Information Report

on progress towards the indicative national energy efficiency target

in 2017-2019 in accordance with Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC

21 April 2017

CONTENTS

List of abbreviations, acronyms and definition of terms

RES	Renewable energy sources
bar	Bar – unit of pressure
CSB	Central Statistical Bureau
DH	District heating
EC	European Commission
EM	Ministry of the Economy
EEOS	Energy efficiency obligation scheme
ERDF	European Regional Development Fund
EU	European Union
ESCO	Energy service company – energy efficiency service provider
EU funds	European Union Structural Funds and the Cohesion Fund
EU ETS	European Union Emissions Trading System
EUR	Euro (common currency of the European Union)
GWh	Gigawatt hour (unit of energy)
GDP	Gross domestic product
CF	Cohesion Fund
CCFI	Climate Change Financial Instrument
MARKAL	Model used to carry out economic analysis of different energy-related systems
Mtoe	Million tonnes of oil equivalent
MWh	Megawatt hour (unit of energy)
SME	Small and medium-sized enterprise
NCV	Net calorific value
PJ	Petajoule (unit of energy)
GHG	Greenhouse gases
DSO	Distribution system operator

1. INTRODUCTION

On 9 February 2016 (paragraph 42 of Minutes No 6), the Cabinet approved the *2016-2020 Energy Development Guidelines*[1] (hereinafter 'the 2020 Energy Guidelines') defining the basic principles, goals and strategic objectives of the Latvian Government's policy in the energy sector for the period from 2016 to 2020, in order to plan the long-term development of the energy sector, *inter alia* to ensure the achievement of the energy target indicators set by Latvia.

The 2020 Energy Guidelines emphasise that the future energy policy will be built on a number of basic principles: energy efficiency is one of the instruments to reduce the consumption of energy resources, thereby increasing the security of energy supply; the impact of energy on climate change must be reduced; energy users should have access to information on the formation of the energy policy, energy efficiency measures, the functioning of the energy market and action in the event of a power outage or crisis.

The 2020 Energy Guidelines state that the main objective of Latvia's energy policy is a competitive economy with two energy policy sub-objectives:

1) sustainable energy ensuring the sustainability of energy in terms of economic, social and environmental aspects. It is planned to achieve this by improving energy efficiency and promoting high-efficiency production technology and RES technologies;

2) increased security of energy supply ensuring affordable and stable energy supply to energy users, reducing geopolitical risks, diversifying the sources and routes of energy supply, developing interconnection infrastructure, establishing reserves and engaging in the improvement of the international regulatory framework.

To measure progress towards achieving the objectives, quantitative target indicators have been determined. Latvia is to achieve primary energy savings of 0.670 Mtoe (total energy savings both in the end-use and transformation sectors) in 2020. Apart from the above target, Latvia is to achieve the binding cumulative final energy savings target of 1.5 % of energy supplied to final customers – a total of 0.850 Mtoe (9 896 GWh) from 2014 to 2020, and the annual renovation target of 3 % of the area of state direct administration buildings (the maximum estimate being a total of 678 460 m2 renovated). The above targets reflect the requirements under Articles 3, 5 and 7 of Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (hereinafter Directive 2012/27/EU). Further, in accordance with the provisions of Article 4(4) of the

[1] http://polsis.mk.gov.lv/documents/5499

Energy Efficiency Law, the Ministry of the Economy must analyse progress in achieving the energy efficiency targets.

The information report **on progress towards the indicative national energy efficiency target in 2017-2019 in accordance with Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC** (hereinafter 'the Information Report') has been drawn up in accordance with the requirements laid down in Article 4(4) of the Energy Efficiency Law and the requirements under Article 24(2) of Directive 2012/27/EU. Commission Implementing Decision 2013/242/EU of 22 May 2013[2] has also been taken into account in drawing up the Information Report.

[2] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:141:0048:0053:LV:PDF

2. OVERVIEW OF NATIONAL ENERGY EFFICIENCY TARGETS AND SAVINGS

2.1. Indicative national energy efficiency target for 2020

The indicative national energy efficiency target for 2020, set for Latvia based on the requirements of Article 3 of Directive 2012/27/EU, is primary energy consumption (less energy consumption for non-energy needs) expressed in absolute units - 225 PJ (5.4 Mtoe). The relevant final energy consumption target, less energy consumption for non-energy needs, for 2020 is 187 PJ (4.47 Mtoe). These indicative targets provide for primary energy savings of 28 PJ (0.670 Mtoe) and end-use energy savings of 19 PJ (0.457 [sic]) in 2020 accordingly.

The indicative primary and final energy target was calculated on the basis of projected long-term energy consumption - the base scenario developed in 2012. The base scenario takes into account all energy efficiency improvement measures and policies valid as at the moment of developing the projections, which will impact on the energy consumption in 2020 after their implementation. The Information Report *on progress towards the indicative national energy efficiency target in 2014-2016 in accordance with Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC*[3] (hereinafter 'the 2014-2016 Information Report') contains a detailed description of the process of calculating projected energy consumption.

2.2. Indicative final energy consumption target in accordance with the requirements of Directive 2006/32/EC

The indicative end-use energy savings target for 2016 calculated in accordance with the methodology set out in Annex 1 to *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 Directive 2006/32/EC) is 3 483 GWh[4] (12.5 PJ). Directive 2006/32/EC has not been in force since 5 December 2012, however the indicative final energy consumption target set out therein was binding until 2016, therefore its progress will be reported by 2018.

[3] https://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficiency-directive/national-energy-efficiency-action-plans

[4] Directive 2006/32/EC has been invalid since 5 December 2012, however the indicative final energy consumption target set out therein was binding until 2016;

Table 1. Trajectory to achieve the indicative energy efficiency target calculated in accordance with the requirements of Directive 2006/32/EC

	2010	2012	2014	2016
Calculated target, GWh	67	1 161	2 477	3 483

2.3. Additional energy efficiency targets

In accordance with the 2020 Energy Guidelines, the following energy efficiency targets apply to the overall national economy:

1) primary energy savings of 0.670 Mtoe (28 PJ) in 2020, the target being non-binding and set in Latvia's *National Reform Programme EU 2020*;
2) national binding accumulated final energy savings of 9 896 GWh (0.850 Mtoe) by 2020;
3) the annual renovation target of 3 % of the area of state direct administration buildings (the maximum estimate being a total 678 460 m^2 renovated);
4) average heat consumption in heating (climate-adjusted) down by 50 % against consumption in 2009 (202 kWh/m^2), with the target of 150 kWh/m^2 per year to be achieved by 2020;
5) energy intensity down from 372.9 kgoe per EUR 1 000 of GDP in 2010 to 280 kgoe per EUR 1 000 of GDP in 2020.

In addition, the following also apply:

6) the national indicative end-use energy savings target for 2016 referred to in Section 2.1 in accordance with the requirements of Article 4(1) of Directive 2006/32/EC – 3 483 GWh;
7) the target for developing nearly-zero energy buildings:[5] buildings owned by the state and in the possession of institutions and occupied by state authorities are to achieve the level of consumption of a nearly-zero energy building from 2019, and other newly erected buildings from 2021.

2.4. Primary energy savings

As mentioned in Section 2.1, to achieve the indicative national energy efficiency target for 2020, primary energy consumption in Latvia is to be below 225 PJ in 2020.

Primary energy savings were estimated on the basis of calculated end-use energy savings in accordance with the requirements of Directive 2006/32/EC relating to the final energy consumption and primary energy factor co-efficient, and considering energy efficiency improvement measures that are not reported

[5] The definition of a nearly zero-energy building is provided in Article 1(6) of the *Law on the Energy Performance of Buildings* and paragraph 17 of Cabinet Regulation No 383 of 9 July 2013 *On the energy certification of buildings.*

under Directive 2006/32/EC (savings from loss reduction in electricity transmission and distribution).

