium; Ignalina Town Municipality; Ignalina District Hospital; Zarasai District Municipality, 2 secondary schools.

		Objects to be renovated: Visaginas Town School of Acrobatics; Ignalina Town Č. Kudaba Basic School, and Didžiasalis Secondary School 'Rytas'.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Schemes for qualification and certification**
Measure index		P.16
	Category	Information (training and education)
	Timeframe	Start: 2005 End: unspecified
	Aim/brief description	The aim is to enable consumers to benefit from the services of specialists with adequate qualifications that ensure service quality
	Legal basis/more information	The Procedure and Conditions for energy consumption audits for buildings, technological processes and installations and the Procedure for the training and certification of specialists performing energy consumption audits for buildings, technological processes and installations, approved by Order No 1-75 of the Minister for Energy of the Republic of Lithuania of 16 May 2009 (Official Gazette 2009, No 65-2576); Construction technical regulation STR 1.02.06:2007 'Procedure for acquiring the right to work as the Head of the main areas of construction technical activities and Procedure for the certification of territorial planning specialists', approved by Order No D1-601 of the Minister for the Environment of the Republic of Lithuania of 10 November 2007 (Official Gazette 2007, No 120-4945; 2008, No 123-4708); STR 1.02.09:2005 'Procedure for acquiring the right to perform energy efficiency certification for buildings', approved by Order No D1-641 of the Minister for the Environment of the Republic of Lithuania of 28 December 2005 (Official Gazette 2006, No 2-19; 2006, No 111-4244)
	Final energy consumption/service facility	Specialists in the energy and construction area
	Target group	All end-users
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	The following persons need to undergo certification in order to ensure high-quality services related to energy consumption: • specialists performing energy consumption audits

		for buildings, technological processes and installations; • heads of main areas of construction technical activities; • specialists performing energy efficiency certification for buildings.
	Budget and financial source	N/A
	Implementing body	Ministry of the Environment of the Republic of Lithuania, Ministry of Energy of the Republic of Lithuania
	Monitoring authority	State enterprise Centre for Construction Product Certification, State enterprise Energy Agency
Energy savings	**Method for savings monitoring/measuring**	It is impossible to measure or to calculate and verify the impact of the measure
	Energy savings for 2010, 2016	N/A
	Assumptions	High-quality services provided by qualified specialists contribute to final energy savings.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Energy efficiency requirements for public procurement**
Measure index		P.17
	Category	Regulation
	Timeframe	Start: 2008 End: unspecified
	Aim/brief description	When conducting public procurement of the goods specified in the approved list, Governmental bodies, other authorities and bodies accountable to the Government of the Republic of Lithuania, the Office of the Prime Minister of the Republic of Lithuania, ministries, bodies under ministries, and other State authorities and bodies subordinate to ministries must specify the energy efficiency requirements in the technical specifications of the goods, except in the cases where there are no goods on the market that would meet the energy requirements in accordance with the approved list
	Legal basis/more information	List of goods subject to energy efficiency requirements in procurement procedures and of the energy efficiency requirements applicable to these goods, approved by Resolution No 1023 of the Government of the Republic of Lithuania of 8 October 2008 (Official Gazette 2008, No 121-4600).
	Final energy	Domestic appliances, stationery, lamps for lighting

	consumption/service facility	purposes, heating system elements, vehicles.
	Target group	Governmental bodies, other authorities and bodies accountable to the Government of the Republic of Lithuania, the Office of the Prime Minister of the Republic of Lithuania, ministries, bodies under ministries, and other State authorities and bodies subordinate to ministries
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Circulating pumps must have an autonomous frequency control function; the efficiency class of lighting lamps must be at least B, as specified in the Technical Regulation on energy efficiency labelling for domestic lamps (Official Gazette 2003, No 48-2135); stationery with the 'Energy Star' label or having an equivalent energy efficiency; domestic air conditioners and ovens of efficiency class B as a minimum; domestic dishwashers, combined washing machines with dryers, washing machines, tumble dryers, refrigerators, frozen food compartments, freezers of class A as a minimum; class M1 vehicles (cars) depending on fuel type and engine capacity must not consume more than 4.6-9 litres per 100 km
	Budget and financial source	Unspecified
	Implementing body	Contracting authority
	Monitoring authority	Public Procurement Service
Energy savings	**Method for savings monitoring/measuring**	It is impossible to measure or to calculate and verify the impact of the measure
	Energy savings for 2010, 2016	N/A
	Assumptions	Replacement of new appliances with new ones that are more energy efficient and have a direct effect on energy consumption reduction
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**National Programme for the implementation of green procurement**
Measure index		P.18
	Category	Regulation
	Timeframe	Start: 2008 End: 2011
	Aim/brief description	The programme's objective is to promote green procurement and make sure that the goods, services or works purchased through public procurement

		procedures are as environment-friendly as possible.
	Legal basis/more information	Green procurement implementing measures for 2010–2011 (Official Gazette 2010, No 116-5951).
	Final energy consumption/service facility	Products: paper for writing, printing and copying, other stationery items from paper and cardboard; other stationery items; publishing, printing and printing-related services; passenger vehicles (cars, buses), vehicle maintenance-related services; passenger carriage services; office equipment (printers, fax machines, copiers) and related maintenance services; inks and toners for printers, fax machines and copiers; IT equipment: computers, monitors; cleaning products and services; bulbs; event organisation services; furniture; design services; construction work, construction materials and plumbing; textiles (except wall and floor covers); gardening products and services; food and catering services; equipment and domestic appliances
	Target group	Governmental bodies, other authorities and bodies accountable to the Government of the Republic of Lithuania, the Office of the Prime Minister of the Republic of Lithuania, ministries, bodies under ministries, and other State authorities and bodies subordinate to ministries
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Purchase of environment-friendly goods, services and works.
	Budget and financial source	None
	Implementing body	Contracting authorities
	Monitoring authority	Public Procurement Service, Ministry of the Environment of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Monitoring of green procurement is performed by the Public Procurement service under the Government of the Republic of Lithuania based on the reports submitted by contracting authorities. Summary data of the monitoring are presented on an annual basis to the Ministry of the Environment of the Republic of Lithuania. At present, it is impossible to measure or to calculate and verify the effect of the measure.
	Energy savings for 2010, 2016	N/A
	Assumptions	Replacement of old appliances with new ones, which are more energy efficient, have a direct effect on energy consumption reduction. In public procurement procedures, Governmental bodies and other public authorities and bodies accountable to the Government of the Republic of Lithuania, the Office of the Prime Minister of the Government of the Republic of Lithuania, ministries, bodies under ministries and other authorities and bodies subordinate to the ministries apply

		environmental criteria to at least 10% of all public procurements in 2008, at least 15% in 2009, at least 20% in 2010 and at least 25% in 2011.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Special programme for climate change (measure: Energy efficiency improvement in the service sector *(new measure)***
Measure index		P.19
	Category	Financial instrument
	Timeframe	Start: 2010 End: undefined
	Aim/brief description	Activities supported under the measure: • renovation/upgrading of public buildings by reducing energy consumption; • construction of passive or low-energy public buildings or renovation/upgrading of public buildings to achieve a low or passive consumption of energy; • implementation of measures aimed at the improvement of electricity efficiency in public areas; • the use of renewable energy sources (sun, wind, geothermal energy, bio-fuel etc) in public buildings.
	Legal basis/more information	Law on the Financial Instruments for Climate Change Management (Official Gazette 2009, No 87-3662; 2010, No 145-7427).
	Final energy consumption/service facility	Renovation or installation of new heating, cooling, ventilation, hot water supply, insulation and lighting systems and integrated systems using renewable energy sources
	Target group	All residents
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	The following energy efficiency improvement and renovation/upgrading measures are financed under the programme: • major repair or reconstruction of heating and cold and hot water supply systems; • replacement of windows and exterior doors; • thermal insulation of roofs, including the construction of a new sloping roof (excluding the construction of attics); • glassing of balconies under a single design; • thermal insulation of exterior walls

		• thermal insulation of cellar ceilings; • thermal insulation of wall bases; • installation of equipment for renewable energy sources (sun, wind etc); • major repair and replacement of elevators; • replacement or reorganisation of building services (wastewater, electrical installation, fire prevention, drinking water pipelines and installations); • upgrading of public area lighting.
	Budget and financial source	LTL 370 million. Funds received in respect of approved assigned amount units. Support intensity: • renovation/upgrading of public buildings – 80% of the project value, the rest is paid by the beneficiary; • construction of a passive or low-energy building – 22% of the project value, the rest is paid by the beneficiary; • renovation/upgrading of public buildings to achieve low or passive energy consumption – 80% of the project value, the rest is paid by the beneficiary; • implementation of measures to improve the efficiency of electricity consumption in public areas – 80% of the Project value, the rest is paid by the beneficiary; • the use of renewable energy sources (sun, wind, geothermal energy, bio-fuel etc) in public buildings – 80% of the Project value, the rest is paid by the beneficiary.
	Implementing body	Budgetary institution Lithuanian Environmental Investment Fund
	Monitoring authority	Ministry of the Environment of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Monitoring is carried out under the Rules on the monitoring of efficient use of energy resources and energy. Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	0 GWh in 2010; 145 GWh in 2016
	Assumptions	The following assumptions were made in calculating energy savings: • when calculating the number of projects that could be implemented within the budget specified in the estimate, it was assumed that the average value of a project will be LTL 1 million. From 30 randomly selected renovated public buildings, the 15 most successful projects were picked to determine average energy savings (545 MWh per building per year); • to determine energy savings for passive buildings of social housing, theoretical energy savings of an old building were compared with those of a passive new

		building of social housing. A passive building of the average area (1 950 m^2) saves around 430 MWh of energy per year compared with a standard existing building; • for renewable energy sources it is assumed that CO_2 emissions per year will decrease by 3.44 tonnes. This means that on average one project with a power of 300 kW saves roughly 447 MWh of energy per year; • replacement of lighting lamps in public areas to LED (light-emitting diodes). 764 lamps with an average power of roughly 150 W may be replaced for LTL 1 million. The total power of all installed lamps amounts to 0.115 MW. It is assumed that a LED lamp is at least 50% more effective. The average energy savings per year would amount to 157 MWh.
	Overlaps, double counting effect	This measure does not overlap with other measures.

2.2.3. Measures in the industrial sector

This chapter presents a description of measures completed, currently implemented and planned in the industrial sector to improve energy efficiency. It is impossible to evaluate the effect of individual measures using the bottom-up method.

No	Energy savings measure	Energy end-use facility	Timeframe (start-end)	2010 energy savings (GWh)	2016 energy savings projection (GWh)
PR.1	EU Structural Funds 2007–2013 (co-generation)	Energy generation installations in industrial enterprises	2007–2013	N/A	25
PR.2	EU Structural Funds 2007–2013 (audits) – *Procesas LT*	Energy audits in industrial enterprises	2007–2013	N/A	N/A
PR.3	Lithuanian Environmental Investment Fund	Pollution reducing installations	1999 – unspecified	N/A	N/A
PR.4	Special Programme for climate change (*new measure*)	Systems of sun collectors, wind power plants, bio-fuel boiler-houses and heat pumps	2010 – unspecified	N/A	170
PR.5	Voluntary agreements with industrial enterprises (*planned measure*)	Multi-apartment buildings	Planned in 2012	N/A	370
			Total energy savings:	**N/A**	**565**

Measure title		Structural Funds 2007–2013 (co-generation) – improvement of energy production efficiency
Measure index		PR.1
	Category	Financial instrument
	Timeframe	Start: 2007 End: 2013
	Aim/brief description	The aim is to implement advanced and efficient energy production technologies and increase the efficiency of energy production
	Legal basis/more information	Order No 4-147 of the Minister for the Economy of the Republic of Lithuania on the allocation of funding for projects aimed at the financial assistance from EU Structural Funds under the Lithuanian Strategy 2007–2013 for the use of EU structural assistance and the Operational Programme for cohesion promotion (Official Gazette 2009, No 31-427)
	Final energy consumption/service facility	Energy generating installations of industrial enterprises
	Target group	Legal persons meeting the support granting conditions prescribed by the authority responsible for measure implementation
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Upgrade of co-generation plants and boiler-houses and their connection to the heat supply systems, construction of high-efficiency co-generation plants and their connection to heat supply systems (the heat supply system encompasses the heat consumption system)
	Budget and financial source	EU funds: LTL 57 million, private funds: LTL 57 million
	Implementing body	Public institution Lithuanian Business Support Agency
	Monitoring authority	Ministry of the Economy of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Monitoring is carried out under the Rules on the monitoring of efficient use of energy resources and energy.
	Energy savings for 2010, 2016	N/A in 2010; 25 GWh in 2016
	Assumptions	In 2009, LTL 31.4 million were allocated for the implementation of the projects of industrial enterprises. Project implementation will result in the installation of two water heating boilers (with a 17.4 MW gross power) and three economizers (with a 34 MW total power). On preliminary estimations, increased energy production efficiency in industrial processes will allow final energy

		savings of roughly 25GWh per year.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**EU Structural Funds 2007–2013 – *Procesas LT***
Measure index		PR.2
	Category	Financial instrument
	Timeframe	Start: 2007 End: 2013
	Aim/brief description	The aim is to support the purchase of audit services for energy consumption in industrial processes.
	Legal basis/more information	Description of the Conditions for project funding under VP2-2.1-ŪM-03-K Measure 'Procesas LT' (Official Gazette 2008, No 141-5588).
	Final energy consumption/service facility	Energy audits at industrial enterprises
	Target group	Industrial enterprises that do not participate in the emissions trading system
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Energy consumption audits of the production process will be conducted at industrial enterprises
	Budget and financial source	Budget: LTL 9.3 million. The measure is funded from EU funds and the funds of other legal and/or natural persons.
	Implementing body	Public institution Lithuanian Business Support Agency
	Monitoring authority	Ministry of the Economy of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	It is impossible to measure or to calculate and verify the effect of the measure.
	Energy savings for 2010, 2016	N/A
	Assumptions	The goal is to increase the enterprises' productivity by introducing modern management methods, quality management systems and more efficient energy use in the production process. Funding will be extended for the purchase by enterprises of external consulting services, energy audits of the production process and the purchase of technological audits. An increase of at least 15% is expected in the enterprises' industrial performance during the three years following the implementation of the energy efficiency improvement solutions proposed by the audits.