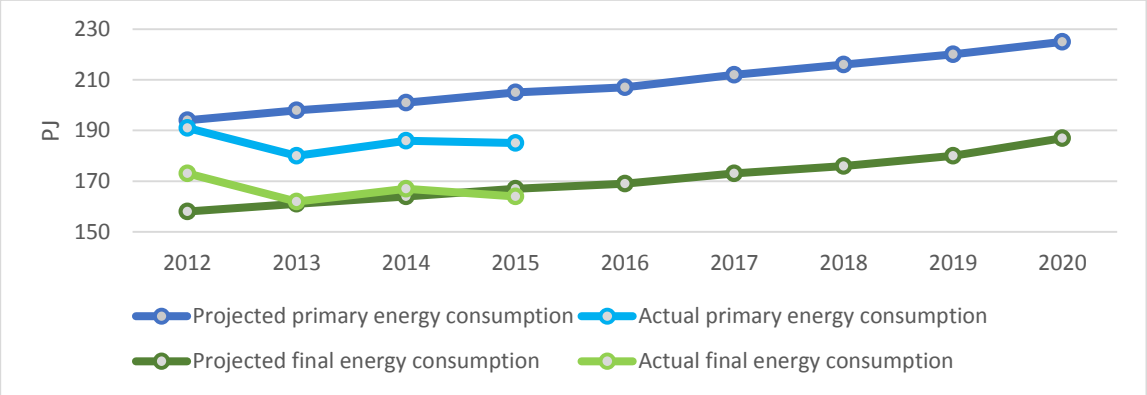


Figure 1. Projected and actual primary energy and final energy consumption for 2012-2020[6]

Upon analysing the trends in actual primary energy consumption and final energy consumption before 2015, it may be concluded that they are in line with the achievement of the indicative target set for 2020.

Estimated primary energy savings for 2015 are 21.49 PJ (0.514 Mtoe). The savings consist of end-use energy savings of 21.16 PJ (0.506 Mtoe), calculated in primary energy units, and savings of 0.33 PJ (8 ktoe) from loss reduction in electricity transmission and distribution. Based on the savings already achieved, it is estimated that projected primary energy savings in 2020 could be up to 29 PJ (0.69 Mtoe), which is sufficient for Latvia to achieve its indicative national energy efficiency target for 2020 referred to in Section 2.1.

2.5. Achieved final energy savings and projected savings

2.5.1. End-use energy savings calculated in accordance with the requirements of Directive 2006/32/EC

To calculate energy savings in accordance with the requirements of Directive 2006/32/EC, the top-down and bottom-up calculation method was used. The calculation methods have not changed compared with the 2014-2016 Information Report *on progress towards the indicative national energy efficiency target in 2014-2016 in accordance with Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing*

6 Research *Developing proposals for the National Energy Efficiency Action Plan in accordance with the requirements of Part 2 of Annex XIV to Energy Efficiency Directive 2012/27/EU* made by FEI [the Institute of Physical Energetics] in 2016

Directives 2004/8/EC and 2006/32/EC[7] (hereinafter 'the 2014-2016 Information Report'), i.e. energy savings using the top-down method are carried out in accordance with the Commission guidelines.[8] The 2014-2016 Information Report had Annex No 1 *Description of the methodology used for calculating energy savings in accordance with the requirements 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*, in accordance with the EC guidelines[9]. The recommended or minimum indicators are used for calculating energy savings in accordance with the above guidelines and methodology, and the savings are calculated for 2015 (n-2 from the reporting year).

End-use energy savings are calculated using the top-down method for the period from 2008 to 2015 (eight years) and are aggregated in Table 2 (here and in the tables below, the calculated energy savings are indicative).

Table 2. End-use energy savings calculated in accordance with the requirements of Directive 2006/32/EC using the top-down method for 2015

Energy savings sector	Energy savings for 2015, ktoe	Energy savings for 2020, GWh	Notes
Households	289	3 361	Recommended indicators used
Services sector	48	563	Minimum indicators used
Transport sector	98	1 137	Recommended indicators used
Industry	-89	-1 035	Recommended indicators used
Total savings	**346**	**4 026**	Taking into account also negative savings (increased consumption)

To calculate end-use energy savings applying the bottom-up method, information obtained in the energy efficiency monitoring system was used in accordance with Cabinet Regulation No 668 of 11 October 2016 *Rules for energy efficiency monitoring and the applicable standard of the energy management system* (Monitoring Regulation No 668)[10] (earlier the operation of the monitoring system was regulated by Cabinet Regulation No 923 of

[7] https://ec.europa.eu/energy/sites/ener/files/documents/2014_neeap_lv_latvia.pdf

[8] "Commission draft guidelines Recommendation on measurement and verification methods in the framework of Directive 2006/32/EC on energy end-use efficiency and energy services" https://www.energy-community.org/pls/portal/docs/906182.PDF

[9] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:141:0048:0053:LV:PDF

[10] https://likumi.lv/doc.php?id=285878

30 September 2010 *Procedure for counting national energy end-use savings and ensuring the operation of the energy efficiency monitoring system*).

Information on energy savings was aggregated using bottom-up method based on reports on the results of implementing individual projects under the following programmes:

1) European Structural Funds programme ***Measures to improve thermal insulation of multi-apartment residential buildings***, Operational Programme *Infrastructure and services* (activity 3.4.4.1);

2) European Structural Funds programme ***Measures to improve thermal insulation in social housing***, Operational Programme *Infrastructure and services* (activity 3.4.4.2);

3) on ***projects implemented under the Climate Change Financial Instrument*** supplied by the Ministry of the Environmental Protection and Regional Development.[11] The results of the calculation based on reported energy savings are aggregated in Table 3.

Table 3. End-use energy savings calculated in accordance with the requirements of Directive 2006/32/EC using the bottom-up method for 2015 based on the submitted reports on implemented projects

Measure	Sector where energy was saved	Total saved end-use energy, GWh
Energy efficiency improvement in social housing (activity 3.4.4.2.0)	Households	4.2
Energy efficiency improvement in residential buildings (activity 3.4.4.1.0)	Households	104
CCFI-1 Tender *Energy efficiency improvement in municipal buildings*	Services sector	79.5
CCFI-3 Tender *Energy efficiency improvement in higher education establishment buildings*	Services sector	9.6
CCFI – 13 Tender *Greenhouse gas emissions reduction in the lighting infrastructure of local community areas* Energy efficiency improvement	Services sector	9.5
Project *Installing smart electricity meters* implemented under CCFI- 14 Tender *Development of technologies reducing greenhouse gas emission and implementation of pilot projects*	Services sector	0.4
CCFI-15 Tender *Complex solutions for greenhouse gas emission reduction* and CCFI-6 Tender *Complex solutions for greenhouse gas emission reduction in production buildings*	Industry	100.7

[11] http://varam.gov.lv/lat/darbibas_veidi/KPFI/projekti/

CCFI-5 Tender *Complex solutions for greenhouse gas emission reduction in state and municipal vocational education establishment buildings*	Services sector	17.0
Total savings		**324.9**

The estimate for households and services, using the bottom-up method, is 3.2 % and 20 % of total energy savings in the sector accordingly, and as regards industry, only the bottom-up method shows energy savings in the sector.

The results obtained using the top-down and bottom-up method are summarised to calculate end-use energy savings for 2015 in Table 3. Double counting is prevented in accordance with the requirements of Monitoring Regulation No 668.

Table 4. Summary of calculated end-use energy savings in 2015 in Latvia

Sector	Calculation method	Achieved end-use energy savings GWh (ktoe)
Households	**top-down and bottom-up combined**	**3 361 (289)**
	of which bottom-up	*108.2 (9.3)*
Services sector	**top-down and bottom-up combined**	**563 (48)**
	of which bottom-up	*116 (10)*
Industry	**top-down and bottom-up combined**	**-934 (-80)**
	of which bottom-up	*100.7 (8.7)*
Transport	**Top-down**	**1 137 (98)**
Total		**4 127 (355)**

The aggregated results show that end-use energy savings obtained in 2015 exceed the calculated indicative end-use energy savings target for 2016 by about 18 %.

2.5.2. Accumulated final energy savings calculated in accordance with Article 7 of Directive 2012/27/EU

The national binding accumulated final energy savings target for 2014-2020 referred to in Section 2.2 is 9 896 GWh. Latvia has reported the target value calculated in accordance with the requirements of Article 7 of Directive 2012/27/EU and the solutions for its achievement to the Commission in the document *Report on the implementation of requirements set forth in Article 7 of Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC*.[12] Latvia

12 https://ec.europa.eu/energy/en/topics/energy-efficiency-directive/obligation-schemes-and-alternative-measures

plans to achieve its national binding accumulated final energy savings target by setting up its national energy efficiency obligation scheme combined with energy efficiency policy measures promoted by the state and municipalities (alternative measures). This solution was laid down in the Concept approved by the Cabinet on 26 November 2013[13] on transposing Directive 2012/27/EU to ensure the achievement of the binding cumulative energy savings target calculated in accordance with the requirements laid down in Article 7(1) of Directive 2012/27/EU.