	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Lithuanian Environmental Investment Fund**
Measure index		PR.3
	Category	Financial instrument
	Timeframe	Start: 1999 End: unspecified
	Aim/brief description	Support is extended to projects related to the reduction of atmospheric emissions of pollutants and greenhouse gases (use of cleaner fuels, introduction of cleaner technologies and installation of pollutant treatment plants, improvement of energy efficiency etc)
	Legal basis/more information	Procedure for the funding and supervision of the investment projects of the Lithuanian Environmental Investment Fund (Official Gazette 2003, No 85-3890; 2010, No 112-5700; 2011, No 46-2206); The funding areas for 2011 under the Programme of the Lithuanian Environmental Investment Fund (Official Gazette 2011, No 59-2834).
	Final energy consumption/service facility	Installations reducing pollution
	Target group	Legal persons
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Investment projects are supported in the form of preferential loans and subsidies. The Fund uses these forms to finance the investment projects with environmental benefits of legal persons registered and pursuing economic activities in accordance with the procedure prescribed in the Republic of Lithuania, the implementation of which reduces the negative environmental effects of economic activities.
	Budget and financial source	LTL 12 million per year. Source: 30% of the collected pollution tax.
	Implementing body	Budgetary institution Lithuanian Environmental Investment Fund
	Monitoring authority	Ministry of the Environment of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	It is impossible to measure or to calculate and verify the effect of the measure.
	Energy savings for 2010, 2016	N/A

	Assumptions	Improved energy production efficiency resulting from the introduction of more advanced technologies will reduce energy consumption in industrial processes.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Special Programme for climate change (measure: Energy efficiency improvement in industry) (*new measure*)**
Measure index		PR.4
	Category	Financial mechanism
	Timeframe	Start: 2010 End: unspecified
	Aim/brief description	This measure supports the introduction in business enterprises of environment-friendly technologies reducing the atmospheric emissions of greenhouse gases
	Legal basis/more information	Law on the Financial Instruments for Climate Change Management (Official Gazette 2009, No 87-3662; 2010, No 145-7427).
	Final energy consumption/service facility	Systems of sun collectors, wind power plants, bio-fuel boiler-houses and heat pumps.
	Target group	Business enterprises
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	The measure supports the installation of sun collectors, wind power plants, bio-fuel boilers and heat pumps
	Budget and financial source	LTL 100 million. Funds received for the transferred assigned amount units. Support intensity amounts to 80% of the project value and the rest is paid by the beneficiary.
	Implementing body	Budgetary institution Lithuanian Environmental Investment Fund
	Monitoring authority	Ministry of the Environment of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	0 GWh for 2010; 170 GWh in 2016
	Assumptions	The calculation of energy savings relied on the assumption that heat is used not only to heat the premises but also in other technological processes. The fact that only base-load heat generation installations were replaced was also taken into account. The number of projects that could be implemented with the allocated

		budget was estimated on the assumption that the average price of an implemented project package is LTL 1.62 million and the power – 500 kW. Average annual savings of greenhouse gases amount to 13 872 tonnes. The fuel energy savings are calculated respectively.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Voluntary agreements with industrial enterprises (*planned measure*)**
Measure index		PR.5
	Category	Mechanisms for energy efficiency improvement
	Timeframe	Start: 2012 End: unspecified
	Aim/brief description	The aim is to promote energy efficiency improvement in industrial enterprises by entering into voluntary agreements with them.
	Final energy consumption/service facility	Optimisation of manufacturing processes, supply management to meet the demand, engines, ventilators, variable speed gears etc.
	Target group	Industrial enterprises that do not participate in the emissions trading system (ETS)
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Implementation of energy efficiency improvement measures at industrial enterprises that do not participate in the ETS. The competent public authorities are expected to enter into voluntary agreements with industrial enterprises that are not involved in the ETS. The voluntary agreements would be based on State-funded energy consumption audits, while industrial enterprises would undertake an obligation to implement economically efficiency measures.
	Budget and financial source	N/A
	Implementing body	Ministry of Energy of the Republic of Lithuania
	Monitoring authority	State enterprise Energy Agency
Energy savings	**Method for savings monitoring/measuring**	Savings will be calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	0 GWh for 2010; 370 GWh in 2016
	Assumptions	Increased energy production efficiency will reduce final energy consumption in industrial processes. The aim is to increase enterprises' productivity by introducing modern management methods, quality management systems and a more efficient energy use in the

		industrial process. The costs of purchasing external consulting services incurred by enterprises, conduct of energy audits of production processes and the purchase technological audit services will be financed. An increase of at least 15% is expected in the enterprises' industrial performance during the three years following the implementation of the energy efficiency improvement solutions proposed by the audits.
	Overlaps, double counting effect	This measure does not overlap with other measures.

2.2.4. Measures in the energy sector

This chapter presents an overview of energy efficiency improvement measures completed, currently implemented and planned in the energy sector. It is impossible to quantify the effect of individual measures using the bottom-up method.

No	Energy savings measure	Energy end-use facility	Timeframe (start-end)	2010 energy savings (GWh)	2016 energy savings projection (GWh)
E.1	Voluntary agreements with energy undertakings on the improvement of final energy efficiency	Households, service sector, industrial enterprises	2010 – unspecified	N/A	740
E.2	Requirements for the introduction of energy accounting and installation of metering devices for accounting purposes	Energy accounting and metering instruments	2002 – unspecified	N/A	N/A
E.3	Installation of advanced energy meters at end-user premises	Producers of heat, electricity and natural gas	2008 – unspecified	N/A	N/A
			Total:	**N/A**	**740**

Measure title		**Voluntary agreements with energy undertakings**
Measure index		E.1
	Category	Energy efficiency improvement mechanisms and other combinations of measures (voluntary agreements with energy undertakings)
	Timeframe	Start: 2009 End: 2016
	Aim/brief description	The aim is to increase energy efficiency and reduce the negative environmental effects of energy consumption
	Legal basis/more information	The Procedure for the conclusion of voluntary agreements, approved by Order No 1-195 of the Minister for Energy of the Republic of Lithuania of

		29 October 2009 (Official Gazette 2009, No 133-5803).
	Final energy consumption/service facility	Households, service sector, industrial enterprises
	Target group	Final consumers in the household, service and industrial sectors
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	The following quantitative energy efficiency improvement targets were set for Lithuanian electricity distribution enterprises, heat suppliers and natural gas suppliers: to reduce final energy consumption by end-users by 10%, compared to the average consumption in 2001–2005.
	Budget and financial source	Funds of energy enterprises
	Implementing body	Ministry of Energy of the Republic of Lithuania
	Monitoring authority	Enterprises that signed voluntary agreements, State enterprise Energy Agency
Energy savings	**Method for savings monitoring/measuring**	On an annual basis, an energy enterprise that has signed a voluntary agreement submits monitoring report to the State enterprise Energy Agency on the obligations implemented in the previous year, which shall provide: a description of energy efficiency improvement methods and measures being implemented; energy savings target and factual savings; a description of the factors that negatively or positively influenced the results of implemented energy efficiency improvement measures.
	Energy savings for 2010, 2016	N/A for 2010; 740 GWh for 2016
	Assumptions	Energy undertakings introduce energy efficiency improvement measures at end-user premises, create the conditions for energy audits, and carry out educational campaigns on energy saving.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Requirements for the introduction of energy accounting and installation of metering devices for accounting purposes**
Measure index		E.2
	Category	Information provision
	Timeframe	Start: 2002 End: unlimited
	Aim/brief description	Aim: a consumer who keeps individual energy records is informed about energy consumption and is interested in reducing it.

	Legal basis/more information	Law on Electricity of the Republic of Lithuania (Official Gazette 2000, No 66-1984; 2004, No 107-3964); Law on the Heat Sector of the Republic of Lithuania (Official Gazette 2003, No 51-2254; 2007, No 130-5259); Rules on the transmission, distribution, storage and supply of natural gas (Official Gazette 2002, No 15-598; 2008, No 58-2189)
	Final energy consumption/service facility	Energy accounting and metering instruments
	Target group	Consumers of heat, electricity and natural gas
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Distribution network operators are responsible for the organisation of metering and accounting for the electricity transmitted via the distribution networks owned by them. The operator is responsible for the installation and maintenance of the metering devices. In multi-apartment buildings, electricity meters must be installed for each apartment. Heat supply meters are installed at the place of heat purchase and sale. The heat supplier shall install these metering devices at its own expense and shall be responsible for their operation. In multi-apartment buildings, heat meters are installed at the place of purchase and sale or, where technologically feasible and preferred by consumers, heat suppliers shall install heat consumption meters in consumers' apartments or other premises at the supply-consumption boundary. A natural gas supplier must, at its own expense, install and operate gas meters within the consumer's premises or near their boundary.
	Budget and financial source	Energy metering devices are installed and operated by energy undertakings that own or otherwise hold energy transmission, distribution or storage facilities, at their own expense.
	Implementing body	Energy undertakings
	Monitoring authority	Energy undertakings, State Energy Inspectorate, Lithuanian Metrology Inspectorate
Energy savings	**Method for savings monitoring/measuring**	It is impossible to quantify energy savings
	Energy savings for 2010, 2016	N/A
	Assumptions	The possibility of recording energy consumption allows energy consumption reduction
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		Installation of advanced energy meters at end-user premises
Measure index		E.3
	Category	Provision of information, regulation (rules)
	Timeframe	Start: 2008 End: unlimited
	Aim/brief description	The aim is to enable energy, electricity and natural gas consumers to record energy consumption at a particular moment in time, to learn how much energy was consumed during a certain period and to read data remotely.
	Legal basis/more information	General Rules for the installation of electrical devices, approved by Order No 4-40 of the Minister for the Economy of the Republic of Lithuania of 31 January 2007 (Official Gazette 2007, No 24-936; 2008, No 58-2190); Rules on the transmission, distribution, storage and supply of natural gas, approved by Order No 43 of the Minister for the Economy of the Republic of Lithuania of 5 February 2002 (Official Gazette 2002, No 15-598; 2008, No 58-2189); Rules for the accounting of heat and heat-carrier amounts, approved by Order No 424 of the Minister for the Economy of the Republic of Lithuania of 21 December 1999 (Official Gazette 1999, No 112-3270).
	Final energy consumption/service facility	Heat, electricity and natural gas meters
	Target group	Consumers of heat, electricity and natural gas
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	To install advanced meters at the premises of heat, electricity and natural gas consumers which accurately reflect factual energy consumption by the end-user and record the exact time of consumption: Heat meters must measure and show the following parameters: 1) integrated amount of heat; 2) integrated heat-carrier amount (volume or mass); 3) flow; 4) instantaneous heat power; 5) heat-carrier temperatures and temperature differences; 6) pressure (heat supplied in the form of steam is

		measured); 7) active or idle time from the start of operation. Heat meters intended for heat sources and the consumers in the first accounting group (the first group includes all heat consumers, except residential buildings, whose total contractual heat power does not exceed 1 MW, as well as consumers having underground networks beyond the accounting unit or an open heat supply system) must calculate average hourly temperatures as well as the amount of heat-carrier supplied and returned per hour during a period of at least one month or have a computer interface to derive such data. It should be possible to view the collected data in the heat meter indicator and to read these data with a portable data collector or by other means. Electricity consumers subject to the maximum allowed power limit of 50 kW must be always provided with electricity meters recording the actual output of the integration period (one hour) during a minimum period of one month and enabling the consumer to view the collected data in the indicator of the electricity meter and/or to read them remotely or by other means, in the following cases: ■ connecting electrical devices of new customers to electricity networks of the operator; ■ replacing the existing meters with new ones, except in cases when installation of such meters requires reconstruction of the internal network or when installation of such meters is not cost-efficient; ■ reconstructing or carrying out major repairs of the building with a total area exceeding 1,000 m^2 which belongs to the customer, when the price of reconstruction or major repairs of the exterior building envelope and engineering systems (heating, ventilation, air conditioning, hot water and lighting) exceeds 25% of residual value of the building, excluding the value of the land plot occupied by the building, or in cases when more than 25% area of the exterior building envelope is reconstructed by way of thermal insulation. This paragraph applies in those cases when the customer provides the operator with documents supporting the aforementioned circumstances. Users of natural gas who at the place of supply of gas annually consume more than 100 000 m^3 of gas are provided with gas metering devices of gas accounting systems which record the actual output of the integration period (one hour) during a minimum period of one month and enable the consumer to view the collected data in the indicator of the electricity meter and/or to read them remotely or by other means, in the following cases: ■ when connecting gas systems of new customers; ■ when replacing the existing installed gas accounting system devices used for measuring gas

		quantity when they become worn-out, except in cases when installation of such gas metering systems is possible only after the reconstruction of the internal network or when their installation is not cost-efficient; ■ when reconstructing or carrying out major repairs of a building with a total area exceeding 1 000 m^2, when the cost of the reconstruction or major repairs of the exterior envelope and engineering systems (heating, ventilation, air conditioning, hot water and lighting) exceeds 25% of residual value of the building, excluding the value of the land plot occupied by the building or in cases when an area of more than 25% of the exterior envelope is reconstructed by thermal insulation. This paragraph applies in those cases when the customer provides the gas company with documents supporting the aforementioned circumstances.
	Budget and financial source	Funds of energy undertakings
	Implementing body	Energy undertakings
	Monitoring authority	Energy undertakings, State Energy Inspectorate, Lithuanian Metrology Inspectorate
Energy savings	**Method for savings monitoring/measuring**	It is impossible to quantify energy savings
	Energy savings for 2010, 2016	N/A
	Assumptions	The possibility of recording energy consumption at a particular moment in time, to learn how much energy was consumed during a certain period and to read data remotely to allow energy consumption reduction.
	Overlaps, double counting effect	This measure does not overlap with other measures.

2.2.5. Measures in the transport sector

This chapter presents an overview of energy efficiency improvement measures completed, currently implemented and planned in the energy sector. It is impossible to quantify the effect of individual measures using the bottom-up method.

No	Energy savings measure	Energy end-use facility	Timeframe (start-end)	2010 energy savings (GWh)	2016 energy savings projection (GWh)
T.1	National Strategy for transport and communications	Improvement of the transport and communications infrastructure, renewal of the vehicle fleet, promotion of efficient fuel use,	Planned in 2011	N/A	335

		upgrading of the public transportation system			
T.2	State technical inspection of vehicles	Vehicle fleet	1994 – unspecified	N/A	50
T.3	EU Structural Funds 2007–2013 (comprehensive development of ecological public transport)	Public transportation and its infrastructure	2007–2013	N/A	25
T.4	EU Structural Funds 2007–2013 (priority 'Essential economic infrastructure' of the Operational Programme for economic growth)	Transport infrastructure objects	2007–2013	N/A	N/A
T.5	Improvement of road infrastructure and reduction of traffic congestion	Road transport infrastructure	2000–2015	N/A	50
T.6	Campaign for car-free commuting in the city	Informational activities, educational campaign	2002– unspecified	N/A	N/A
T.7	Automatic transport management systems (*new measure*)	Transport control and management infrastructure	2006– unspecified	N/A	7
T.8	Eco-driving (*new measure*)	Improvement of the methodology for primary driver training	2010– unspecified	N/A	N/A
T.9	Energy labelling of tyres (*new measure*)	Tyres for vehicles in classes C1, C2 and C3	2012– unspecified	N/A	N/A
T.10	Public procurement for efficient transport (*new measure*)	Energy-efficient road vehicles	2011– unspecified	N/A	N/A
T.11	Special Programme for climate change (*new measure*)	New vehicles for public transportation	2010– unspecified	N/A	5
			Total:	**N/A**	**472**

Measure title		**National Strategy for transport and communications**
Measure index		T.1
	Category	Programme document
	Timeframe	Start: 2011 End: 2030
	Aim/brief description	The Strategy will set out organisational, legal and economic measures, measures for technology improvement and introduction, measures for applied research and measures for public education and awareness-raising aimed at energy efficiency

		improvement. The following main key measures are envisaged: ▪ to implement bike sharing programmes and to develop the short-distance bicycle transportation infrastructure in the cities; ▪ to organise information campaigns promoting rational use of vehicles, the use of public transportation and travelling on foot; ▪ to upgrade vehicle fleets with eco-vehicles; ▪ to develop guidelines for efficient car-sharing and system introduction; ▪ to draft legislation for the differentiation of the tax levied on vehicle owners or managers based on the vehicle energy efficiency indicators and the amounts of emission quantities; ▪ to upgrade the stock of rolling-stock; ▪ to promote the use of bio-fuel and other alternative fuels.
	Legal basis/more information	http://www.sumin.lt/files/uploads/www-sumin-lt-2011-04-16-SM Pletros%20programa.pdf
	Final energy consumption/service facility	Improvement of the transport and communications infrastructure, upgrading of the vehicle fleet, promotion of efficient use of fuel, and upgrading of the public transportation system
	Target group	The infrastructure of transport and communication, and transport
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Upgrading of the public transport system and road infrastructure; educational and training activities
	Budget and financial source	The Strategy's implementing measures are funded from the appropriations for the competent implementing bodies in the State Budget of the Republic of Lithuania and municipal budgets and EU support funds. The Strategy's budget for efficiency improvement amounts to LTL 280 million.
	Implementing body	State institutions and bodies, municipalities
	Monitoring authority	Ministry of Transport and Communications of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	N/A for 2010; 335 GWh for 2016
	Assumptions	Dissemination of information and economic as well as administrative measures contribute to significant energy savings in the transport sector. The Strategy envisages the following results to be achieved by 2014:

		• a 4% reduction in final energy consumption in the transport sector; • setting up of a national and urban traffic management centre. Achievement of the following results is envisaged by 2020: • an 8% reduction in final energy consumption in the transport sector; • 500 km of new bicycle paths; • a decrease in the share of cars older than 10 years from 90% in 2010 to 60% in 2020; • 5% of all trips made by engineless means of transportation (bicycles); • a 5% increase in the number of trips made using public road transport; • a 5% increase in the number of trips made using public railway transport; • establishment of four public logistics centres.
	Overlaps, double counting effect	This measure overlaps with measure T.4.

Measure title		**State technical inspection of vehicles**
Measure index		T.2
	Category	Regulation (rules)
	Timeframe	Start: 1994 End: unspecified
	Aim/brief description	The aim is to regularly check vehicle compliance in order to ensure that only vehicles that meet the technical and environmental requirements are used.
	Legal basis/more information	Rules for the conduct of State technical inspection of road vehicles, approved by Order No 3-275 of the Minister for Transport and Communications of the Republic of Lithuania of 18 April 2003 (Official Gazette 2003, No 43-1992; 2007, No 121-4970).
	Final energy consumption/service facility	Vehicle fleet
	Target group	All users of road vehicles
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Since 1994, technical inspection of vehicles to determine their compliance with the technical and environmental requirements has been obligatory in Lithuania. The inspectors check the compliance of a

		vehicle's technical condition and structure as well as the operation and efficiency of its systems, aggregates and units with the technical requirements. This prevents the use of vehicles that are not technically compliant, are outdated and inefficient, as it is prohibited to use vehicles that have not undergone State technical inspection within the prescribed time limits.
	Budget and financial source	N/A
	Implementing body	Enterprises that hold a permit to conduct inspections issued by the State Road Transport Inspectorate under the Ministry of Transport and Communications
	Monitoring authority	Ministry of Transport and Communications of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	N/A for 2010; 50 GWh for 2016
	Assumptions	The purpose of mandatory State technical inspection of road vehicles is to assess conformity of the vehicle in use with the established technical requirements, to ensure safety of use, and to reduce carbon monoxide (CO) and hydrocarbon (C_n H_m) emissions. Fuel consumption directly depends upon optimal settings of the vehicle engine. Research determined that maintenance of an adequate technical condition of a vehicle allows a reduction of up to 15% in fuel consumption.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**EU Structural Funds 2007–2013 (a measure under the Operational Programme for cohesion promotion: comprehensive development of ecological public transport)**
Measure index		T.3
	Category	Purchase of technologies
	Timeframe	Start: 2007 End: 2013
	Aim/brief description	The aim is to comprehensively modernise the system of public transport services in order to reduce air pollution, ensure a more efficient transportation of urban residents, promote workforce mobility, reduce traffic congestion, enhance traffic safety, and ensure high-quality public transportation services.
	Legal basis/more information	Description of the project funding conditions under VP3-3.3-SM-01-V measure 'Comprehensive development of ecological public transport' approved by

		Resolution No 3-561 of the Minister for Transport and Communications of the Republic of Lithuania of 14 September 2010 (Official Gazette 2010, No 109-5598). http://www.esparama.lt/2007-2013/lt/gaires/priemones/priemone?priem_id=000bdd5380003de2
	Final energy consumption/service facility	Public transport and its infrastructure
	Target group	Users of public transport
	Regional application	Regional level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Purchase of ecological public transportation vehicles (trolleybuses and buses using gas, electric and hybrid engines); installation of contact network lines for trolleybuses; reconstruction of the street section intended for public transportation (setting up of 'A' lanes, bus stop entries, bus stop pavilions, enclosures, markings and road signs); modernisation and development of bicycle infrastructure in towns (introduction of bike sharing systems; installation and reconstruction of bicycle stands, sheds, security instruments, grounds and paths, and bicycle acquisition); setting up of car and bicycle parks for connection to public transportation (Park&Ride and Bike&Ride); adaptation of railway and passenger transportation vehicles for carrying bicycles.
	Budget and financial source	The measure's budget and sources amount to LTL 86 million. EU funds' resources (up to LTL 75.4 million) and municipal budget resources (no less than LTL 13.3 million).
	Implementing body	Transport Investment Directorate
	Monitoring authority	Ministry of Transport and Communications of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	N/A for 2010; 25 GWh for 2016
	Assumptions	The development of public transport and infrastructure reduces the use of vehicles and final consumption of fuel. The following results are expected under the measure for 2016: • a 3% increase in the share of cleaner fuels (bio-fuel, gas) and electricity, measured in relative units, in the total fuel consumption in public transportation; • a 5% increase in the number of passengers using public transportation; • 50 upgraded public transportation vehicles; • 10 km of new trolleybus contact lines, 3 km of bicycle paths
	Overlaps, double counting	This measure does not overlap with other measures.

	effect	

Measure title		**EU Structural Funds 2007–2013 (priority 'Essential economic infrastructure' of the Operational Programme for economic growth)**
Measure index		T.4
	Category	Purchase of technologies and improvement of infrastructure
	Timeframe	Start: 2007 End: 2013
	Aim/brief description	The Operational Programme for economic growth of the EU Structural Funds encompasses three measures: • road network development through the improvement of traffic safety and reduction of negative environmental effects; • enhancement of the technical parameters of national roads and railways; • upgrading and development of the municipal transport infrastructure. The objective of the listed measures is to reduce the negative environmental impacts of transport, to reconstruct national roads and railways, to develop the transport infrastructure of regional significance and the road connections with the main arteries, and to build a network of transport infrastructure of the required capacity and reliability.
	Legal basis/more information	Description of the project funding conditions under VP2-4.3-SM-01 measure 'Development of the road and railway network by improving traffic safety and reducing negative environmental effects' (Official Gazette 2008, No 52-1932; 2009, No 44-1730); Description of the project funding conditions under VP2-4.4-SM-01 measure 'Improvement of the technical parameters of the infrastructure of national roads and railways' (Official Gazette 2008, No 86-3435; 2011, No 47-2251; 2011, No 76-3675); Description of the project funding conditions under VP2-4.4-SM-02-R measure 'Modernisation and development of the municipal transport infrastructure' (Official Gazette 2008, No 108-4146; 2011, No 80-3920). http://www.esparama.lt/2007-2013/lt/gaires/priemones/sarasas?priem_sritis=_d
	Final energy consumption/service facility	Transport infrastructure facilities
	Target group	Vehicle operators and other traffic participants

	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	The mentioned measures support the following activities: introduction of environmental measures, asphalting of gravel roads, improvement of the paving of highways, regional and district roads, increase of the capacities of regional (connecting) railway lines, reconstruction and development of local roads and streets, building of tunnels (except railway tunnels) and underground crossings
	Budget and financial source	The total budget of the measures amounts to LTL 1 794.14 million. EU funds: LTL 1 489 million; State budget funds: LTL 260 million; funds of other legal and/or natural persons: LTL 22 million.
	Implementing body	Transport Investment Directorate
	Monitoring authority	Ministry of Transport and Communications of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	N/A
	Assumptions	Comprehensive optimisation of the use of road transport infrastructure results in reduced congestion. A decrease in the number of vehicle stops and starts reduces average fuel consumption for a certain distance. According to research findings, asphalting of gravel roads reduces vehicle fuel consumption up to 10%. The following results are expected to be achieved under the measures for the year 2016: • trip time on reconstructed roads will be up to 10% shorter; • time savings for freight carriage by rail – 4 million t hours; • new and reconstructed automobile roads (national significance – 690 km; municipal roads and streets – 160 km); • new and reconstructed railways – 50 km.
	Overlaps, double counting effect	This measure partially overlaps with measure T.1. Corrections will be applied to the calculation of savings in order to avoid double counting.

Measure title		**Road maintenance and development programme**
Measure index		T.5
	Category	Legal and economic measures of taxation
	Timeframe	Start: 2000 End: 2015

	Aim/brief description	The aim is to develop and upgrade the road network.
	Legal basis/more information	Law on the Financing of the Road Maintenance and Development Programme (Official Gazette 2000, No 92-2873; 2004, No 171-6302; 2011, No 40-1916)
	Final energy consumption/service facility	Road transport infrastructure
	Target group	Infrastructure managers and users of the road transport infrastructure and road vehicles
	Regional application	National and municipal levels
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Resources under the funding programme are used to design, construct, lay, upgrade, repair, inventory and provide maintenance for roads, bridges, overpasses, overhead roads, tunnels and industrial-service road buildings, to acquire road engineering, technological, transportation and other industrial facilities, to conduct road and bridge studies and carry out State supervision of compliance with special construction requirements, to create road information systems, to develop the road infrastructure, to implement traffic safety programmes and their measures, and to provide funding for other needs in the road sector
	Budget and financial source	The budget is approved for the current year on an annual basis. The budget for 2011 totals LTL 986.7 million. Financial sources: part of the excise revenues from the sale of petrol and other diesel fuel as well as energy products made of materials of biological origin or containing such materials and intended for use as engine fuel; excise revenues received from the sale of liquefied automobile gas; the tax charged for cargo vehicles registered in the Republic of Lithuania; the tax paid by the owners or managers of vehicles registered in the Republic of Lithuania or foreign states, including EU Member States; the traffic restriction tax.
	Implementing body	Lithuanian Road Administration under the Ministry of Transport and Communications
	Monitoring authority	Ministry of Transport and Communications of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings.
	Energy savings for 2010, 2016	N/A in 2010; 50 GWh in 2016
	Assumptions	Comprehensive optimisation of the use of road transport infrastructure results in reduced congestion. A decrease in the number of vehicle stops and starts reduces average fuel consumption over a given distance. Asphalting of gravel roads reduces vehicle fuel consumption by up to 10%.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		Campaign for car-free commuting in the city
Measure index		T.6
	Category	Information
	Timeframe	Start: 2000 End: unspecified
	Aim/brief description	The aim is draw the public's attention to the negative effects of transportation on the environment, human health and traffic safety and to encourage the residents to abstain from driving during the campaign, instead opting for a less polluting public transportation, bicycles or walking.
	Final energy consumption/service facility	Informational activities, educational campaign
	Target group	Personal car owners and users
	Regional application	National and regional levels
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Residents are encouraged not to drive for at least one day and use public transportation or bicycles and to walk short distances.
	Budget and financial source	N/A
	Implementing body	Municipalities
	Monitoring authority	None
Energy savings	**Method for savings monitoring/measuring**	It is impossible to quantify the savings.
	Energy savings for 2010, 2016	N/A
	Assumptions	During the annual campaign, municipalities hold press conferences, various public events (sports games, concerts, bike tours etc). The campaign raises drivers' awareness of the negative environmental effects of transportation and promotes energy efficiency in the transport sector.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		Campaign for car-free commuting in the city
Measure index		T.7
	Category	Purchase of technologies
	Timeframe	Start: 2006 End: unspecified

	Aim/brief description	The aim of the measure is to introduce in city streets a computer system for coordinated traffic management, to increase the average speed of transport flows, to reduce the duration of vehicle stops on the intersections, to facilitate the operations of public transport, to enable special service vehicles to reach their destination, and to reduce city pollution with the gases emitted by means of transportation.
	Legal basis/more information	Decision No 1-1174 of the Municipality of Vilnius City of 24 May 2006 on the introduction of an automated system for regulation and management by traffic lights.
	Final energy consumption/service facility	The infrastructure of transport regulation and management
	Target group	Traffic participants
	Regional application	Regional level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	In implementing the measure in Vilnius City, the following components of the traffic regulation and management infrastructure were installed; a traffic management centre, traffic-lights controllers, traffic-lights (207 units), vehicle traffic sensors, a public transportation priority system, electronic driver information boards (13 boards), a traffic monitoring system (53 cameras on 22 intersections), an information system (www.sviesoforai.lt), and a speed metering system (12 units).
	Budget and financial source	LTL 54.8 million. Funds of the Vilnius City Municipality
	Implementing body	Municipalities
	Monitoring authority	Municipalities
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	N/A for 2010; 7 GWh for 2016 Energy savings for 2016 are estimated based on the measurements and assumptions presented in the project implementation report
	Assumptions	An increase in vehicle speed and a decrease in the number of vehicle stops in transport corridors reduce fuel consumption. Fuel consumption by vehicles in traffic jams per one hundred kilometres is 12 litres on average.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title	**Promotion of ecological driving (*new measure*)**
Measure index	T.8

	Category	Information and training
	Timeframe	Start: 2010 End: unspecified
	Aim/brief description	The aim is to provide new drivers with the skills of economical driving.
	Legal basis/more information	The Procedure for driver primary training, approved by Order No 3-493 of the Minister for Transport and Communications of the Republic of Lithuania of 12 August 2010 (Official Gazette 2010, No 99-5151)
	Final energy consumption/service facility	Improvement of the driver primary training methodology
	Target group	Persons applying for the driving licence
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Pursuant to the Procedure of driver primary training, approved by Order No 3-493 of the Minister for Transport and Communications of the Republic of Lithuania of 12 August 2010, drivers must be taught to drive economically.
	Budget and financial source	N/A
	Implementing body	Driver training bodies
	Monitoring authority	Ministry of Transport and Communications of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	It is impossible to measure or to calculate and verify the effect of the measure
	Energy savings for 2010, 2016	N/A
	Assumptions	The basics of ecological driving will enable drivers to choose the driving mode and style that will save 5-10% of fuel.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Energy labelling of tyres (*new measure*)**
Measure index		T.9
	Category	Regulation
	Timeframe	Start: 2012 End: unspecified
	Aim/brief description	Labelling of tyres is intended to make vehicles safe and economically as well as environmentally more efficient

		by promoting fuel-efficient, safe and low-noise tyres. A system for the provision of unified information on tire parameters in the labels is also being introduced to enable final customers buying tyres to make informed decisions.
	Legal basis/more information	Regulation (EC) No 1222/2009 of the European Parliament and of the Council of 25 November 2009 on the labelling of tyres with respect to fuel efficiency and other essential parameters
	Final energy consumption/service facility	Automobile tyres in classes C1, C2 and C3
	Target group	Users of road vehicles
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	When supplying or advertising tyres, tyre suppliers and distributors are obliged to make sure that a sticker is attached to tyres in classes C1, C2 and C3 with a label specifying the fuel efficiency type, the external rolling noise class and its measured value as well as the wet grip class.
	Budget and financial source	N/A
	Implementing body	Suppliers and/or sellers of tyres
	Monitoring authority	State Non-food Products Inspectorate under the Ministry of the Economy
Energy savings	**Method for savings monitoring/measuring**	It is impossible to measure or to calculate and verify the effect of the measure
	Energy savings for 2010, 2016	N/A
	Assumptions	Tyres of higher energy efficiency may save up to 10% of fuel.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Purchase of efficient vehicles in public procurement procedures (*new measures*)**
Measure index		T.10
	Category	Regulation
	Timeframe	Start: 2011 End: unspecified
	Aim/brief description	Aim: in implementing Directive 2009/33/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of clean and energy-efficient road transport vehicles, all contracting authorities

		purchasing vehicles must take into account the energy and environmental effects of the vehicle service period and choose the most efficient vehicles.
	Legal basis/more information	Procedure for the establishment of energy consumption efficiency and environmental requirements applicable to vehicle acquisition and the cases when they must be applied, approved by Order No 3-100 of the Minister for Transport and Communications of the Republic of Lithuania of 21 February 2011 (Official Gazette 2011, No 23-1110)
	Final energy consumption/service facility	Energy-efficient road vehicles
	Target group	Public institutions and organisations
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Energy efficiency and environmental requirements applicable to contracting authorities acquiring road vehicles in categories M1, N1, N2, N3, M2 and M3
	Budget and financial source	N/A
	Implementing body	Contracting authorities
	Monitoring authority	Public Procurement Service
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	N/A
	Assumptions	Replacement of non-efficient and high-pollution vehicles with new, more fuel-efficient ones will reduce fuel consumption.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Special Programme for climate change (measure: Energy efficiency improvement in the transport sector (*new measure*)**
Measure index		T.11
	Category	Financial mechanism
	Timeframe	Start: 2010 End: unspecified
	Aim/brief description	This programme measure supports the development of ecological public transport and infrastructure
	Legal basis/more information	Law on the Financial Instruments for Climate Change Management (Official Gazette 2009, No 87-3662; 2010,