Paragraph 6 of Cabinet Regulation No 226 of 25 April 2017 *Conditions of the energy efficiency obligation scheme* sets forth that the national energy efficiency obligation scheme for the achievement of the national binding end-use savings will be commenced on 29 May 2017 and implemented by 31 December 2030.

To meet the binding energy savings target, alternative measures were carried out when this Report was being drawn up, and end-use energy savings achieved under such measures were counted in the energy efficiency monitoring system.

A bottom-up calculation method was applied to energy savings from implementing energy efficiency improvement projects in 2015 under the following support programmes:

1. activity 3.4.4.1 *Measures to improve thermal insulation of multi-apartment residential buildings* of the Supplement to the 3rd Operational Programme *Infrastructure and services* (hereinafter activity 3.4.4.1).

2. activity 3.4.4.2 *Measures to improve thermal insulation in social housing* of the Supplement to the 3rd Operational Programme *Infrastructure and services* (hereinafter activity 3.4.4.2).

3. CCFI funded tenders of the Ministry of the Environmental Protection and Regional Development (activities CCFI-1; 3; 5; 6; 7; 10; 13 and 15).

Energy savings were calculated using the ex-post method and based on fixing energy consumption by the object before and after implementing an energy efficiency improvement measure. The procedures for project recording, monitoring and control of result indicators established by the responsible authorities for the needs of EU Funds and CCFI also ensure the verification of energy savings of the project, if required. Responsible authorities reported energy savings and other necessary information within the energy efficiency monitoring system.

It should be noted that only those projects that show the first energy savings in 2014 were taken into account for calculating energy savings (in accordance with paragraph 6.5 of Monitoring Regulation No 668). Energy savings by individual activities are aggregated based on reports submitted by responsible authorities on all projects implemented and results achieved. Table

[13] https://likumi.lv/doc.php?id=262535

5 summarises calculated energy savings in 2014 and 2015 and cumulative savings by 2020.

Table 5. Calculated energy savings for the achievement of the national binding accumulated final energy savings target for 2014-2020

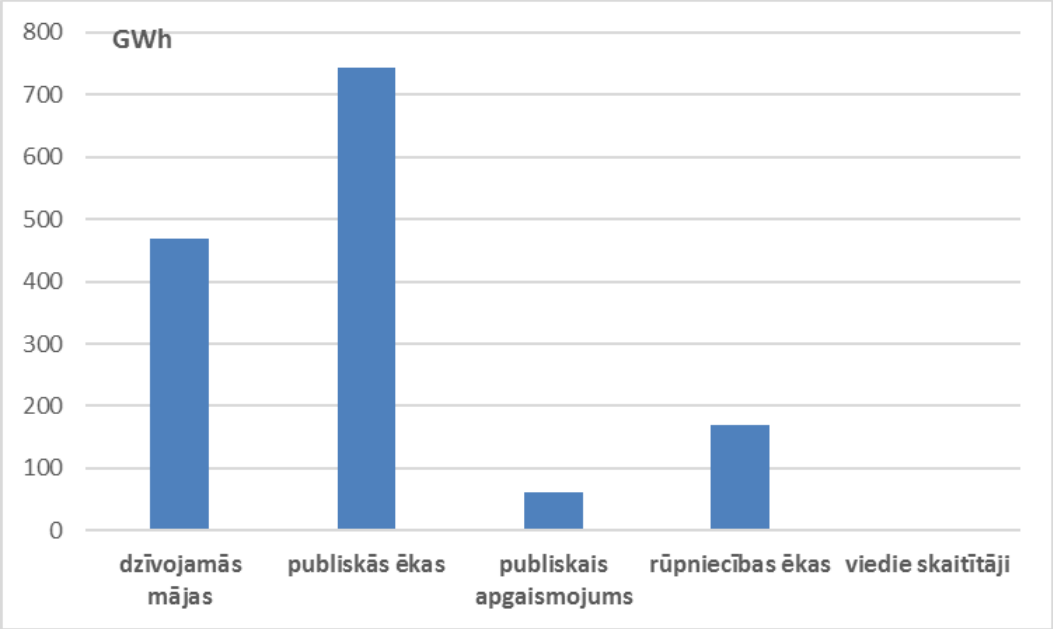
Measure	**New savings in 2014, GWh**	**New savings in 2015, GWh**	**Cumulative savings by 2020, GWh**	**Notes**
CCFI – 13 Tender *Greenhouse gas emission reduction in the lighting infrastructure of local community areas*	4.3	5.2	61	Lifetime of the measure with the lamp life cycle of at least 25 000 h.
CCFI-7 Tender *Complex solutions for greenhouse gas emission reduction in municipal buildings*	15		105	Lifetime of the measure at least 7 years.
CCFI-5 Tender *Complex solutions for greenhouse gas emission reduction in state and municipal vocational education establishment buildings*	9		63	Lifetime of the measure at least 7 years.
CCFI-3 Tender *Energy efficiency improvement in higher education establishment buildings*	6		42	Lifetime of the measure at least 7 years.
CCFI-10 Tender *Low energy consumption buildings*	9.1		64	Lifetime of the measure at least 7 years.
Project *Installing smart electricity meters* implemented under CCFI- 14 Tender	0.34		0.7	Lifetime of the measure 2 years.

Development of technologies reducing greenhouse gas emission and implementation of pilot projects				
CCFI-15 Tender *Complex solutions for greenhouse gas emission reduction*	47.2	58.2	680	Lifetime of the measure at least 7 years.
CCFI-6 Tender *Complex solutions for greenhouse gas emission reduction in production buildings*	13.3		93	Lifetime of the measure at least 7 years.
CCFI-1 Tender *Energy efficiency improvement in municipal buildings*	2.1		15	Lifetime of the measure at least 7 years.
Renovating buildings owned by state institutions under the state budget support programmes	2.7		19	Lifetime of the measure at least 7 years.
Supplement to Operational Programme *Infrastructure and services*, priority 3.4 *Quality environment for life and economic activity*, measure 3.4.4 *Energy efficiency of housing*, activity 3.4.4.1 *Measures to improve thermal insulation of multi-apartment residential buildings* and	23	23.3	301	Lifetime of the measure at least 7 years.

activity 3.4.4.2 *Measures to improve thermal insulation in social housing*				
Total	**132**	**86.7**	**1 444**	

The obtained result shows that the energy efficiency measures for the achievement of the binding target implemented by 2015 amount to cumulative (accumulated) savings of **1 444 GWh or 14.6 % of the value** by 2020.

Major end-use energy savings were achieved by carrying out measures in buildings of various energy end-use sectors, with their full or partial renovation. The breakdown of cumulative (accumulated) savings by energy end-use sectors



dzīvojamās mājas - residential buildings
publiskās ēkas - public buildings
publiskais apgaismojums - public lighting
rūpniecības ēkas - industrial buildings
viedie skaitītāji - smart meters

Figure 2. Breakdown of calculated cumulative (accumulated) savings by energy end-use sectors

Since energy is one of the sectors of the national economy where GHG emission inventory is conducted, the implementation of energy efficiency measures, including the measures referred to in this Report, is essential for reducing GHG emissions. The impact of energy efficiency on the reduction of GHG emissions is reflected in the annual GHG inventory of Latvia, while the assessment of energy efficiency as a measure is included in the report on policies, measures and GHG forecasts drawn up and submitted every second

year. The Ministry of Environmental Protection and Regional Development draws up the above reports in cooperation with other institutions and submits them to the Secretariat of the UN Framework Convention on Climate Change.[14] Implementing energy efficiency measures contributes to the achievement not only of Latvia's targets in the area of energy efficiency, but also of Latvia's climate goals, i.e. meeting the greenhouse gas (GHG) emission reduction targets. Consequently, the information contained in the Information Report is also a key issue in the context of the climate change policy.