		No 145-7427).
	Final energy consumption/service facility	New public transport vehicles
	Target group	All residents
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	The measure supports the acquisition of new trolleybuses, buses and locomotives.
	Budget and financial source	LTL 85 million. Funds received from the sale of assigned amount units. Support intensity: 100% of the project value.
	Implementing body	Public institution Lithuanian Environmental Investment Fund
	Monitoring authority	Ministry of the Environment of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	2010 – 0 GWh; 2016 – 5 GWh
	Assumptions	Calculation of energy savings was based on the assumption that new buses using liquefied gas will be purchased. The average price of such a bus is around LTL 0.7 million. One bus will emit roughly 1 t of CO_2 during the reference period. The expected fuel energy savings are calculated on the basis of the reduction in CO_2 emissions.
	Overlaps, double counting effect	This measure does not overlap with other measures.

2.2.6 Horizontal measures

This Chapter presents the description of horizontal energy efficiency improvement measures completed, currently implemented or planned as well as energy savings. The savings were calculated using the bottom-up method.

No	Energy savings measure	Energy end-use facility	Timeframe (start-end)	2010 energy savings (GWh)	2016 energy savings projection (GWh)
H.1	National energy strategy	All sectors of primary and final energy consumption	2007–2025	N/A	N/A
H.2	National energy efficiency improvement programme	All sectors of final energy consumption	2006 – unspecified	N/A	N/A

H.3	Regulation of technical requirements for construction STR 2.05.01:1999 'Thermal engineering of the building envelope' (*early actions*)	Residential and public buildings	1999–2005	250	250
H.4	Construction technical regulation STR 2.05.01:2005 'Thermal engineering of the building envelope'	Residential and public buildings	2005 – unspecified	340	990
H.5	Construction technical regulation STR 2.09.02:2005 'Heating, ventilation and air conditioning'	Systems of heating, ventilation and air conditioning	2006 – unspecified	N/A	50
H.6	Construction technical regulation STR 2.01.09:2005 'Energy performance of buildings. Certification of energy performance'	Residential buildings, public buildings, industrial buildings	2006 – unspecified	N/A	N/A
H.7	Inspection of boiler efficiency	Heating systems with boilers	2007 – unspecified	N/A	N/A
H.8	Inspection of the efficiency of air conditioning systems	Air conditioning systems	2007 – unspecified	N/A	N/A
H.9	Pollution tax exemptions	Persons paying the pollution tax	2004 – unspecified	N/A	N/A
H.10	Labelling of energy-consumption related products	Energy-related products the use of which has a major impact on energy consumption	2004 – unspecified	N/A	N/A
H.11	Eco-design	Energy-related products	2005 – unspecified	N/A	5
H.12	Informational, educational and training activities	Consulting, publications, information campaigns, training, conferences, seminars and other measures providing information on energy efficiency	1996 – unspecified	N/A	N/A
H.13	Programme for the funding of the development of renewable energy sources (*planned measure*)	Residential buildings, public buildings, vehicles	Planned in 2012	N/A	N/A
			Total:	**590**	**1240**

Measure title	**National Energy Strategy**
Measure index	H.1.

	Category	Strategic document
	Timeframe	Start: 2007 End: 2025
	Aim/brief description	Strategy objectives and tasks in the energy efficiency area: ▪ to save 9% of final energy over nine years starting with 2008; ▪ to continue the improvement of the consumption of all types of energy so that comparative energy consumption in buildings, various installations and devices, technological processes and transport systems would approach the indicators of the developed Member States of the EU.
	Legal basis/more information	The National Energy Strategy, approved by Resolution No X-1046 of the Seimas of the Republic of Lithuania of 18 January 2007 (Official Gazette 2007, No 11-430).
	Final energy consumption/service facility	All sectors consuming primary and final energy
	Target group	Consumers of primary and final energy
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	▪ Upgrading and development of energy supply systems. Reconstruction of buildings' internal heating and hot water supply systems, installation of automatic heat units in buildings, decommissioning of group heat exchange stations, and replacement of existing individual heat units with new ones is envisaged. ▪ Drafting and improvement of legislation, improvement of energy management. The National Programme for energy efficiency improvement 2011-2015 and the plan for its implementing measures will be drafted and presented to the Government of the Republic of Lithuania; to reinforce energy sector institutions and other institutions and to enhance the knowledge and abilities of the specialists employed by them. ▪ Research, training of specialists and implementation of other objectives set by the EU in the National Energy Strategy. This group of measures provides for funding of various studies related to energy efficiency. ▪ Development of the use of renewable energy resources and improvement of energy efficiency. This group of measures provides for the renovation and upgrading of multi-apartment buildings; implementation of energy-efficiency measures in other branches of the national economy that would allow a reduction by 1.5% in the comparative final energy consumption within three years, starting with 2008.
	Budget and financial	LTL 18 billion, including LTL 10 billion from the State

	source	Budget
	Implementing body	Ministry of Energy of the Republic of Lithuania
	Monitoring authority	Ministry of the Energy of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	It is impossible to quantify the savings.
	Energy savings for 2010, 2016	N/A
	Assumptions	To achieve the objectives set out in the National Energy Strategy, an Implementing Plan for the National Energy Strategy is adopted every four years, setting out specific measures for the achievement of the objectives
	Overlaps, double counting effect	This measure partially overlaps with measure H.2.

Measure title		**National Programme for energy efficiency improvement**
Measure index		H.2.
	Category	Strategic document
	Timeframe	Start: 2006 End: 2010 Envisaged changes: National Programme for energy efficiency improvement 2011–2025 has been drafted
	Aim/brief description	The following quantitative indicators will be achieved upon implementation of the objectives of the National Programme for energy efficiency improvement 2011–2025: the living standards will be improved – buildings and energy systems will be upgraded and used and maintained appropriately; monitoring of good management projects for energy efficiency and energy requirements will be performed and summarized; legal and methodological documents for positive regulation of energy efficiency and environmental pollution in the transport and industrial sectors will be drafted; legal and regulatory documents dealing with Lithuania's international and EU obligations relating to efficient energy consumption and the use of renewable and waste energy resources will be improved and developed; research will be carried out and the public will be informed and educated on the issues of efficient energy consumption and the use of renewable and waste energy resources. The drafted National Programme for energy efficiency improvement 2011–2025 provides that the implementation of the existing and new measures will produce the following results: • in the household sector, energy consumption per housing area unit will decrease 5% by 2015 compared with 2008 (from 18.9 ktoe/thou m^2 in 2008 to 18.0 ktoe/thou m^2

		in 2015); • in the service sector, energy intensity (energy consumption per value-added unit at 2000 prices, recalculated according to the inflation) will decrease 10% by 2015 against 2008 (from 16.6 toe/million LTL VAi in 2008 to 14.9 toe/million LTL VAi in 2015); • in the industrial sector, energy intensity will decrease 11% by 2015 against 2008 (from 60.3 toe/million LTL VAi in 2008 to 53.7 toe/million LTL VAi in 2015); • in the transport sector, final energy consumption will decrease by 4% – 2014; 8% – 2020. Energy intensity will decrease 10% by 2015 against 2008 (from 191.8 toe/million LTL VAi in 2008 to 172.6 toe/million LTL VAi in 2015); • heat transfer losses will decrease by 65 ktoe; electricity transport losses will go down by 43 ktoe; • the share of electricity made by co-generation plants during a heating season in the total electricity generation balance will amount to 25% in 2015.
	Legal basis/more information	http://www.lrs.lt/pls/proj/dokpaieska.showdoc_l?p_id=66511&p_query=&p_tr2=&p_org=&p_fix=n&p_gov=n
	Final energy consumption/service facility	All sectors consuming final energy
	Target group	Consumers of final energy
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	The programme sets out organisational, legal and economic measures and measures for technology improvement and introduction, applied research, education of the public and public awareness raising for the improvement of the consumption of energy resources and energy, as well as the monitoring of their implementation, in the sectors of buildings and their engineering systems, co-generation, central heating supply, installations of enterprises, bodies and households, transport, and local, renewable and waste energy resources.
	Budget and financial source	Unspecified
	Implementing body	Ministry of Energy of the Republic of Lithuania, Ministry of the Economy, Ministry of the Environment, Ministry of Transport and Communications
	Monitoring authority	Ministry of the Energy of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Institutions responsible for the implementation of the programme implementing measures, by January 31 of each year, provide the Ministry of Energy with information on programme implementation. It is impossible to measure or to calculate and verify the effect of the measure.

	Energy savings for 2010, 2016	N/A
	Assumptions	Organisational, legal and economic measures and measures for technology improvement and introduction, applied research, education of the public and public awareness raising create the conditions necessary for energy saving.
	Overlaps, double counting effect	This measure partially overlaps with measure H.1. The respective corrections will be applied to the calculation of energy savings in order to avoid double counting.

Measure title		**Construction technical regulation STR 2.05.01:1999 'Thermal engineering of the building envelope'**
Measure index		H.3
	Category	Regulation (building standards)
	Timeframe	Start: 1999 End: 2005
	Aim/brief description	The aim is to reduce energy consumption in buildings.
	Legal basis/more information	Construction technical regulation STR 2.05.01:1999 of 1999 'Thermal engineering of the building envelope', approved by Order No 117 of the Minister for the Environment of the Republic of Lithuania of 29 April 1999 (Official Gazette 1999, No 41-1297) Construction technical regulation of 1992 RSN 143-92 'Thermal engineering of the building envelope', approved by Order No 97 of the Ministry of Construction and Urban Development of the Republic of Lithuania of 20 May 1992 (Official Gazette 1994, No 22-367; 1995, No 95-2143).
	Final energy consumption/service facility	Residential buildings, public buildings
	Target group	Dwellers of buildings
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	The regulation established thermal technical requirements for the design of the building envelope of residential and non-residential buildings. The regulation was applied when designing new or reconstructing existing buildings.
	Budget and financial source	Unspecified
	Implementing body	None
	Monitoring authority	Ministry of the Environment of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Recommendations on Measurement and Verification Methods in the Framework of Directive 2006/32/EC on Energy End-Use Efficiency and Energy Services, adopted by the European Commission. Energy savings are calculated

		using the formula below: $$UFES = \frac{SHD_{incode}}{\eta_{incode}} - \frac{SHD_{newcode}}{\eta_{newcode}} [kWh/m^2/year]$$ where: SHD_{incode} stands for specific heating demand when the standard requirements for the building envelope set out by RSN 143-92 are applied to buildings; $SHD_{newcode}$ stands for specific heating demand when the standard requirements for the building envelope set out by STR 2.05.01:1999 are applied to buildings. $\eta_{incode}, \eta_{newcode}$ stand for the energy efficiency of the heating system. Calculations were carried out pursuant to the programme NRG-sert approved by the Ministry of the Environment of the Republic of Lithuania, which was prepared using the methodology given in STR 2.01.09:2005 'Energy performance of buildings. Certification of energy performance' and is intended to determine the energy performance class of buildings'. More information: http://www.spsc.lt/nrg/cms/index.php In accordance with the standard requirements concerning the heat transfer coefficients for the building envelopes of residential and public buildings, as established by Construction technical regulation RSN 143-92 of 1992 and Construction technical regulation STR 2.05.01:1999 of 1999, after entering into the programme the areas, dimensions, characteristics and the orientation in relation to the cardinal points and after evaluating the typical heating and ventilation systems and heat sources as well as their regulation level, the specific energy consumption (kWh/m^2) was calculated for typical buildings. The average standard energy consumption of a residential building according to the standard envelope heat transfer values established by RSN 143-92, taking into account the heating system efficiency, equals 218.27 $kWh/m^2_{heated\ area}$. According to the standard envelope heat transfer values established by STR 2.05.01:1999, the standard energy consumption, taking into account the heating system efficiency, equals 194.69 $kWh/m^2_{heated\ area}$. Calculation of the average energy consumption of residential buildings assumes that the average inside air temperature is 20°C and the outside air temperature is 0°C. The average standard energy consumption of a public building according to the standard envelope heat transfer values established by RSN 143-92, taking into account the heating system efficiency, is equal to 221.38 $kWh.m^2_{heated\ area}$. According to the standard envelope heat transfer values for public buildings established by STR 2.05.01:1999, the standard energy consumption, taking into account the heating system efficiency, equals 197.25 $kWh/m^2_{heated\ area}$. The heating system efficiency coefficient for buildings constructed before 1999 under RSN 143-92 was assumed to be η=0.90. For buildings constructed under STR