[14] http://www.varam.gov.lv/lat/darbibas_veidi/Klimata_parmainas/?doc=17340; http://unfccc.int/national_reports/national_communications_and_biennial_reports/items/10267.php

TRA LV 2017 NEEAP EN.docx; Informatīvais ziņojums *Valsts energoefektivitātes rīcības plāns 2014. - 2016. gadam*Informatīvais ziņojums Valsts energoefektivitātes rīcības plāns 2014. - 2016. gadam

3. POLICY MEASURES IMPLEMENTING ENERGY EFFICIENCY

3.1. Horizontal measures

3.1.1. Amount of energy savings over the obligation period

Article 7 of Directive 2012/27/EU provides for the national obligation to achieve the cumulative (accumulated) end-use energy savings target (hereinafter the binding target). The binding target is calculated as annual new energy savings of 1.5 % of the reference value determined as the average of the energy sales to final customers in 2010, 2011 and 2012. This reference value remains unchanged until 31 December 2020. The following input data were used to calculate Latvia's binding target:

1) energy balance data by the CSB;[15]

2) data on using self-produced wood by households, derived from the CSB database of household surveys (1996, 2001, 2006, 2010);[16]

3) data on the energy use in EU ETS industrial activities listed in Annex I to Directive 2003/87/EC, derived from the database of the State Ltd Latvian Environment, Geology and Meteorology Centre [Valsts SIA "Latvijas Vides, ģeoloģijas and meteoroloģijas centrs"].[17]

The 2014-2016 Information Report contains a description of the process of calculating the cumulative (accumulated) energy savings target.

The calculations made using the methodology under Article 7 of Directive 2012/27/EU conform to the cumulative (accumulated) energy savings of 9 897 GWh for the period from 2014 to 2020, which are to meet final energy savings of 2 474 GWh by 2020 accordingly.

The binding target calculated in accordance with Article 7 of Directive 2012/27/EU was approved for 2014-2020 as one of the energy efficiency targets set by the policy of Latvia and mentioned in Section 2.2 as national binding accumulated final energy savings for 2020 – 9 896 GWh.

3.1.2. National energy efficiency obligation scheme

Latvia has no previous experience in the implementation of the EEOS or its elements. Based on the experience of other countries, the preconditions for the successful fulfilment of the binding target include cooperation between energy companies and final customers, analysis of final customers' consumption pattern, implementation of cost-effective and innovative energy efficiency measures and adequate energy savings measurement, and a control and verification system. These preconditions are currently being developed in Latvia. In accordance with Article 7(9) of Directive 2012/27/EU, as an

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15 http://www.csb.gov.lv/dati/statistikas-datubazes-28270.html

16 http://www.csb.gov.lv/en/dati/statistics-database-30501.html

17 http://www.meteo.lv/lapas/uznemumi-kuriem-izsniegtas-siltumnicefekta-gazu-emisijas-atlaujas-2-pe?id=1253&nid=575

alternative to achieve the 1.5 % target, a Member State may opt to combine the EEOS with alternative measures (in which case the obligations imposed on companies are reduced) or use only alternative measures to achieve all of the required energy savings, without implementing the EEOS. In accordance with Article 7(4) of Directive 2012/27/EU, obligated parties under the EEOS are designated, on the basis of objective and non-discriminatory criteria, amongst energy distributors and/or retail energy sales companies and may include transport fuel distributors or transport fuel retailers operating in the territory of the Member State. Obligated parties will be able to take energy efficiency measures independently or to count certified energy savings achieved by energy service providers or other third parties. Once a year, the responsible public body will publish energy savings achieved by each obligated party.

Latvia has opted to combine the EEOS with alternative measures. The Ministry of the Economy has developed the *Energy efficiency alternative measures plan* aggregating energy efficiency measures planned in all sectors, which will provide appropriate cumulative energy savings in 2020. The plan has been submitted to the Cabinet for approval.

The draft regulation *Energy efficiency obligation scheme* has been submitted to the Cabinet for approval.

The Cabinet Regulation is aimed to implement the EEOS in Latvia. The draft regulation provides that the EEOS operation should be divided into the following commitment periods:

- the initial period from 1 May to 31 December 2017;
- the first commitment period from 1 January 2018 to 31 December 2020;
- the second commitment period from 1 January 2021 to 31 December 2025;
- the third commitment period from 1 January 2026 to 31 December 2030.

In the initial and the first commitment periods until 2020, the obligated parties are electricity traders, who are obliged to inform consumers about energy efficiency measures or to help them to implement energy efficiency measures (for example, to replace the existing equipment with more energy efficient or to install additional energy efficient products) at the final consumers' end, to achieve a certain amount of energy savings (the commitment amount). In the EEOS first commitment period until 2020:

- the sector to be included in the EEOS is electricity trading,
- the obligated parties are electricity retailers,
- the criterion for the selection of obligated parties is the annual energy sales of 10 GWh and more (currently 9 electricity retailers meet this criterion),
- the commitment amount of obligated parties broken down by years and the methodology of determining it in accordance with the principle of accumulated (cumulative) energy savings laid down in Directive 2012/27/EU are based on the traders' annual energy sales to the users that

are not large enterprises or large electricity consumers in accordance with the criteria laid down in the *Energy Efficiency Law*,

- types of energy efficiency measures that may be taken by obligated parties are measures at the final consumers' end, providing information to consumers and contributions to the energy efficiency fund,
- costs incurred by the obligated party for energy efficiency improvement measures at the final customer's end and contributions to the energy efficiency fund may be recovered by including them in the energy costs.

Sectors to be included in the EEOS and the criteria for the selection of obligated parties will be reviewed and determined at least 6 months before each commitment period ends. Accordingly, by 1 July 2020 the Cabinet will have to make a decision on additional sectors to be included in the EEOS.

Energy distributors and energy retailers operate in the following sectors: electricity, gas supply, heat supply and supply of transport fuel and other fuels. Two mechanisms (EEOS and entering into a voluntary agreement) that are already used in the EU countries to promote energy efficiency of final consumers on a wide scale will be tested by 2020. Unless the agreement turns out sufficiently effective, the second commitment period will address other sectors, for example district heating and gas supply, to be included in the EEOS.

Experience accumulated in implementing the EEOS, including the overall operation of the EEOS system, its impact on promoting energy efficiency measures and the costs for and benefits from the EEOS for obligated parties and final consumers, will be considered in making the decision for the second and EEOS further commitment periods. 3.1.3. Savings achieved through the EEOS

In the initial and the first commitment periods until 2020, the obligated parties are electricity traders, the commitment amount being determined based on the traders' annual energy sales to the users that are not large enterprises or large electricity consumers in accordance with the criteria laid down in the *Energy Efficiency Law*. Consequently, in the EEOS first period planned energy savings from the operations of electricity retailers at the final consumers' side will form only a small part of the binding savings target. Since the commitment amount of the EEOS obligated parties is dynamic, i.e. based on the annual energy sales, it is impossible to make a precise calculation of total energy savings from implementing the EEOS. The estimate is that they are likely to be about 234 GWh in the EEOS first commitment period.

3.1.3. Implemented alternative policy measures

The policy measures implemented to achieve the national binding cumulative (accumulated) final energy savings target are listed in Section 2.4.2. Further, Table 5 shows energy savings achieved by 2015 (inclusive) to be counted towards the national binding cumulative (accumulated) final energy

savings target for 2014-2020. The implemented energy efficiency measures [resulted in] cumulative (accumulated) savings of 1 444 GWh or 14.6 % of the total target amount.

3.1.4. Planned alternative policy measures

Since in the EEOS first period energy savings from the operations of electricity retailers at the final consumers' side will form only a small part of the binding savings target in 2020, it is planned to achieve an essential part of the calculated binding savings target through alternative measures. Such alternative measures are mostly actions included in the *2014-2020 National Development Plan of Latvia*.[18] They are planned to be implemented under the European Regional Development Fund (ERDF) and the Cohesion Fund (CF) (hereinafter the EU funds) programmes, the Climate Change Financial Instrument (hereinafter the CCFI) tenders, the requirements for energy efficiency of enterprises, state authorities and municipalities laid down in the *Energy Efficiency Law*, and voluntary agreements on energy efficiency improvement in accordance with Cabinet Regulation No 669 of 11 October 2016 *Procedure for concluding and monitoring a voluntary agreement on energy efficiency improvement*.[19]

In accordance with Article 4(2) of the *Energy Efficiency Law*, the Ministry of the Economy has developed the *Energy efficiency policy alternative measures plan to achieve the end-use energy savings target for 2014-2020* (hereinafter the Plan). The Plan is aimed to ensure energy efficiency policy measures implemented by the state and municipalities in final energy consumption that may be combined, in accordance with the *Energy Efficiency Law*, with the EEOS to achieve the national binding accumulated end-use energy savings target referred to in Section 2.2[20] for 2014-2020 of 9 896 GWh.

It is expected that total accumulated energy savings from currently identified alternative measures in 2020 will be 4 503.2 GWh. Additional savings of 5 392.8 GWh will be ensured by setting up the EEOS, entering into voluntary agreements on energy efficiency improvement with energy suppliers without an obligation imposed. Currently, the Plan does not contain all measures for which Article 15(3) of the *Energy Efficiency Law* provides for the obligation to report energy consumption indicators; however, given that energy savings may also be achieved from such measures, they will be counted in the monitoring system for meeting the binding target.

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[18] http://www.pkc.gov.lv/

[19] https://likumi.lv/ta/id/285879-kartiba-kada-nosledz-un-parrauga-brivpratigu-vienosanos-par-energoefektivitates-uzlabosanu

[20] Accumulated energy obtained over the period from 2014 to 2020 through annual new energy savings

Table 6. Planned and achieved cumulative end-use energy savings by 2020.

	Planned cumulative end-use energy savings for 2020, GWh	Cumulative end-use energy savings for 2020 from measures implemented by 2015, GWh
Identified energy efficiency measures in final energy consumption	4 503.2	1 444.0
Additional measures: energy efficiency obligation scheme, voluntary agreements, measures funded by municipalities	5 392.8	
TOTAL:	**9 896**	**1 444.0 (14.0 %)**

3.1.5. Conversion factors for types of energy

Both conversion factors set out in Annex IV to Directive 2012/27/EU and other conversion factors based on the different situations of Member States in the energy sector are applied for the purpose of comparison of energy savings and conversion to a comparable unit.

Conversion factors used for conversion of Latvia's consumption of energy resources are given in Table 7, considering net calorific values set out in Annex IV to Directive 2012/27/EU and used by the Central Statistical Bureau of Latvia.

Table 7. Net calorific values used in calculations

Energy resources	Units	Net calorific value (NCV)	
		in accordance with Annex IV to Directive 2012/27/EU	in accordance with the Central Statistical Bureau of Latvia
Coal	TJ/thousand tonnes	17.2 - 30.7	26.22
Peat	TJ/thousand tonnes	7.8 - 13.8	10.05
Peat briquettes	TJ/thousand tonnes	16-16.8	15.49
Coke	TJ/thousand tonnes	28.5	26.79
Natural gas	TJ/thousand tonnes	47.2	2010 – 49.12 2011 – 49.14 2012 – 49.14
Shale oil	TJ/thousand tonnes		39.35
Liquefied petroleum gas	TJ/thousand tonnes	46	45.54
Motor and aviation petrol	TJ/thousand tonnes	44	43.97
Petrol-type jet fuel	TJ/thousand tonnes	44	43.21
Kerosene-type jet fuel	TJ/thousand tonnes	44	43.21
Kerosene	TJ/thousand tonnes	44	43.20
Light fuel oil and household oven fuel	TJ/thousand tonnes	42.3	42.49
Residual fuel oil (heavy oil)	TJ/thousand tonnes	40	40.60
White spirit	TJ/thousand tonnes		41.86
Lubricants	TJ/thousand tonnes		41.86
Oil bitumen	TJ/thousand tonnes		41.86
Paraffin waxes	TJ/thousand tonnes	40	41.86
Petroleum coke	TJ/thousand tonnes		32.98
Used oils	TJ/thousand tonnes		29.23
Other oil products	TJ/thousand tonnes		41.86
Electricity	TJ/GWh	3.6	3.60
Heat energy	TJ/TJ	1	1.00
Municipal waste for burning	TJ/thousand tonnes	7.4-10.7	2010 – 18.56 2011 – 17.18 2012 – 17.05
Waste tyres	TJ/thousand tonnes	7.4-10.7	2010 – 26.20 2011 – 27.98 2012 – 27.98
Charcoal	TJ/thousand tonnes		30.00
Bioethanol	TJ/tonnes		0.0268
Biodiesel	TJ/tonnes		0.0372
Landfill gas	TJ/million m^3		2010 – 19.82 2011 – 19.03 2012 – 19.02
Sewage gas	TJ/million m^3		2010 – 22.80

			2011 – 20.49 2012 – 20.49
Straw	TJ/thousand tonnes		14.40
Firewood	TJ/thousand solid m^3		6.70
Wood waste	TJ/thousand loose m^3		2.68
Wood chips	TJ/thousand loose m^3		3.40
Wood briquettes	TJ/thousand tonnes	16.8	17.00
Pelleted wood	TJ/thousand tonnes	16.8	18.00

3.1.6. Counting of energy savings

The energy efficiency monitoring system in Latvia has been set up in accordance with the requirements under the *Energy Efficiency Law* and Monitoring Regulation No 668.[21] In accordance with the requirements of Article 15(1) of the *Energy Efficiency Law*, energy efficiency is monitored by the Ministry of the Economy of the Republic of Latvia.

Energy savings are calculated in accordance with the general principles and methods set out in Annex V to Directive 2012/27/EU, including the lifetime and additionality of energy efficiency measures. The lifetime of energy efficiency measures for calculating energy savings was considered in accordance with the requirements set out in section E2 of Commission staff working document *Guidance note on Directive 2012/27/EU on energy efficiency, amending Directives 2009/125/EC and 2010/30/EC, and repealing Directives 2004/8/EC and 2006/32/EC Article 7: Energy efficiency obligation schemes*[22].

3.1.7. Obligations of state authorities and municipalities in the area of energy efficiency

Article 5 of the *Energy Efficiency Law* sets out the rights and obligations of state authorities and municipalities in the area of energy efficiency. State authorities and municipalities are entitled to: 1) develop and adopt an energy efficiency plan as a separate document or as a component of the spatial development programme of the municipality, which includes energy efficiency targets and measures;
2) put in place an energy management system separately or as part of implementing its energy efficiency plan;
3) use the energy efficiency services and enter into energy performance contracts to implement energy efficiency improvement measures.

Municipalities of the republic cities must put in place a certified energy management system. Municipalities with the territorial development index of

[21] Cabinet Regulation No 668 of 11 October 2016 *Rules for energy efficiency monitoring and the applicable standard of the energy management system* https://likumi.lv/doc.php?id=285878
[22] http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A52013SC0451

0.5 or more and a population of 10 000 or more and state direct administration authorities that own or possess buildings of the total heated area of 10 000 or more square metres must put in place an energy management system.

State authorities and municipalities must report energy savings achieved on an annual basis in accordance with the requirements of Monitoring Regulation No 668. In accordance with the requirements of Article 5(6) of the *Energy Efficiency Law*, in evaluating the projects to be implemented fully or partially by using contributions from the state budget, state guarantees, loan interest rate subsidies or other financial aid granted or provided from the state or European Union budget funds and foreign financial aid funds, state authorities and municipalities obliged to put in place an energy management system in accordance with the provisions of this law, which have fulfilled this obligation, have the maximum number of points that can be obtained in accordance with the quality evaluation criteria increased under the procedure laid down in the legal instrument on granting of the respective funding.

3.1.8. Energy audits and management systems

The 2020 Energy Guidelines provide that, with a view to energy efficiency improvement in industry, it is necessary to introduce energy audits or energy management systems, to activate the role of the sector association for promoting energy efficiency and to initiate a discussion for determining energy consumption benchmarks by sectors. Accordingly, Article 9 of the *Energy Efficiency Law* sets out the conditions of carrying out energy audits, Article 10 – the requirements for energy audits in large enterprises, Article 11 - the requirements for energy audits in small and medium-sized enterprises, and Article 12 - the requirements for putting in place an energy management system for large electricity consumers (defined as companies whose annual energy consumption exceeds 500 MWh). In accordance with the *Energy Efficiency Law*, a large enterprise and a large electricity consumer must, within the specified terms, introduce energy efficiency measures identified in an energy audit or an energy management system and report the identified and implemented energy efficiency measures and energy savings to the responsible ministry. The reporting is carried out in accordance with the technical and methodological requirements of Monitoring Regulation No 668.