		2.05.01:1999 the coefficient was assumed to be η=0.93. The obtained differences are multiplied by the heated area of residential buildings and, respectively, public buildings constructed from 2000 to 2005. The total heated area of residential buildings constructed in the 2000–2005 period is 2 874.69 thou m^2 (total area: 3 194.10 thou m^2). The heated area of public buildings amounts to 7 586.42 thou m^2 (total area: 8 925.20 thou m^2). The values of the heat transfer coefficients specified in the compared construction technical regulations and the standard heat consumption figures are given in Annex 1 to the Action Plan.
	Energy savings for 2010, 2016	250 GWh
	Assumptions	More efficient building envelopes reduce heat demand in buildings and have a direct effect on energy savings.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Construction technical regulation STR 2.05.01:2005 'Thermal engineering of the building envelope'**
Measure index		H.4
	Category	Regulation (building standards)
	Timeframe	Start: 2005 End: unlimited
	Aim/brief description	The aim is to reduce energy consumption in buildings.
	Legal basis/more information	Construction technical regulation STR 2.05.01:2005 'Thermal engineering of the building envelope' of 2005, approved by Order No D1-156 of the Minister for the Environment of the Republic of Lithuania of 18 March 2005 (Official Gazette 2005, No 100-3733); Construction technical regulation STR 2.05.01:1999 of 1999 'Thermal engineering of the building envelope', approved by Order No 117 of the Minister for the Environment of the Republic of Lithuania of 29 April 1999 (Official Gazette 1999, No 41-1297)
	Final energy consumption/service facility	Residential buildings, public buildings
	Target group	Dwellers of buildings
	Regional application	National level
Information on measure	**List and description of energy saving actions**	The regulation establishes thermal technical requirements for the design of the building envelopes of residential and

implementation	**substantiating the measure**	non-residential buildings. The regulation is applied when designing new or reconstructing existing buildings.
	Budget and financial source	Unspecified
	Implementing body	None
	Monitoring authority	Ministry of the Environment of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Recommendations on Measurement and Verification Methods in the Framework of Directive 2006/32/EC on Energy End-Use Efficiency and Energy Services, adopted by the European Commission. Energy savings are calculated using the formula below: $UFES = \frac{SHD_{incode}}{\eta_{incode}} - \frac{SHD_{newcode}}{\eta_{newcode}} [kWh / m^2 / year]$ where: SHD_{incode} stands for specific heating demand when the standard requirements for building envelopes set out by STR 2.05.01:1999 are applied to buildings; $SHD_{newcode}$ stands for specific heating demand when the standard requirements for building envelopes set out by STR 2.05.01:2005 are applied to buildings. $\eta_{incode}, \eta_{newcode}$ stand for the energy efficiency of the heating system. Calculations were carried out pursuant to the programme NRG-sert approved by the Ministry of the Environment of the Republic of Lithuania, which was prepared using the methodology given in STR 2.01.09:2005 'Energy performance of buildings. Certification of energy performance' and is intended to determine the energy performance class of buildings.' More information: http://www.spsc.lt/nrg/cms/index.php In accordance with the standard requirements concerning the heat transfer coefficients for the building envelopes of residential and public buildings, as established by Construction technical regulation STR 2.05.01:1999 of 1999 and Construction technical regulation STR 2.05.01:2005 of 2005, after entering into the programme the areas, dimensions, characteristics and the orientation in relation to the cardinal points and after evaluating the typical heating and ventilation systems and heat sources as well as their regulation level, the specific energy consumption (kWh/m^2) was calculated for typical buildings. The average standard energy consumption of a residential building according to the standard envelope heat transfer values established by STR 2.05.01:1999, taking into account the heating system efficiency, is equal to 194.69 $kWh/m^2_{heated\ area}$. According to the standard envelope heat transfer values established by STR 2.05.01:2005, the standard energy consumption, taking into account the heating system efficiency, equals 171.40 $kWh/m^2_{heated\ area}$. Calculation of the average energy consumption of residential buildings assumes that the average inside air temperature is 20°C and the outside air temperature is

		0°C. The average standard energy consumption of a public building according to the standard envelope heat transfer values established by STR 2.05.01:1999, taking into account the heating system efficiency, is equal to 197.25 kWh.$m^2_{heated\ area}$. According to the standard envelope heat transfer values for public buildings established by STR 2.05.01:2005, the standard energy consumption, taking into account the heating system efficiency, equals 178.08 kWh/$m^2_{heated\ area}$. The heating system efficiency coefficient for buildings constructed before 2005 under STR 2.05.01:1999 was assumed to be η=0.93. For buildings constructed under STR 2.05.01:2005 the coefficient was assumed to be η=0.98. The obtained differences are multiplied by the heated area of residential buildings and, respectively, public buildings constructed from 2006. The building area was calculated according to the data obtained from the records of the structures registered in the Real Estate Register of the Republic of Lithuania. The total heated area of residential buildings constructed in the 2006–2010 period is 4 731.30 thou m^2 (total area: 5 257.00 thou m^2). The heated area of public buildings amounts to 11 987.64 thou m^2 (total area: 14 103.10 thou m^2). The savings projections for 2016 are calculated on the assumption that the building area will increase by 10% with every year. The values of the heat transfer coefficients specified in the compared construction technical regulations and the standard heat consumption figures are given in Annex 1 to the Action Plan.
	Energy savings for 2010, 2016	340 GWh in 2010; 990 GWh in 2016
	Assumptions	More efficient building envelopes reduce heat demand in buildings and have a direct effect on energy savings.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Construction technical regulation STR 2.09.02:2005 'Heating, ventilation and air conditioning'**
Measure index		H.5
	Category	Regulation (building standards)
	Timeframe	Start: 2005 End: unlimited
	Aim/brief description	The aim is to reduce energy consumption in buildings.
	Legal basis/more information	Construction technical regulation STR 2.09.02:2005 'Heating, ventilation and air conditioning', approved by Order No D1-289 of the Minister for the Environment of the

		Republic of Lithuania of 9 June 2005 (Official Gazette 2005, No 75-2729));
	Final energy consumption/service facility	Buildings must be provided with designed and installed heating, ventilation and air conditioning systems maintaining and controlling microclimate and air quality parameters enabling, under regular operation of premises in normal outdoor conditions and optimal use of energy, maintenance of the standard parameters of microclimate and air quality in all zones of operation or certain specific places of the given building.
	Target group	Structures and their heating, ventilation and air conditioning systems.
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	The Regulation stipulates that: ▪ heating, ventilation and air conditioning systems must have sufficient control options to ensure that that the perceived temperature fluctuations in the premises or their operational zone do not have a negative impact on the comfort or labour productivity of people; ▪ in buildings serving building, manufacturing and industrial needs, heating systems must be designed and installed in a way that enables their operation outside business hours at a capacity lower the standard operating capacity. The heating system operating under the lower-capacity heating mode must maintain a minimum 5°C indoor air temperature (unless technological requirements for maintaining a different temperature apply) and raise it again to the design temperature at the beginning of the business hours. Residential buildings must be enabled to control the flows of both the entire heating system and individual heat supply devices. Heating units of buildings receiving heat from heat supply networks must be equipped with heat meters adapted for commercial accounting purposes; ▪ the design of the heating systems of multi-dwelling buildings must enable measuring heat consumption in every apartment without entering it; ▪ heat release of each heating device or group of devices must be controlled according to alternating heat releases in heated premises or according to customer needs; ▪ Thermal insulation of heating or heat supply pipelines must conform to the established requirements; ▪ the method for ventilation, air conditioning and heating with air as well as the system design must be selected according to the purpose and specifics of the building in order to guarantee the standard microclimate of premises and air cleanness under regular and outdoor air conditions; ▪ ventilation and heating of premises must ensure standard air quality and efficient use of energy; ▪ automation of heating, ventilation and air conditioning

		systems must ensure reliable and energy-efficient operation of the systems.
	Budget and financial source	Unspecified
	Implementing body	Persons who install the systems
	Monitoring authority	Ministry of the Environment of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	It is impossible to measure or to calculate and verify the effect of the measure.
	Energy savings for 2010, 2016	N/A
	Assumptions	Efficient engineering systems of buildings reduce heat demand in buildings and allow a reduction in energy consumption
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Construction technical regulation STR 2.01.09:2005 'Energy performance of buildings. Certification of energy performance'**
Measure index		H.6
	Category	Regulation (building standards)
	Timeframe	Start: 2006 End: unlimited Important amendments are planned: Order No D1-462 of the Minister for the Environment of the Republic of Lithuania of 7 June 2011 amending Order No D1-624 of the Minister for the Environment of the Republic of Lithuania of 20 December 2005 approving the Construction technical regulation STR 2.01.09:2005 'Energy performance of buildings. Certification of energy performance' adds to the regulation the terms 'low-energy buildings' and 'almost zero-energy buildings'. Buildings are classified into nine energy performance classes: A++, A+, A, B, C, D, E, F and G, A++ being the highest class.
	Aim/brief description	The aim is to make sure that the construction facilities and their installations are designed and installed with a view to minimise energy consumption, having regard to the climatic conditions of the location and the occupants; buildings should meet the minimum energy performance requirements to optimise the advantages of the factors increasing the energy performance of buildings.
	Legal basis/more information	Order No D1-624 of the Minister for the Environment of the Republic of Lithuania of 20 December 2005 (Official Gazette 2005, No 151-5568).
	Final energy consumption/service facility	Occupants of residential buildings, visitors and employees of public buildings, persons working at industrial buildings.

	Target group	Structures and their heating, ventilation and air conditioning systems.
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	In the case of design of new buildings and major renovation of buildings larger than 1 000 m^2 in useful area, their target energy performance must conform to the following requirements: • the energy efficiency class of newly constructed buildings (building parts) must be not lower than C. This requirement applies to new buildings whose design specifications were issued after the entry into force of this regulation; the energy performance class of buildings (building parts) under major renovation with a useful area above 1 000 m^2 must not be lower than D. Building energy performance requirements are mandatory for: • newly constructed buildings; buildings under major renovation with a useful area above 1 000 m^2; • in the case of design of new buildings and major renovation of buildings larger than 1 000 m^2 in useful area, their target energy performance must conform to the established energy performance requirements. Building certification is mandatory: • when constructing, selling or renting out buildings; • for buildings of hotel, administrative, commercial, service, catering, transportation, cultural, scientific, medical treatment and recreation designations with a useful area above 1 000 m^2.
	Budget and financial source	N/A
	Implementing body	Ministry of the Environment of the Republic of Lithuania
	Monitoring authority	Ministry of the Environment of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	It is impossible to measure or to calculate and verify the effect of the measure.
	Energy savings for 2010, 2016	N/A
	Assumptions	Provision of information on a building's energy consumption to the consumer allows him to purchase or rent buildings that are the most efficient in terms of energy consumption
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title	**Inspection of heating systems with boilers**
Measure index	H.7

	Category	Regulation / financial instruments
	Timeframe	Start: 2007 End: unspecified Important changes and improvements are envisaged: changes to the implementation of Directive 2010/31/EU – boilers of all types will be checked irrespective of the type of fuel they consume; the periodicity of checks will be changed.
	Aim/brief description	The aim is to ensure regular efficiency checks of building boilers with a minimum effective rated output of 20 kW and using non-renewable solid fuel or liquid fuel as well as one-off efficiency checks of heating systems with boilers older than 15 years, so that the efficiency of boilers and heating systems is in line with economically sound requirements.
	Legal basis/more information	Regulation on the efficiency inspection of boilers with a minimum effective rated output of 20 kW using non-renewable solid fuel or liquid fuel as well as heating systems with boilers older than 15 years having a minimum effective rated output of 20 kW and using non-renewable solid fuel or liquid fuel (Official Gazette 2006, No 27-902; 2008, No 111-4251).
	Final energy consumption/service facility	Checking of boiler efficiency and conformance to heat demand
	Target group	Boiler owners and users
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	Checking of boiler combustion efficiency by measuring heat lost with flue gases as well as the quantities of carbon dioxide and particulate matter within them; checking of boiler insulation; measuring of draught in the chamber or flue. The data declared by the user are used as a basis to determine whether the heating system meets the user's demand for heating of the premises, for water heating for household use as well as for the satisfaction of the needs of the connected heating system users. Heating system inspection must include: estimation of the amount of energy consumed for building heating as well as the compliance of the installed boiler or boiler system with the factual energy demand; evaluation of system efficiency, including the heat performance coefficient of the boiler(-s), heating system efficiency, indoor heating devices and regulation thereof.
	Budget and financial source	Inspection of the compliance of boilers and heating systems for residential premises is financed from State funds in accordance with the procedure prescribed by the Government of the Republic of Lithuania or a Government-authorised institution. The users of boilers and heating systems intended for the heating of non-residential premises shall pay for the compliance inspection services by themselves, on the basis of

		contracts with inspectors.
	Implementing body	Inspectors may be legal persons holding the qualification certificates issued by a training institution in line with the requirements of the Regulations for the certification of personnel building and operating energy facilities and installations, approved by Order No 4-122 of the Minister for the Economy of the Republic of Lithuania of 24 March 2005 (Official Gazette 2005, No 41-1321); persons certified by the State Energy Inspection for the operation of heating installations in accordance with the Rules for the certification of persons entitled to operate energy installations (Official Gazette 2010, No 120-6154) and holding a third-party liability insurance policy.
	Monitoring authority	State Energy Inspectorate under the Ministry of Energy
Energy savings	**Method for savings monitoring/measuring**	It is impossible to measure or to calculate and verify the effect of the measure.
	Energy savings for 2010, 2016	N/A
	Assumptions	Energy savings are expected upon implementation of the recommendations set out in the report on the inspection of boiler and heating system efficiency.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Inspection of air conditioning system efficiency**
Measure index		H.8
	Category	Regulation / financial instrument
	Timeframe	Start: 2008 End: unspecified Important changes and improvements are envisaged: changes to the implementation of Directive 2010/31/EU
	Aim/brief description	The aim is to ensure regular efficiency checks of building air conditioning systems with a minimum effective rated output of 12 kW, so that the efficiency of the air conditioning system is in line with economically justified requirements and the effective rated output matches the building‘s cooling demand.
	Legal basis/more information	Regulation on the efficiency inspection of air conditioning systems with a minimum effective rated output of 12 kW (Official Gazette 2006, No 27-902; 2008, No 111-4251).
	Final energy consumption/service facility	Checking of air conditioning system efficiency and assessment of conformance to the air conditioning demand
	Target group	Owners and users of air conditioning systems
	Regional application	National level
Information on	**List and description of**	Inspection of air conditioning systems is carried out; the

measure implementation	**energy saving actions substantiating the measure**	parameters of indoor air and supplied air are measured; the installations of the air conditioning system, the parameters of the control and regulation devices of the air conditioning system and the parameters of regulation are checked.
	Budget and financial source	Inspection of the compliance of the air conditioning systems for the cooling of residential premises is financed from State funds in accordance with the procedure prescribed by the Government of the Republic of Lithuania or a Government-authorised institution. The users of the air conditioning systems intended for the cooling of non-residential premises shall pay for the compliance inspection services by themselves, on the basis of contracts with inspectors.
	Implementing body	Inspectors may be legal persons holding the qualification certificates issued by a training institution in line with the requirements of the Regulations for the certification of personnel building and operating energy facilities and installations, approved by Order No 4-122 of the Minister for the Economy of the Republic of Lithuania of 24 March 2005 (Official Gazette 2005, No 41-1321); persons certified by the State Energy Inspection for the operation of heating installations in accordance with the Rules for the certification of persons entitled to operate energy installations (Official Gazette 2010, No 120-6154) and holding a third-party liability insurance policy
	Monitoring authority	State Energy Inspectorate under the Ministry of Energy
Energy savings	**Method for savings monitoring/measuring**	It is impossible to measure or to calculate and verify the effect of the measure.
	Energy savings for 2010, 2016	N/A
	Assumptions	Energy savings are expected upon implementation of the recommendations set out in the report on the inspection of air conditioning system efficiency.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Exemption from the pollution tax**
Measure index		H.9
	Category	Financial instrument
	Timeframe	Start: 2004 End: unspecified Important changes and improvements are envisaged: the 1999 version of the law contained two provisions on the exemption from or reduction of the pollution tax: persons implementing measures reducing the discharge of pollutants into the environment by at least 10 per cent of the established maximum limit of pollution are exempted from the tax in relation to the pollutants whose quantities are reduced by 10 per cent. The exemption shall be valid