Cabinet Regulation No 487 of 26 July 2016 *Corporate energy audit rules* (hereinafter Cabinet Regulation No 487) ensures quality energy audits in enterprises and sets out the procedure for corporate energy audits, the requirements for corporate energy audits of legal entities, the essential requirements for the energy auditor's conformity assessment and the procedure for monitoring the compliance with these requirements.

In accordance with Article 12(4) of the *Law on the Energy Performance of Buildings*, Cabinet Regulation No 382 of 9 July 2013 *On independent experts in energy performance of buildings* was adopted to set out the requirements for

the independent expert's competence and the procedure for their competence certification. The Ministry of the Economy and the Construction State Control Bureau maintain a public independent expert register.[23]

In accordance with the requirements of Article 10(2) of the *Energy Efficiency Law*, the CSB has compiled a list of large enterprises obliged to undergo a mandatory energy audit or to put in place a certified energy management system and the Ministry of the Economy has published it on its website[24]. On 1 December 2016, there were 234 large enterprises in Latvia.

In accordance with the *Energy Efficiency Law*, in Latvia a large enterprise must carry out its first mandatory energy audit or get its energy management system certified within a year after the enterprise is included on the list of large enterprises, i.e. by 1 December 2017, and a large electricity consumer must carry out its first mandatory energy audit or get its energy management system certified by 1 April 2018.

Table 8. Number of enterprises that have reported an energy audit carried out or an energy management system put in place

	Large enterprises	Large electricity consumers
Energy audit carried out	36	8
Certified energy management system put in place	46	12
Certified environmental management system supplemented	11	1
Total:	93	21

3.1.9. Metering and billing

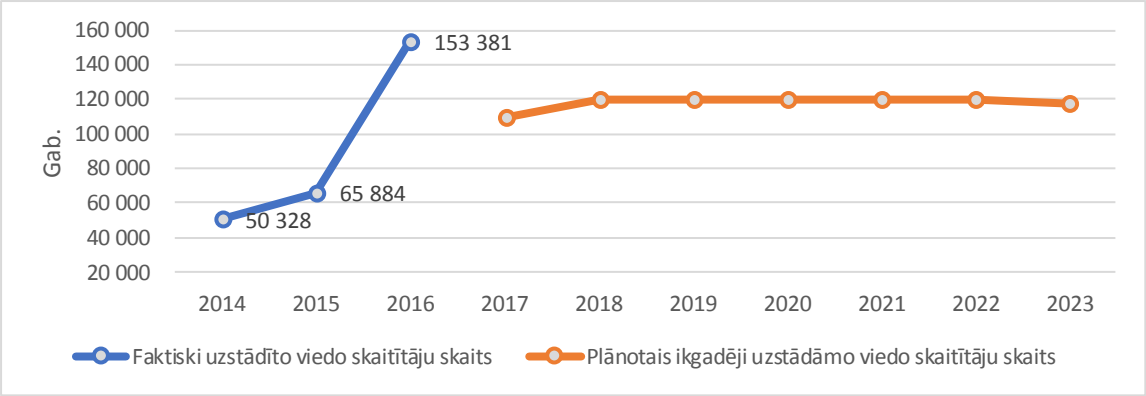
The 2020 Energy Guidelines include providing information to and educating the public regarding expediency of energy efficiency as one of the strategic objectives to achieve the target, inter alia promoting the roll-out of smart energy meters, raising consumer awareness of their energy consumption and making it possible to control it and to decrease the amount of consumed energy resources.

Currently, AS Sadales tīkls [Distribution network] has installed smart electricity meters at more than 280 000 sites of both legal entities and households in Latvia. In 2017, 110 000 smart meters are planned to be installed. Smart meters make it possible to obtain information on energy

[23] https://bis.gov.lv/bisp/lv/expert_certificates

[24] https://www.em.gov.lv/lv/nozares_politika/energoefektivitate_un_siltumapgade/energoefektivitate/lielie_uznemumi_un_lielie_elektroenergijas_pateretaji/

consumption by consumers and meter readings remotely and in a timely manner.



Gab. - pcs
Faktiski uzstādīto viedo skaitītāju skaits – Quantity of smart meters actually installed
Plānotais ikgadēji uzstādāmo viedo skaitītāju skaits – Quantity of smart meters planned to be installed per annum

Figure 3. Quantity of smart meters installed in fact and planned to be installed by AS Sadales tīkls

Smart meters enable electricity traders to perform billing in accordance with the customer's actual consumption and to offer not only night and day electricity tariffs, but also the opportunity make payments at the electricity price linked to the exchange. Access to detailed information on their consumption enables customers to use electricity much more efficiently and to reduce its consumption. Smart electricity meters are installed according to the plan at the sites of customers accepting the electricity offer linked to its price at the exchange because such customers require data on hourly electricity consumption at their sites and have meters installed in accordance with the plan for updating meters developed by the enterprise, given the spatial planning of the sites and their energy consumption. Currently, to develop dynamic pricing, electricity consumers are offered various tariffs depending on the time of day when electricity is consumed. In addition, intelligent metering systems are being implemented, and net metering will be ensured.

Implementing innovative information and communication technologies and devices, including smart metering and smart grids, makes it possible to take a major step towards smart cities. This is a goal pursued by Riga and other cities and towns of Latvia.

3.1.10. Availability of qualification, accreditation and certification schemes

A number of legal instruments have been adopted to ensure the implementation quality energy audits and energy efficiency measures. In accordance with the current legislation in the area of energy efficiency, energy

audits may be carried out by enterprise energy auditors accredited by the Latvian National Accreditation Bureau (hereinafter LATAK) in accordance with the requirements of Cabinet Regulation No 478.

and independent experts in energy performance of buildings certified in accordance with Cabinet Regulation No 382 of 9 July 2013 *On independent experts in energy performance of buildings* (hereinafter Cabinet Regulation No 382).

Cabinet Regulation No 478 provides that an enterprise energy auditor is a conformity assessment and inspection institution accredited by a national accreditation body in accordance with the legislation on the assessment, accreditation and monitoring of conformity assessment bodies and the requirements of this regulation. Enterprise energy auditors are accredited by LATAK. LATAK accredited 5 enterprise energy auditors in 2015-2016.[25]

Cabinet Regulation No 382 provides that LATAK is responsible for the accreditation of certification authorities for independent experts in energy performance of buildings. The Building Specialist Certification Centre of the Association of Heat, Gas and Water Technology Engineers of Latvia and the Certification Office SIA Mācību un konsultāciju centrs ABC [Education and Consultation Centre ABC] certify energy auditors in Latvia. The list of certified energy auditors and contact details of the accredited certification authorities are available on the website of the Ministry of the Economy.[26]

The level of technical competence, objectivity and reliability, as well as training programmes of various levels are sufficient and available for all stakeholders, including providers of energy services, energy managers and installers of energy-related building elements.

In accordance with Article 2 of the *Vocational Education Law*, Latvia has defined the levels of vocational education, levels of professional qualifications and education required to acquire the relevant professional qualification. The education system of Latvia has five levels of professional qualifications, which can be obtained after completing accredited professional education programmes.

Article 7(2) of the *Law on the Regulated Professions and the Recognition of Professional Qualifications* lists regulated professions in the construction industry (construction engineer and construction work manager), the qualification requirements for them being defined by accredited education programmes and the requirements in the construction industry. Further, Article 7(1) of this law provides that in the area of architecture the architect's profession is regulated, the minimum requirements for acquiring the relevant professional qualification being defined by the Cabinet

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25 http://www.latak.lv/index.php?option=com_institucijas&view=institucijas&type=all&Itemid=151&lang=lv

26 http://www.em.gov.lv/em/2nd/?cat=30272

At the time when this Report was drawn up, 28 study programmes are accredited in Latvia in the following study directions: *Power industry, electrical engineering and electrical technologies, Mechanics and metal working, heat power industry, heat engineering and mechanical engineering* and *Environmental science*. The breakdown of programmes by Latvian educational establishments is available on the website of the Academic Information Centre (hereinafter AIC).[27]

42 study programmes are accredited in the study direction *Architecture and construction*. The breakdown of programmes by Latvian educational establishments is available on the website the AIC.[28]

The Centre for Professional Continuing Education of the Faculty of Civil Engineering at Riga Technical University offers a licensed professional upgrading programme *Energy efficiency of buildings and constructions* (Licence No P-34 of the Latvian Ministry of Education and Science of 7 August 2009). The following courses may be taken:

- Legislation regulating energy audits of buildings and constructions.
- Heat engineering processes in microclimate engineering systems and environmental science.
- Heating, hot water supply and lighting.
- Inspection of buildings and constructions.
- Building envelopes.
- Boilers and heating systems.
- Ventilation and air conditioning.
- Methods for calculating the energy performance of buildings and constructions.
- Drawing up energy audit reports for buildings.
- Energy efficiency improvement materials, technologies, projects and estimates.