		from the start of the implementation of the measure for no longer than three years; the pollution tax shall not apply to vehicles with installed and operational exhaust neutralisation systems. Subsequent amendments expanded the pollution tax exemption to include vehicles running on bio-fuel, vehicles used for farming purposes as well as natural and legal persons implementing environmental measures to reduce pollutant emissions from stationary sources of pollution by at least five per cent of the established maximum limit of pollution.
	Aim/brief description	The objective of the Law on the Pollution Tax (Official Gazette 1999, No 47-1469; 2002, No 13-474) is to provide economic incentives for polluters to reduce pollution, to carry out waste prevention and management, to stay within the prescribed pollution limits, and to use the tax to accumulate funds for the implementation of environmental measures.
	Legal basis/more information	Law on the Pollution Tax (Official Gazette 1999, No 47-1469; 2002, No 13-474)
	Final energy consumption/service facility	Pollutants discharged into the environment, products specified in the law.
	Target group	The pollution tax for pollution from stationary pollution sources is paid by polluting natural and legal persons that must, in accordance with the procedure prescribed by the Government or Government-authorised institutions, hold a permit for the use of natural resources or integrated pollution prevention and control specifying the environmental emissions limits. The pollution tax for pollution from mobile pollution sources is paid by natural and legal persons polluting the environment from mobile sources of pollution used for business activities. The pollution tax for pollution by product and/or packaging waste is paid by producers and importers.
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	None
	Budget and financial source	Not established
	Implementing body	Ministry of the Environment of the Republic of Lithuania
	Monitoring authority	Ministry of the Environment of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	It is impossible to measure or to calculate and verify the effect of the measure.
	Energy savings for 2010, 2016	N/A
	Assumptions	Less polluting technologies are more advanced in terms of energy efficiency
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		Labelling of energy consumption-related products
Measure index		H.10
	Category	Regulation
	Timeframe	Start: 2004 End: unspecified
	Aim/brief description	The objective of Directive 2010/30/EU of the European Parliament and of the Council on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products is to inform final consumers about the energy consumed by products, thus enabling them to choose more energy-efficient devices.
	Legal basis/more information	Order No 163 of the Minister for the Economy of the Republic of Lithuania of 10 May 2002 on the approval of regulations (Official Gazette 2003, 48-2135; 2008, No 21-786); Order No 1-212/4-624 of the Minister for Energy and the Minister for the Environment of the Republic of Lithuania of 2 September 2011 approving a technical regulation on the labelling of the consumption of energy and other resources by energy-related products and on the presentation of Standard information on such products.
	Final energy consumption/service facility	Energy-related products the consumption of which has a direct or indirect influence on energy consumption.
	Target group	Final consumers
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	All products sold, rented, offered for hire-purchase or demonstrated must have a printed label and a product fiche providing information on the consumption of energy and other important resources by the product during its use as well as additional information. In the advertising of product models providing information related to energy consumption by the product or price-related information, the energy efficiency class of the product shall be specified. The products' technical-promotional materials describing specific technical parameters of a product, technical manuals and producer booklets, whether or not they are printed or available online, shall provide information on energy consumption by the product or specify the energy efficiency class of the product.
	Budget and financial source	N/A
	Implementing body	State Non-food Products Inspectorate under the Ministry of

		the Economy of the Republic of Lithuania
	Monitoring authority	Ministry of Energy of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings
	Energy savings for 2010, 2016	N/A
	Assumptions	Product labels and standard product fiches, specifying the consumption of energy and other important resources, allow the consumer to choose the most efficient products.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Ecodesign**
Measure index		H.11
	Category	Regulation
	Timeframe	Start: 2005 End: unspecified
	Aim/brief description	Directive 2009/125/EC establishes a framework for the setting of ecodesign requirements for energy-related products. Ecodesign aims to improve the ecological qualities of products throughout their life cycle (the selection and use of raw materials, manufacturing, packaging, transport and distribution, installation and maintenance, use and end-of-life) by systematically introducing ecological aspects at the earliest stage of product design.
	Legal basis/more information	Technical Regulation on the establishment of the framework for the setting of eco-design requirements for energy-related products and on the application of its implementing measures (Official Gazette 2010, No 152-7750)
	Final energy consumption/service facility	Energy-related products. Directive 2009/125/EC does not apply to passenger or cargo transportation vehicles.
	Target group	Final consumers
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	All products falling within the scope of Directive 2009/125/EC may be placed on the market and/or put into service only when they meet the requirements of Directive 2009/125/EC and have the 'CE' conformity marking.
	Budget and financial source	None

	Implementing body	Ministry of the Economy of the Republic of Lithuania
	Monitoring authority	Ministry of the Economy of the Republic of Lithuania
Energy savings	**Method for savings monitoring/measuring**	It is impossible to measure or to calculate and verify the effect of the measure.
	Energy savings for 2010, 2016	N/A
	Assumptions	Improvement of energy efficiency in the product design phase allows a reduction in energy consumption during its use.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title		**Informational, educational and training activities**
Measure index		H.12
	Category	Provision of information
	Timeframe	Start: 1996 End: unspecified
	Aim/brief description	To inform, educate and train energy consumers on the subjects of energy efficiency improvement
	Legal basis/more information	See the descriptions of measures N.2, N.4, N.6, P.4-P.5, P.8-P.12, P.16, P.19, T.2-T.6, H.7-H.8, and H.10-H.11.
	Final energy consumption/service facility	Consultations, publications, information campaigns, training, conferences, seminars and other measures providing information on energy efficiency
	Target group	Final energy consumers
	Regional application	National level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	• Energy undertakings must supply energy consumers with information on the efficient consumption of energy sources and energy, on safe and efficient use of energy facilities and installations, on energy facilities and installations being constructed or reconstructed, on energy prices as well as services provided for energy consumers; • Informational, methodological and organisational assistance is provided to Lithuanian and EU business entities as well as scientific and consulting institutions participating in the EU programmes intended for the improvement of energy consumption efficiency and energy resource consumption efficiency; • advice and information as well as training on energy efficiency improvement are provided for final energy consumers; • information on programmes being implemented is published, advice and training on how to take advantage of

		the measures under the programmes are provided; • preparation and printing of informational materials on energy resource and energy savings is organised; • energy saving ideas are spread over television and radio; • conferences, seminars, competitions and exhibitions are organised to enhance the abilities of the country's specialists as well as society to use the energy resources and energy more effectively; • recommendations on the use of the criterion of energy efficiency improvement in public procurement; • exchange of best practices in the efficient use of energy and energy resources among Government sector institutions; • publicising of the best practices of efficient use of energy and energy resources in the Government sector via the mass media; • organisation and conduct of energy consumption audits in public buildings and implementation of the measures recommended by the audit report; • organisation of energy consumption management and its implementation in public buildings and industry; • sample financial instrument agreements between the purchasers of energy services and the services of energy efficiency improvement in buildings and the providers of such services. More information can be found in Annex 2.
	Budget and financial source	N/A
	Implementing body	The measures are implemented by the institutions responsible for the implementation of measures N.2, N.4, N.6, P.4-P.5, P.8-P.12, P.16, P.19, T.2-T.6, H.7-H.8, and H.10-H.11.
	Monitoring authority	Ministry of Energy of the Republic of Lithuania, Ministry of the Environment, Ministry of the Economy
Energy savings	**Method for savings monitoring/measuring**	It is impossible to measure or to calculate and verify the effect of the measure.
	Energy savings for 2010, 2016	N/A
	Assumptions	Provision of information on efficient energy consumption encourages consumers to save energy and introduce energy saving measures.
	Overlaps, double counting effect	This measure does not overlap with other measures.

Measure title	**Programme for the funding of the development of renewable energy sources (*planned measure*)**
Measure index	H.13

	Category	Financial instrument
	Timeframe	Start: 2012 End: unspecified Important changes and improvements envisaged: not specified
	Aim/brief description	The aim is to promote the introduction and use of renewable energy resources in buildings and vehicles.
	Legal basis/more information	Law on Renewable Energy Sources of the Republic of Lithuania (Official Gazette 2011, No 62-2936).
	Final energy consumption/service facility	Residential buildings, public buildings, vehicles
	Target group	Occupants of residential buildings, visitors of public buildings, drivers of vehicles
	Regional application	Regional level
Information on measure implementation	**List and description of energy saving actions substantiating the measure**	The funds of the Programme for the funding of the development of renewable energy sources are used for the following purposes: 1) to support the acquisition of equipment increasing the use of renewable energy sources for personal needs in the household and public sectors by reimbursing a fixed amount of money per unit of installed power; 2) to implement projects for the establishment and development of a network of electric car charging stations and hydrogen car filling stations as well as required infrastructure; 3) to support the acquisition of electric vehicles, hydrogen vehicles and hybrid vehicles and for the adaptation of vehicles for the use of energy from renewable energy sources; 4) to implement demonstration projects related to the promotion of the use of hybrid vehicles, hydrogen vehicles and electric vehicles and/or to the establishment of infrastructure necessary for the use of these vehicles.
	Budget and financial source	The budget of the measure will consist of: 1) part of the revenues from the excise duty collected for the sale of liquid fuel (fuel oil), orimulsion, natural gas, coal, coke, lignite, gas oil for heating (fuel for domestic heating) and electricity used to generate heat and power in accordance with the procedure prescribed in the Law on Excise of the Republic of Lithuania; 2) appropriations in the State Budget; 3) appropriations in municipal budgets; 4) revenues from statistical energy transfers; 5) EU support funds; 6) tax for pollution with methane; 7) voluntary contributions from natural and legal

		persons and foreign States to the development of renewable energy sources.
	Implementing body	Ministry of Energy of the Republic of Lithuania
	Monitoring authority	Unspecified
Energy savings	**Method for savings monitoring/measuring**	Savings are calculated pursuant to the Rules for the calculation of national-scale energy savings.
	Energy savings for 2010, 2016	N/A (programme implementation has not begun yet)
	Assumptions	The use of renewable energy sources in buildings and vehicles reduces final energy consumption.
	Overlaps, double counting effect	This measure will not overlap with other measures.

2.2.7 Final energy savings calculated using the top-down method

Final energy savings for 2010 in the energy consuming sectors was calculated according to the top down method using the formulas proposed in the Recommendations on Measurement and Verification Methods in the Framework of Directive 2006/32/EC on Energy End-Use Efficiency and Energy Services, prepared by the European Commission.

The calculations were based on the statistical data for 2010 in the energy sector provided by Statistics Lithuania and announced in the publication 'Kuro ir energijos balansas 2010 m.'[3] (Fuel and Energy Balance in 2010) as well as the data provided in the database of energy sector indicators of Statistics Lithuania[4]. Final energy consumption at enterprises participating in the emissions trading system (ETS) and falling outside the scope of Directive 2006/32/EC[5] was estimated according to the final energy consumption of a legal person that owns a facility included into the ETS. Summarised data calculated using the top-down method are given in Table 4.

Table 4. Savings calculated using the top-down method

Indicator		Savings, ktoe		
Type	**Description**	**2007/2008**	**2007/2009**	**2007/2010**
Household sector				
M1	Non-electricity savings in households. Re-calculated with regard to climatic conditions	-66.6	25.8	-181.0
M2	Electricity savings in households	-20.21	-26.57	5.95
	Household sector – total:	**-86.81**	**-0.77**	**-175.05**
Service sector				
M3	Non-electricity savings in the service sector. Re-calculated with regard to climatic conditions	88.28	45.98	23.66
M4	Electricity savings in the service sector	14.31	1.69	5.80
	Service sector – total:	**102.59**	**47.67**	**29.64**
Transport sector				
M5	Energy savings in road transport	72.22	352.84	290.80
M6	Energy savings in railway transport	1.05	3.67	8.02
M7	Energy savings in inland waterways transport	0.47	-3.17	-4.26
	Transport sector – total:	**73.74**	**353.34**	**294.56**
Industrial sector				
M8-1	Manufacture of food products, beverages and tobacco	12.86	12.70	2.83
M8-2	Manufacture of textiles and textile products	10.92	1.39	8.26
M8-3	Manufacture of wood and wood products	-5.35	8.15	5.16
M8-4	Manufacture of pulp, paper and paper products; publishing and printing	-0.48	-2.03	-5.08

[3] http://www.stat.gov.lt/en/catalog/list/?cat_y=1&cat_id=8
[4] http://db1.stat.gov.lt/statbank/default.asp?w=1536
[5] Determined in accordance with the National Plan for the distribution of emission allowances for 2008–2012 (Official Gazette 2007, No 120-4946).

M8-5	Manufacture of chemicals, chemical products and man-made fibres	-2.75	-1.15	1.63
M8-6	Manufacture of rubber and plastic products	-0.28	-4.13	-2.66
M8-7	Manufacture of other non-metallic mineral products	-2.10	-0.89	-0.64
M8-8	Manufacture of basic metals and fabricated metal products	2.72	-2.66	-4.66
M8-9	Manufacture of machinery and equipment n.e.c.	1.28	2.45	2.68
M8-10	Manufacture of electrical and optical equipment	1.39	-0.89	-1.32
M8-11	Manufacture of transport equipment	3.14	2.69	4.76
	Industrial sector – total:	**21.35**	**15.63**	**10.96**
	Total savings (ktoe)	**110.87**	**415.87**	**159.93**
	[GWh]	**[1289]**	**[4836]**	**[1860]**

2.3. Exemplary role of the public sector (under the requirements of Article 5 of Directive 2006/32/EC)

The following measures are carried out in implementing Article 5 of Directive 2006/32/EC:

Measure	Description	Index
1. Programmes and funds related to energy efficiency improvement in public sector buildings	Programmes and funds related to energy efficiency improvement in public sector buildings are being implemented in Lithuania. These programmes are intended for the 2003–2020 period and are intended for the renovation of the buildings of scientific and higher education institutions, community centres, libraries, museums, prisons and other public institutions, founded by the State and municipalities.	P.1-P.15
2. Energy consumption audits in public buildings and the organisation and implementation of the measures recommended in the audit report	In implementing public building renovation programmes, it is recommended and, in the case of application for EU structural assistance in the 2007–2013 period under the Operational Programme for Cohesion Promotion, in particular its measures 'National-level renovation of public buildings' and 'Regional-level renovation of public buildings', obligatory to conduct a building energy efficiency audit pursuant to Order 4-184 of the Minister for the Economy of the Republic of Lithuania of 29 April 2008 approving the Methodology for performing a comprehensive audit on energy, energy resource and cold water consumption in public buildings. Energy consumption audits evaluate energy losses in buildings, present a reasoned plan of energy saving measures to reduce energy losses, and specify the investments necessary for the implementation of these measures.	P.16
3. Exchange of experience in the area of efficient consumption of energy resources and energy among public authorities, bodies, enterprises and organisations at national and international levels; consulting, informing and training of public sector employees on the issues of energy efficiency improvement	For a successful and speedier implementation of projects and to promote the emergence of new projects, the Law Amending Articles 2, 4, 6, 16, 17, 21,.27 and 28 and the Annex to the Law on Energy and Adding Article 7^1 to the Law (Official Gazette 2008, No 135-5228) was adopted, setting out measures such as the exchange of experience in the area of energy resource and energy consumption among public authorities, bodies, enterprises and organisations at national and international levels.	H.12
4. The requirement to buy energy efficient goods; Guidelines concerning the use of the criterion of energy efficiency improvement in public procurement	The List of goods subject to energy efficiency requirements during public procurement procedures and of energy efficiency requirements applicable to such goods. Governmental bodies and other public authorities and bodies accountable to the Government of the Republic of Lithuania, the Office of the Prime Minister of the Republic of Lithuania, ministries, bodies under ministries and other public authorities and bodies subordinate to ministries, when conducting public procurement procedures for the goods specified in the list approved by the Government of the Republic of Lithuania, must specify the energy efficiency requirements in the technical specifications of the goods. Other contracting authorities are advised to follow the established requirements.	P.17

5. National Green Procurement Implementation Programme	In the National Green Procurement Implementation Programme, the notion of Green procurement is defined as a process in which a contracting authority conducting a public procurement procedure includes one or several environmental criteria in the tender conditions, thus selecting goods, services and works not only on the basis of price and quality but also reduced environmental effects in one, several or all of the phases of the product's existence. This measure promotes the purchase of more energy efficient goods. In order to properly implement the National Green Procurement Implementation Programme, Order No D1-122 of the Minister for the Environment of the Republic of Lithuania of 3 March 2008 approved the Green Procurement Training Programme aimed to provide the civil servants responsible for public procurement procedures with knowledge and skills necessary for appropriate conduct of green procurement procedures. The Green Procurement Training Programme sets out the training plan and lists the topics of instruction that will familiarize the trainees with the green procurement policy, the legal issues of organisation, product groups and the list of environmental criteria.	P.18

2.4. Obligations of energy companies to promote final energy efficiency (in accordance with the requirements of Articles 6(1) and 6(2)(a) of Directive 2006/32/EC)

In implementing the provisions of Article 6(2) of Directive 2006/32/EC, Order No 4-44 of the Minister for the Economy of the Republic of Lithuania approved the Procedure for the conclusion of voluntary agreements (Official Gazette 2009, No 17-674; 2009, No 133-5803).

The objective of concluding voluntary agreements is to increase energy efficiency and reduce negative environmental effects resulting from energy consumption.

The Procedure for the conclusion of voluntary agreements sets out the goals and the procedure for making agreements between the Ministry of Energy of the Republic of Lithuania and energy undertakings producing, selling, distributing or supplying energy resources and/or energy, except for small energy undertakings, the rights and obligations of the parties to the voluntary agreements, the requirements for the monitoring of the implementation of voluntary agreements, as well as the requirements applicable to the submission of reports on the outcomes of energy efficiency improvement.

An energy undertaking that has signed a voluntary agreement organises and performs the monitoring of the implementation thereof. Monitoring shall be conducted in line with the Rules on the monitoring of efficient use of energy resources and energy, approved by Resolution No 692 of the Government of the Republic of Lithuania of 9 July 2008 (Official Gazette 2008, No 83-3296).

Where the period of validity of a voluntary agreement is longer than one year, each year an energy company shall submit to the State enterprise Energy Agency a monitoring report on the obligations carried out during the previous year, which shall:

- provide a description of implemented energy efficiency improvement methods and measures;
- specify the savings target and the actual savings for the previous calendar year and/or the target and the factual increase in energy efficiency resulting from the implemented energy efficiency improvement measures; where possible, the

information to be entered in the data summary forms given in the annexes of the Rules on the monitoring of efficient use of energy resources and energy shall also be specified;

- the description of the factors that had a negative or positive effect on the results of the energy efficiency improvement measures.

The Ministry of Energy, no later than within three months from the receipt of the monitoring report from an energy enterprise, evaluates the information provided in the report and submits to the Ministry of Energy its conclusions regarding the results of the implementation of the voluntary agreement.

An energy undertaking having signed a voluntary agreement has the right:

- with the consent of the Ministry of Energy, to change the methods and measures for energy efficiency improvement envisaged in the Programme, provided that it can guarantee that their implementation will result in energy savings not smaller than initially planned and/or that the increase in energy efficiency will not be smaller than that initially expected to result from the energy efficiency improvement methods and measures being changed;
- with the consent of the Ministry of Energy, to change the intermediate goals (if any) of the voluntary agreement, where the monitoring determines that, due to reasons outside the control of the energy company, the energy savings and/or the increase in the energy efficiency in the previous calendar year was smaller than initially planned;
- to initiate an amendment to the voluntary agreement and the goals set therein if it appears that, due to reasons outside the control of the energy company, the goals of the agreement are unattainable or are not be expected to be attained.

Voluntary agreements and monitoring reports are public documents.[6] These documents are posted on the websites of the Ministry of Energy and the energy company, apart from the confidential or other restricted information contained therein.

2.5. Availability and provision of advice and information to consumers (under Articles 7.1 and 7.2 of Directive 2006/32/EC)

Detailed information is provided in the description of measure H.12 and in Annex 2 of the Action Plan.

[6] http://www.enmin.lt/lt/activity/veiklos_kryptys/energijos_efektyvumas/susitarimai/index.php

3. COMPETENT AUTHORITIES AND ORGANISATIONS (UNDER ARTICLE 4(4) OF DIRECTIVE 2006/32/EB)

Authorities responsible for energy efficiency improvement

Authority	Functions
Ministry of Energy	➢ Adopts the audit methodologies for energy consumption in buildings, installations and technological processes; ➢ In cooperation with the Ministry of Transport and Communications, establishes the procedure and conditions for audits on energy consumption in buildings, installations, transport facilities and technological processes; ➢ In cooperation with the Ministry of Transport and Communications, establishes the procedure for the training and certification of specialists performing audits on energy consumption in buildings, installations, transport facilities and technological processes; ➢ establishes the procedure for the conclusion of voluntary agreements and concludes voluntary agreements with energy undertakings; ➢ organises exchange of experience of efficient use of energy resources and energy among public authorities, bodies, enterprises and organisations at national and international levels; ➢ establishes efficiency requirements and the efficiency control procedure for: • hot water boilers; • boilers and other installations using energy resources with an effective heat output above 0.4 MW; • domestic appliances consuming energy; • heating boilers in buildings with an effective rated output not below 20 kW, heating systems with such boilers, as well as air conditioning systems with an effective rated output above 12 kW.
Ministry of Transport and Communications	➢ Develops programmes for the improvement of energy resource and energy efficiency in transport facilities and coordinates the implementation thereof; ➢ gives recommendations and implements measures improving energy resource and energy efficiency in transport facilities; ➢ adopts methodologies for auditing energy efficiency in transport facilities (except for structures); ➢ carries out informational and educational activities promoting efficient use of energy resources and energy in transport facilities.
Ministry of the Environment	➢ drafts and submits recommendations on energy resource use; ➢ intends to enable the country's residents to upgrade their housing, while reducing energy consumption; ➢ regulates the thermal characteristics of building envelopes and energy performance certification of buildings, and prepares proposals on assistance for housing upgrading while reducing energy consumption.
Ministry of Energy	➢ Implements the National Energy Efficiency Improvement Programme and its implementing plan; ➢ carries out promotional and informational work for efficient consumption of energy resources and energy and performs the functions prescribed by law or entrusted by the Ministry of Energy of the Republic of

	Lithuania in connection with energy efficiency improvement.
State Energy Inspectorate	➢ Controls energy and energy resource efficiency of energy facilities and installations.
Energy undertakings	➢ Take part in the preparation and development of efficient energy supply, distribution and transmission plans; ➢ supply residents and local authorities with information on efficient use of energy resources and energy.
Municipalities	➢ Take part in the preparation of educational public awareness raising measures helping to use energy and energy resources efficiently; ➢ implement energy efficiency improvement programmes.
Training bodies	➢ are responsible for the inclusion of the issues of efficient use of energy and energy resources into the training programmes for the employees building and operating energy facilities and installations.

Authorities responsible for the monitoring of energy efficiency improvement

Participants of the monitoring process include support beneficiaries, public authorities and bodies administering the programmes implemented by public authorities as well as the Ministry of Energy of the Republic of Lithuania. Monitoring shall be performed in line with the Rules on the monitoring of efficient use of energy resources and energy. More information is provided in Chapter 2.2.1 of the Action Plan.

Authority	Functions
Efficiency measure implementing bodies	Having implemented energy efficiency measures, during the same calendar year and the next calendar year record the ambient and specific indicators of the facility and transfer the collected data to the administrator of the respective programme.
Efficiency programme administrators	Evaluate individual indicators presented by the bodies implementing efficiency measures, summarise the monitoring, offer projections and submit to the Ministry of Energy the monitoring reports on the efficient use of energy resources and energy for the programmes of the previous calendar year.
Ministry of Energy	Performs the evaluation of the indicators for the previous calendar year, the monitoring summary and projections on a national scale based on the monitoring reports on the programmes for efficient use of energy resources and energy submitted by programme administrators
Energy Agency	Performs the calculations of national-scale energy savings and drafts a report on national-scale energy savings.

Annex 1.

VALUES OF HEAT TRANSFER COEFFICIENTS AND HEAT CONSUMPTION STANDARDS

Construction technical regulation RSN 143-92 of 1992 'Thermal engineering of the building envelope', approved by Order No 97 of the Ministry of Construction and Urban Development of the Republic of Lithuania of 20 May 1992 (Official Gazette 1994, No 22-367; 1995, No 95-2143).

Standard values of the heat transfer coefficient k, W/(m^{2}K) for residential, public and industrial building walls.

Wall structure type	k, W/(m^{2}K)		
	Indoor temperature, °C		
	$t_v \geq 18$	10-17	5-9
Single-layer	0.5	0.6	0.7
Lightweight stonework	0.6	0.7	0.8
Multi-layer (weight above 200 kg/m^2)	0.3	0.42	0.5
Light frame and sandwich-type (weight up to 200 kg/m^2)	0.28	0.36	0.43

Standard values of the heat transfer coefficient k, W/(m^{2}K) for the roofs of residential and public buildings

Roof structure type	k, W/(m^{2}K)	
	Indoor temperature, °C	
	$t_v \geq 18$	10-17
Flat roof with reinforced concrete panel base	0.25	0.31
Flat roof made of light bearing structures (with reinforcement, metal or other base	0.22	0.27
Attic partitioning (attic not heated)	0.21	0.26
Sloping roof (attic heated)	0.24	0.29

Standard values of the heat transfer coefficient k, W/(m^{2}K) for the basement and cellar partitions in all types of buildings

Partition structure type	k, W/(m^{2}K)	
	until 31.12.1995	from 01.01.1996
Partition of a non-heated cellar or basement when the temperature difference between the cellar and first floor Δt=(5÷13°C) $\Delta t \geq 14$°C	0.75 0.65	0.5 0.4
Partition above passageway	0.26	0.26

Standard values of the heat transfer coefficient k, W/(m^{2}K) of thermally insulated industrial building roofs

Roof structure type	k, W/(m^{2}K)		
	Indoor temperature, °C		
	$t_v \geq 18$	10-17	$5 \leq t_v \leq 9$

Flat roof with reinforced concrete panel base	0.25	0.31	0.37
Flat roof made of light bearing structures (with reinforcement, metal or other base	0.22	0.27	0.32
Terraced roofs, where additional loads exceed 300 kg/m^2	0.50	0.60	0.65

Standard values of the heat transfer coefficient k, W/(m^2K) of walls

Partition structure type	**k, W/(m^2K)**
Floor on soil	0.3
Floor above soil with air layer without contact with outdoor air	0.28

Standard values of the heat transfer coefficient k, W/(m^2K) of walls of building doors, windows and gates

Partition type	**k, W/(m^2K)**	
	Indoor temperature, °C	
	$t_v \geq 18$	**$t_v < 18$**
Windows		
Windows of residential buildings, hospitals, clinics, specialised heath centres and other treatment facilities, and children's facilities	1.90	2.80
Windows of other public buildings, industrial enterprises and auxiliary buildings	1.9	2.95
Windows of industrial buildings	1.9	2.95
Doors		
Exterior doors of buildings	2.0	3.30
Interior doors of buildings, when the temperature difference between premises is $\Delta t \geq 10$°C	2.0	3.30
Gates	2.0	3.30

Standards of heat consumption (kWh/m^2) per total area unit of heated rooms in residential buildings during a heating season

Group of buildings of a similar heating mode	**Total heated area, m^2**	**Standard heat consumption during heating season, kWh/m^2**
Single-apartment, one-storey houses	60-120	195
One or two-storey (including attics) houses	100-250	170

One to three-storey (including attics) houses of complex form and developed volume, single-apartment houses	180-400	160
Two-storey semi-detached houses	250-550	150
Multi-apartment buildings of 3-4 storeys	500-1800	135
Multi-apartment buildings of 5 storeys	1500-4000	130
Multi-apartment tower buildings of 9-12 storeys	2500-5000	125

Construction technical regulation STR 2.05.01:1999 of 1999 'Thermal engineering of the building envelope', approved by Order No 117 of the Minister for the Environment of the Republic of Lithuania of 29 April 1999 (Official Gazette 1999, No 41-1297)

Standard values of the heat transfer coefficient U, W/(m^2xK) of envelopes and of the heat transfer coefficient Y, W/(mxK) of linear thermal bridges

Elements of the envelope	Residential buildings	Public buildings	Industrial buildings
	U_N standard value, W/m^2K		
Roofs	0.18xk	0.2xk	0.25xk
Partitions bordering the exterior	0.18xk	0.2xk	0.25xk
Partitions and floors	0.26xk	0.3xk	0.4xk
Walls	0.26xk	0.3xk	0.4xk
Windows and doors	1.9xk	1.9xk	1.9xk
Linear thermal bridges	Y_N ≤0.18xk	Y_N ≤0.2xk	Y_N ≤0.25xk

Construction technical regulation STR 2.05.01:2005 'Thermal engineering of the building envelope' of 2005, approved by Order No D1-156 of the Minister for the Environment of the Republic of Lithuania of 18 March 2005 (Official Gazette 2005, No 100-3733)

Standard values of the heat transfer coefficient U_N, W/(m^2xK) of the envelope and of the heat transfer coefficient Y_N, W/(mxK) of linear thermal bridges

Elements of the envelope	Residential buildings	Non-residential buildings	
		public	industrial
Roofs			
Partitions bordering the exterior	U_N=0.16xk*	U_N=0.20xk	U_N=0.25xk
Envelope of heated premises bordering the soil			

Partitions above non-heated cellars and basements	U_N=0.25ˣk	U_N=0.30ˣk	U_N=0.40ˣk
Walls	U_N=0.20ˣk	U_N=0.25ˣk	U_N=0.30ˣk
Windows and other transparent partitions	U_N=1.6ˣk	U_N=1.6ˣk	U_N=1.9ˣk
Doors, gates	U_N=1.6ˣk	U_N=1.6ˣk	U_N=1.9ˣk
Linear thermal bridges	Y_N=0.18ˣk	Y_N ≤0.20ˣk	Y_N ≤0.25ˣk

*$k=20/(q_i-q_e)$ – temperature correction, q_i –indoor air temperature, °C; q_e – the average outdoor air temperature of the heating season or the design indoor air temperature in the adjacent room , °C. When the design indoor air temperature q_i =20°C and the outdoor air temperature q_e=0°C, k=1.

Annex 2.

INFORMATIONAL, EDUCATIONAL AND TRAINING ACTIVITIES

1. The requirement for energy companies to provide information to energy customers and municipal authorities on the efficiency of energy resources and energy, safe and efficient use of energy facilities and installations, energy facilities and installations under construction and reconstruction, energy prices and the services rendered to energy customers.

The Law Amending Articles 2, 4, 6, 16, 17, 21, 27 and 28 of the Law on Energy and Adding Article 7^1 to the Law (Official Gazette) 2008, No 135-5228) stipulates that the Ministry of Economy of the Republic of Lithuania is tasked with organizing the sharing of experience between public authorities, institutions, enterprises and organisations in the field of efficiency of energy and energy resources at the national and international level.

The Law on Energy of the Republic of Lithuania (Official Gazette 2002, No 56-2224; 2010, No 67-337) lists the following authorities and measures relating to the provision and ensuring of information for final consumers:

Article 6. Competence of the Ministry of Energy

12) shall establish the procedure, volume and terms of furnishing of the information relating to activities in the energy sector to public authorities, bodies and third parties; [...]