At present, the number of qualified specialists in energy efficiency is sufficient to meet the current demand. Should the demand grow (for example, in the SME sector), the existing system allows for quick education and certification of additional specialists.

3.1.11. Energy services

The provision of energy efficiency services is a type of business offering a wide range of energy-related services. Energy efficiency, energy supply measures and other measures relating to rational use of energy are implemented as energy efficiency service on the basis of energy efficiency service contracts in various sectors, for example industry, agriculture, buildings. In Latvia, the

[27] http://svr.aic.lv/Form.aspx?id=contacts

[28] http://svr.aic.lv/Forms/ProgrammesList.aspx?gr=1&cc=1&cp=0

first energy service or ESCO companies started operating in the area of building renovation.

Article 14 of the *Energy Efficiency Law* sets out the procedure for providing and financing energy services, including the information to be included in the energy performance contract. Energy performance contracting (EPC) enables apartment owners to renovate outdated properties and to tidy out environment to live in using the offer of ESCO companies. In order to promote the renovation of multi-apartment residential buildings first of all, using ESCO companies, the Building and Energy Conservation Bureau was established, the widest range of information on using energy services being available on its website.[29]

Currently, five energy service companies operate in Latvia. The energy service company SIA Renesco has already implemented at least 15 projects to renovate multi-apartment residential buildings.[30]

The development of the energy services market is impeded by the ambiguity of some legal aspects of service contracts, such as title to the installed equipment, lack of interest of energy service (district heating) companies in providing energy services, low customer awareness of ESCO possibilities and absence of positive examples. The lack of clarity on financial aspects related to ESCO introduction, such as the division of financial savings among stakeholders and lack of state guarantees for ESCO loans, is another barrier to the growth of energy services market. Consultations with stakeholders, including the banking sector, on ESCO promotion are underway.

3.1.12. Energy Efficiency National Fund

The purpose of the Energy Efficiency National Fund (hereinafter the EENF) is to support national energy efficiency initiatives.

The *Energy Efficiency Law*, which defines the requirements for energy efficiency planning and monitoring, provides for a number of energy efficiency improvement policy measures, including setting up a national and municipal energy efficiency fund as a tool for promoting energy efficiency measures and achieving the binding energy savings target.

Under the law, the EEOS obligated parties may fulfil their obligation by making contributions to the state or municipal government energy efficiency fund at their own discretion in accordance with the stated commitment amount of energy savings (hereinafter the commitment amount). The commitment amount stated for the obligated party is reduced in proportion to the amount of contributions made. The state or municipality in whose fund the obligated party has made its contribution ensures energy savings in accordance with the commitment amount of the obligated party, for which the contribution had been

[29] http://ekubirojs.lv/lv/sakums /

[30] http://www.renesco.lv/

made. Thus, contributions of the obligated parties to the relevant energy efficiency fund and the resources of these funds make it possible to implement specific energy efficiency measures to save the corresponding amount of energy.

In accordance with the draft Cabinet Regulation *Rules for the energy efficiency obligation scheme*, the obligated parties will be able to make contributions only to the Energy Efficiency National Fund (hereinafter the Fund) in the EEOS first commitment period.

In accordance with the developed draft Cabinet Regulation *On the procedure and amount of contributions to energy efficiency funds for achieving the binding energy savings target, and the procedure for using the resources of the energy efficiency fund*, Joint Stock Company Development Finance Institution Altum [Attīstības finanšu institūcija Altum] will be the manager of the Fund, which will use the Fund's resources and report on their use. Thus the draft regulation regulates the procedure for maintaining and using the Fund's resources and reporting on their use by Altum. The draft regulation provides that the Fund will start its operations after the regulation on the Fund is approved and the obligated parties make their contributions. Further, the draft regulation regarding setting up a municipal energy efficiency fund provides, in accordance with the law, that the municipality will set up and maintain the municipal energy efficiency fund, and will be responsible for the obligated parties making their contributions to the municipal energy efficiency fund accordingly.

Given that enterprises have an energy efficiency potential whose acquisition would contribute to their modernisation and competitiveness, support programs under the Energy Efficiency Fund should be targeted at industrial companies (small and medium-sized enterprises) to support them in implementing energy efficiency measures.

3.2. Energy efficiency in buildings

3.2.1. EU funds support for building renovation

The main source of finance for renovation of buildings up to 2023 is the financing of EU funds. In order to ensure the transition of Latvia to a low carbon emission economy in all sectors, the European Union Structural Funds and the Cohesion Fund financing for the 2014-2020 programming period has been allocated to implement measures under the following specific objectives:

1. Specific objective 4.1.1 *To promote effective use of energy resources, reduction of energy consumption and the switch to RES in manufacturing industry* (hereinafter SO 4.1.1).

Total available public funding under SO 4.1.1 is EUR 38.3 million (CF funding of EUR 32.55 million, state budget of EUR 5.74). Micro, small, medium-sized and large companies operating in manufacturing industry will receive aid in the

form of grants. Project applications under SO 4.1.1 will be selected from 13 December 2016 to 12 May 2017. *(By 31 March 2017, 2 project applications were submitted to the CFLA).*

2. Specific objective measure 4.2.1.1 *To improve energy efficiency in residential buildings* (hereinafter SO measure 4.2.1.1).

Total public funding under SO measure 4.2.1.1 is EUR 166.47 million (ERDF funding of EUR 141.49 million and state budget co-funding of EUR 24.97 million). The conditions of SO measure 4.2.1.1 were developed and apartment owners started to receive aid in the form of grants, loans and guarantees on 14 September 2016. *(By 31 March 2017, technical documentation of 106 buildings was submitted to Altum; Altum issued 39 opinions on the technical documentation of buildings; the procurement procedure started for the renovation of 11 buildings; 1 building received aid in the form of a grant)*

3. Specific objective measure 4.2.1.2 *To promote energy efficiency improvement in central government buildings* (hereinafter SO measure 4.2.1.2).

Public funding allocated for implementing SO measure 4.2.1.2 is EUR 115.12 (ERDF funding of EUR 97.85 million, state budget of EUR 17.26 million) and will be disbursed to the owners of central government buildings as grants. The first project application round for measure 4.2.1.2 will be held from 19 September 2016 to 31 December 2018. *(By 31 March 2017, 12 project applications were submitted to the CFLA; 1 project application was approved.)*

4. Specific objective measure 4.2.2 *To facilitate energy efficiency improvement and RES use in municipal buildings in accordance with the integrated development programmes of municipalities* (hereinafter SO measure 4.2.2).

Public funding allocated for implementing SO measure 4.2.2 is EUR 55.289 million (ERDF funding of EUR 46.996 and national funding (municipal funding, subsidies from the state budget to municipalities) of at least EUR 8.293). SO measure 4.2.2 is implemented in two stages: *Energy efficiency improvement and using renewable energy sources in municipalities of the development centres of national significance* - the first project application round (project selection started on 17 October 2016) and *Energy efficiency improvement and using renewable energy sources beyond municipalities of the development centres of national significance* – the second project application round (project selection started on 30 November 2016).

In addition to the above programmes, buildings are also renovated under other activities financed from public sources (state, municipal and EU funds). If an activity contributes to energy efficiency improvement, the bodies responsible for funding determine energy consumption indicators in accordance with the requirements of the *Energy Efficiency Law*, which are then counted in energy efficiency monitoring system.

3.2.2. Other measures for promoting energy efficiency in the construction sector

To promote construction of energy efficient buildings, Latvia has set the **target for developing nearly-zero energy buildings** referred to in Section 2.2. On 11 November 2015, amendments were adopted to Cabinet Regulation No 383 of 9 July 2013 *On the energy certification of buildings*[31] (hereinafter Cabinet Regulation No 383). They contain a plan for gradual switch to applying the requirements for nearly-zero energy buildings to newly erected buildings. Annex 5 to Cabinet Regulation No 383 sets out terms depending on the moment when a construction plan was approved, so that buildings owned by the state and possessed by institutions and occupied by state authorities would achieve the level of consumption of a nearly-zero energy building from 2019, and other newly erected buildings – from 2021. The definition of a nearly zero-energy building is provided in Article 1(6) of the *Law on the Energy Performance of Buildings* and paragraph 17 of Cabinet Regulation No 383.