21) shall organise the exchange of experience in the area of efficient use of energy and resources among State institutions, agencies, enterprises and organisations at the national and international levels;

Article 8. Competence of municipalities

Within its territory, a municipality shall:

6) participate in the preparation of educational public awareness measures facilitating the efficient use of energy and energy resources.

Article 10. Energy Agency

2. At the instruction from the Ministry of Energy, the Energy Agency shall perform the following main functions:

4) shall carry out the promotional and informational work on the efficient use of energy resources, energy and renewable energy sources;

Article 19. Information

4. Within the territory of their activities, energy undertakings shall, in accordance with the procedure and within the extent prescribed by the Government or Government-authorised institution and within their own remit, provide energy consumers and local authorities with information on the efficient use of energy resources and energy, safe and efficient use of energy facilities and installations, energy facilities and installations being constructed or reconstructed, energy prices as well as the services provided for energy consumers.

Law Amending Articles 2, 4, 6, 16, 17, 21, 27 and 28 of the Law on Energy and Adding Article 7^1 to the Law

Article 4. Addition of Article 7^1 to the Law.

Article 7^1 shall be added to the Law:

'Article 7^1. Competence of the Ministry of Transport and Communications

Ministry of Transport and Communications shall:

2) offer recommendations and implement measures increasing the efficiency of energy resources and energy in transport facilities; [...]

5) carry out informational and educational activities promoting the efficient use of energy resources and energy in transport facilities;

The Rules on the provision of information relating to activities in the energy sector to public authorities, bodies and third parties (Official Gazette 2010, No 59-2923, 2011; No 22-1070) provide public authorities, bodies and third parties (final energy consumers, municipalities, EU institutions and agencies) with the right to receive information on activities in the energy sector from energy undertakings and natural persons engaged in activities in the energy sector, and establish the procedure for the provision of such information. The Rules govern the procedure for the provision of information related to activities in the energy sector, its amount and the conditions of provision as well as the relationship between information seekers, information providers and third parties. The Rules apply to energy undertakings, natural persons engaged in energy activities, public authorities and bodies as well as the respective third parties.

Heat, electricity and gas enterprises, within their remit, provide final customers of energy in the territory of their activities with information about:

- energy and services provided to final customers;
- the principles of entering into energy supply contracts as well as the rights of energy consumers;
- energy prices and rates;
- safe and efficient use of energy facilities and installations;
- energy facilities and installations under construction or reconstruction;
- efficient use of energy resources and energy.

Heat, electricity and gas enterprises make available to final customers their telephone numbers and e-mail addresses for contacting them for the aforementioned information.

Heat, electricity and gas enterprises holding licenses issued by public authorities to engage in a respective activity shall, at least once a year, submit to the final customer and, where energy is supplied to a multi-apartment building, to the association of multi-apartment building owners or to its administrative body, together with the bill, unless different payment procedures are prescribed in the contract, or separately by ordinary mail or e-mail depending on the form in which the customer receives payment documents, or on a self-service website, the following information in a clear and understandable form:

- a comparison of the amount of the given final customer's energy consumption with the amount of energy consumed by the final customer consuming the minimum and the average amounts of energy within the same group of final customers. Where appropriate, calculations of the minimum and the average amounts of energy consumed by the final customer are adjusted taking into account all factors that affect energy consumption and do not depend upon the behaviour and actions of the final energy customer, for example,

weather conditions, building use hours, etc. Alongside the said comparison, the energy enterprise also provides a description of final customers being compared;

o a comparison of the energy amount consumed by the final customer during the reference period with the amount of energy consumed by the same final customer during the same period of the previous year, specifying, where appropriate, the parameters predetermining consumption of energy. This comparison shall be optional if the submission of bills is not required by legal acts.

Heat, electricity and gas enterprises and retail petroleum product sales companies, together with the bill, in contracts, receipts or in another form, also on their websites where possible, provide their final customers with the contact details of the organisations, institutions, entities and enterprises, including their websites providing information on energy efficiency improvement measures, comparison of the energy consumed by final customers and/or the technical specifications of the energy consuming installations, etc.

Information to final customers may be provided in any of the ways specified below:

o preparing, publishing and circulating brochures, booklets, leaflets, posters and other informational publications;

o organisation of conferences, seminars, lectures and meetings;

o organisation of radio and TV shows and discussions and/or participation in them;

o writing of articles and submitting them to the mass media;

o the use of electronic and other means of communication.

Control of information provided to final customers is carried out by the State Energy Inspectorate under the Ministry of Energy of the Republic of Lithuania.

2. Provision of information and methodological and organizational assistance to cooperating business entities of Lithuania and the EU and to the academic and advisory bodies participating in EU programmes aimed at the improvement of efficiency of energy and energy resources.

These activities are carried out according to the needs of business, academic and advisory entities of the Republic of Lithuania and the European Union which cooperate or intend to cooperate in the specified programmes of the European Union.

3. Publicising of information on the programmes being implemented; provision of advice and organisation of training on the use of the programme measures.

Information on energy efficiency improvement-related programmes implemented in the country, which are aimed at achieving the national indicative energy savings target, and advice on the use of measures established under the programmes are provided by the authorities responsible for the implementation of such programmes:

Information on measures of the EU Structural Support Strategy for 2007-2013 according to Activity Group 4 "Promotion of energy generation and consumption efficiency and the use of renewable energy sources" under Priority 3 "Environment and sustainable development" of the Operational Programme for Cohesion Promotion:

- Promotion of energy generation efficiency;
- Renovation of public buildings at the national level;
- Renovation of public buildings at the regional level; and
- Renovation projects for public buildings conforming to the benefits and quality assessment criteria of SPD Measure 1.2. is provided by the Ministry of Economy of the Republic of Lithuania and posted on its website at http://www.ukmin.lt. Related information is also available at http://www.esparama.lt.

Information on the Implementing Programme for the National Energy Strategy approved by Resolution No X-1046 of 18 January 2007 of the Seimas of the Republic of Lithuania (Official Gazette 2007, No 11-430) is provided by the Ministry of Energy of the Republic of Lithuania and posted on its website at http://www.enmin.lt.

Information about the National Energy Efficiency Programme for 2006-2010 approved by Resolution No 443 of the Government of the Republic of Lithuania 11 May 2006 Official Gazette, 2006, No 54-1956) and its implementation is provided by the Ministry of Economy of the Republic of Lithuania and posted on its website http://www.enmin.lt.

Information on the Lithuanian Housing Strategy approved by Resolution No 60 of the Government of the Republic of Lithuania 21 January 2004 (Official Gazette 2004, No 13-387) and on the Plan of Measures for the Implementation of the Lithuanian Housing Strategy, approved by Resolution No 1145 of 8 September 2004 of the Government of the Republic of Lithuania (Official Gazette 2004, No 137-4996) is provided by the Ministry of the Environment of the Republic of Lithuania and posted on its website at http://www.am.lt.

Information on the Programme for the upgrading of multi-apartment buildings, approved by Republic of Lithuania Government Resolution No 1213 of 23 September 2004 (Official Gazette 2004, No143-5235; 2005, No 78-2839; 2008, No 36-1282) and its implementation is provided by the public institution Housing and Urban Development Agency and by the Ministry of the Environment of the Republic of Lithuania and posted on their websites: http://www.bkagentura.lt and http://www.am.lt, respectively.

Information on the Programme 2006–2008 for the reconstruction of general education and vocational schools and for providing them with teaching aids approved by Resolution No 1230 of the Government of the Republic of Lithuania of 16 November 2005 (Official Gazette 2005, No 137-4919) and its implementation is provided by the Ministry of Education and Science of the Republic of Lithuania and posted on its website at http://www.smm.lt.

Information about the School Improvement Programme (C component) and its implementation is provided by the public institution Central Project Management Agency and by the Ministry of Education and Science of the Republic of Lithuania and posted on their websites: http://www.cpva.lt and http://www.mtp.smm.lt, respectively.

Information on the Energy Savings Programme for public authority buildings is provided by the Central Project Management Agency and posted on its website at http://www.cpva.lt.

Information about MATRA programme for implementation of EU directives is provided by the public institution Central Project Management Agency and posted on its website at http://www.cpva.lt

Information about the Programme for renovation and reconstruction of science and higher institutions for 2003–2006 is provided by the public institution Central Project Management Agency and posted on its website at http://www.cpva.lt.

Information on the Programme for the renovation of dormitories of schools of higher education, approved by Resolution No 843 of the Government of the Republic of Lithuania of 1 September 2006 (Official Gazette 2006, No 96-3699), and its implementation is provided by the Ministry of Education and Science of the Republic of Lithuania and posted on its website at http://www.smm.lt.

Information on the Programme for the renovation of prisons and humanization of imprisonment conditions for 2004–2009, approved by Resolution No 619 of the Government of the Republic of Lithuania of 24 May 2004 (Official Gazette 2004, No 85-3081), and its implementation is provided by the Prison Department under the Ministry of Justice of the Republic of Lithuania and posted on its website.

Information about the Programme for the upgrading of community centres 2007–2020, approved by Resolution No 785 of the Government of the Republic of Lithuania of 4 August 2006 (Official Gazette 2006, No 88-3470), and its implementation is provided by the Ministry of Culture of the Republic of Lithuania and posted on its website:

4. Provision of advise and information to final customers, organisation of their training on energy efficiency improvement matters and organisation of the preparation and publishing of information material about the saving of energy resources and energy; promotion of energy saving ideas via TV and radio; organisation of conferences, seminars, contests and exhibitions enhancing the abilities of the country's specialists and of the public to use energy resources and energy more efficiently; preparation and dissemination of information about the financing opportunities for energy efficiency improvement projects.

Informational, educational and consulting activities carried out in implementing the National Energy Efficiency Programme include the preparation and publishing of more than 50 different publications on the efficiency of energy resources and energy as well as wider use of local, renewable and waste energy resources, the organisation of more than 40 seminars, conferences, and contests and the organisation of and participation in TV and radio shows as well as preparation of information for the press.

The draft educational programme ‘Saving of energy and energy resources; warm and ecological dwellings’ was developed and integrated into the school teaching programmes for different subjects, accompanied by the preparation of methodological material and recommendations for the implementation of this programme. The programme was submitted to the Ministry of Education and Science for formalisation in the established manner.

Recommendations for municipalities have been prepared on the issues of educating, informing and encouraging people to use energy resources and energy in an efficient manner. Additionally, recommendations have been prepared for energy enterprises on the provision of information, within their remit, to energy users concerning energy activities and safe use of energy resources and energy in energy facilities and installations.

Employees of the public institution Housing and Urban Development Agency drafted the training programmes ‘Introduction of energy management in multi-apartment buildings’ and ‘Implementation of energy performance certification of multi-apartment buildings’ which were intended to train the owners of multi-apartment buildings, associations of multi-apartment buildings, natural persons authorised to manage and maintain the common-use facilities of multi-apartment buildings on the basis of a joint activity agreement, and enterprises authorised to administer the joint ownership of multi-apartment buildings.

In 2006–2007, the Federation of the Associations of Owners of Multi-apartment Buildings of the Republic of Lithuania organised training, ordered by the Ministry of the Environment of the Republic of Lithuania, for the employees engaged in the management and administration activities of the associations of the owners of multi-apartment buildings. 886 employees engaged in the management and administration activities of the associations of the owners of multi-apartment buildings and individuals concerned participated in the abovesaid training.

5. Recommendations concerning the application of the energy efficiency improvement criterion in public procurement

In implementing Article 5 of Directive 2006/32/EC, the Government of the Republic of Lithuania adopted the Resolution approving the List of goods subject to energy efficiency requirements in procurement procedures and of the energy efficiency requirements applicable to these goods. This Resolution instructed the Public Procurement Service under the Government of the Republic of Lithuania to amend the Guidelines for the assessment of public procurement tenders approved by Order No 1S-53 of the Director of the Procurement Service under the Government of the Republic of Lithuania of 12 October 2006 (Official Gazette 2006, No 113-4329) by adding energy efficiency as one of the criteria for the assessment of public procurement tenders and to coordinate the amendments to the aforementioned Guidelines with the Ministry of the Economy of the Republic of Lithuania.

6. Sharing of the best practices in the field of efficiency of energy and energy resources among public sector bodies and publishing of the examples of the best practices in energy and energy resources efficiency of the public sector in the mass media

The Law Amending Articles 2, 4, 6, 16, 17, 21, 27 and 28 of the Law on Energy and Adding Article 7^1 to the Law stipulates that the Ministry of Economy of the Republic of Lithuania shall organise the sharing of experience between public authorities, bodies, enterprises and organisations in the field of efficient use of energy and energy resources at the national and international levels.

7. Organisation and performance of energy audits in public buildings and implementation of the measures recommended in the audit report.

In implementing Article 12 of Directive 2006/32/EC, Order No 4-184 of the Minister for the Economy of the Republic of Lithuania of 29 April 2008 approved the Methodology for performing a comprehensive audit on energy, energy resource and cold water consumption in public buildings (Official Gazette 2008, No 55-2097). This methodology defines the stages of performing audits of the use of energy, energy resources and cold water in public buildings and the preparation of the audit report. The purpose of a comprehensive audit of the use of energy, energy resources and cold water is to assess the current status of the envelope and engineering systems of buildings, identify the factors influencing the consumption of energy, energy resources and cold water, and to select and recommend appropriate measures for reducing the consumption of energy, energy resources and cold water, improving comfort conditions and extending the service time of the building or parts thereof.

Energy audits are carried out in implementing different energy efficiency improvement programmes. Good examples of such audits include 720 audits performed when implementing the Programme for the upgrading of multi-apartment buildings and 120 audits performed when implementing the Programme for the renovation and reconstruction of science and higher education institutions for 2003–2006.

The applicants included in the List of State projects proposed for financing from EU funds under the measure 'Renovation of public buildings at the national level' approved by Order No 4-328 of the Minister for the Economy of the Republic of Lithuania of 18 July 2008 (Official Gazette 2008, No 89-3572) and receiving funding from the EU Structural Support Strategy for 2007–2013 according to the measure 'Renovation of public buildings at the national level' of the Operational Programme for Cohesion Promotion are expected to perform over 280 audits; more than 20 audits have already been carried out according to the measure 'Renovation projects for public buildings complying with use and quality assessment the criteria under SPD measure 1.2'.

Audits will also be performed in order to obtain funding under the measure 'Renovation of public buildings at the regional level' under the Operational Programme for Cohesion Promotion.

Energy consumption audits are required when applying for financing under energy efficiency improvement programmes.

8. Standard contracts on financial instruments between potential purchasers and providers of energy services and other energy efficiency improvement measures in the public and private sector.

In implementing Article 9(2) of Directive 2006/32/EC and with a view to encouraging energy customers to conclude energy efficiency contracts with the providers of energy services, the Standard Contract on energy efficiency of buildings was approved by Order No 4-511 of the Minister for the Economy of the Republic of Lithuania of 27 October 2008 (Official Gazette 2008, No 130-5000). The approved Standard Contract will be used for the purpose of concluding energy efficiency contracts between owners of buildings (or authorised representatives representing the owners' interests) and legal persons providing energy services.

Legal persons providing energy services under the contract, will guarantee the saving of the contractual amount of energy resources and/or energy through the implementation of energy saving measures provided for in the contract. The recipients of the services will pay the provider of energy savings services the fee equal to the price for energy resources and (or) energy saved during the previous contractual period. If savings of energy resources and/or energy are smaller than established in the contract, the fee due from the recipients for the services will be reduced by the difference between expenses and income of the service recipients resulting from the saved amount of energy resources and/or energy. If savings of energy resources and/or energy are larger than established in the contract, the resulting amount of funds will go to service providers.