Energy performance requirements in construction are integrated in Latvian the construction legislation and the training and certification of experts. One of the purposes of the Latvian *Construction Law* is rational use of energy resources, the law stating energy efficiency of the construction as one of essential requirements. Accordingly, the knowledge and skills of building specialists relating to energy performance requirements, including those set out in the *Construction Law* and Cabinet Regulation No 500 of 19 August 2014 *General construction regulations* are examined during their certification

The Construction Information System[32] contains a public Register of Certificates of Energy Performance of Buildings and a Register of Independent Experts in Energy Performance of Buildings.

The *Energy Efficiency Law*[33] provides for monitoring of energy consumption indicators under all support programmes for the renovation or construction of buildings.

The *2014-2020 National Development Plan of Latvia* and 2020 Guidelines provide for measures supported by EU Funds to improve energy performance of multi-apartment residential, industrial and public buildings. To promote the achievement of energy efficiency targets in EU Funds 2014-2020 programming period, the information campaign *Dzīvot siltāk* [Living warmer] successfully started in 2010 will be continued, educating entities implementing projects (planning and performing construction works) and potential project applicants (commissioning parties). The campaign will include the organisation of education seminars and conferences on energy efficiency in both multi-

31 https://likumi.lv/doc.php?id=258322

32 https://bis.gov.lv/bisp/kontakti/buvniecibas-valsts-kontroles-birojs

33 https://likumi.lv/doc.php?id=280932

apartment residential buildings and the public sector. Over the period by 2020, the relevant guidance materials will be provided on preparing and implementing energy efficiency projects, as well as on appropriate maintenance of buildings after the energy efficiency project is completed.

3.3. Energy efficiency in public bodies

3.3.1. Energy efficiency in central government buildings

In accordance with the requirements of Article 5 of the *Energy Efficiency Law*, state authorities are entitled to develop and adopt an energy efficiency plan as a separate document or as a component of the spatial development programme of the municipality, which includes energy efficiency targets and measures, separately or as part of implementing its energy efficiency plan to put in place an energy management system, to use energy services and enter into energy performance contracts to implement energy efficiency improvement measures. Further, state direct administration authorities that own or possess buildings of the total heated area of 10 000 or more square metres put in place an energy management system by 1 November 2017. The procedure for state authorities to report on putting in place an energy management system is set out in Cabinet Regulation No 668. Since the term under the *Energy Efficiency Law* has not expired yet, state authorities have not reported the fulfilment of the above obligation. In connection with implementing Directive 2012/27/EU, Latvia must achieve the indicative national energy efficiency target, whereby 3 % of the area of state-owned buildings must be renovated annually, as set out in Article 5 of Directive 2012/27/EU. Given that central government buildings constitute part of the national final energy consumption, fulfilling the 3 % renovation target for central government buildings contributes to achieving the total end-use savings target of 1.5 %.

The Ministry of the Economy, in accordance with the requirements of Article 5(5) of Directive 2012/27/EU, compiles a list of building owned, possessed and used by state authorities and publishes it on its website.[34]

1) In accordance with the list of buildings as of 1 January 2017, the calculated 3 % area renovation target is 59 980.10 m^2 in 2017.
2) In accordance with the list of buildings as of 1 January 2016, the calculated 3 % area renovation target was 66 175.41 m^2 in 2016.
3) In accordance with the list of buildings as of 1 January 2015, the calculated 3 % area renovation target was 74 908.00 m^2 in 2015.
4) In accordance with the list of buildings as of 1 January 2014, the calculated 3 % area renovation target was 77 679 m^2 in 2014.

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34 https://www.em.gov.lv/lv/nozares_politika/majokli/eku_energoefektivitate/no_direktivas_2012_27_es_par_energoefektivitati_izrietosas_prasibas/

TRA LV 2017 NEEAP EN.docx; Informatīvais ziņojums *Valsts energoefektivitātes rīcības plāns 2014. - 2016. gadam*Informatīvais ziņojums Valsts energoefektivitātes rīcības plāns 2014. - 2016. gadam

3.3.2. Energy efficiency in buildings of other public bodies

The *2014-2020 National Development Plan of Latvia* states the following measures to be carried out in connection with energy efficiency in the public sector:

- development of energy plans of municipalities providing for complex measures to promote energy efficiency and the switch to renewable energy resources (the indicative source of financing being Cohesion policy funds, state budget and private funding);
- given that, in accordance with the plans under the Operational Programme *Growth and employment* for the 2014-2020 programming period, energy efficiency in municipal buildings will be improved by means of investments in integrated urban development, in case of development centres of national significance energy plans are to be included in the development plans of municipalities;
- energy efficiency programmes for public buildings owned by the state and municipalities.

In case of development centres of national significance, energy plans are to be included in the development plans of municipalities, considering that, in accordance with the plans under the Operational Programme *Growth and employment* for the 2014-2020 programming period, energy efficiency in municipal buildings will be improved by means of investments in integrated urban development, which means that a joint investment strategy is required in the municipality. Energy plans of municipalities are planned to be developed at the expense of municipal budgets.

3.4. Purchasing by public bodies

Cabinet Regulation No 180 of 28 March 2017 (hereinafter Cabinet Regulation No 180) *Energy performance requirements for products and services set in procurements arranged by direct administration authorities*[35] has been issued on the basis of the delegation to determine energy performance requirements for products and services set in procurements arranged by direct administration authorities laid down out in Article 55(2) of the *Public Procurement Law*[36]. Energy performance requirements are set in procurements only for products having eco-design or energy marking requirements defined in the EU; therefore their energy efficiency is verifiable on the basis of specific marking or declaration of compliance. Latvia has transposed the requirements of Article 6 of Directive 2012/27/EU by means of Cabinet Regulation No 180

[35] https://likumi.lv/ta/id/289757-tiesas-parvaldes-iestazu-rikotajos-iepirkumos-izvirzamas-precu-un-pakalpojumu-energoefektivitates-prasibas

[36] https://likumi.lv/doc.php?id=287760

providing that the central government is obliged to purchase only products, services and buildings with high energy-efficiency performance.

Article 14(3) of the *Law on the Energy Performance of Buildings* contains the provision that the state buys or leases only buildings meeting the specified minimum energy performance requirements, as evidenced by the energy performance certificate of the building. These requirements may be waived if the state buys a building required for the performance of public administration functions and planned to be renovated or reconstructed before use in accordance with the specified requirements or else demolished, or if it is technically or functionally impossible to ensure that the building should meet the specified minimum energy performance requirements, there is no sufficient competition between real estate traders or landlords, or purchasing or leasing a building meeting higher energy performance criteria is not economically viable.

Since in accordance with the requirements of Directive 2012/27/EU the state is obliged to encourage all public bodies to purchase products, services and buildings with high energy-efficiency performance, several measures were implemented in Latvia to promote purchasing energy efficient goods, services and buildings in the public sector. These measures are advisory in nature both for the state and other public bodies.

On 18 February 2015, the Cabinet approved the *2015-2017 Green Procurement Promotion Plan* (hereinafter the GPPP). The GPPP is a strategic short-term policy planning document aimed at promoting sustainable consumption and production through increased share of GP, especially green public procurement (hereinafter GPP). The GPPP is intended to ensure that procurement planned from the state and municipal budgets to which GP applies reaches at least 15 % of the total volume of procurement made by the state and municipal authorities in financial terms from 2015, 20 % in 2016 and 30 % in 2017, and that GP and GPP requirements are applied and integrated in the implementation process of the EU Structural Funds and of the Cohesion Fund

GPP is a process whereby the state and municipal authorities seek to procure goods, services and construction works with a reduced environmental impact considering the life cycle costs for goods or services with the same primary function. The statistics aggregated by the Procurement Monitoring Bureau indicate that the financial volume of green public procurement in 2014 and 2015 was 11 % and 37 % of the total volume of procurement accordingly

On 22 December 2008, the Cabinet approved (paragraph 92 of Minutes No 94) the information report *On recommendations for the promotion of green public procurement by state and municipal authorities and recommendations for the promotion of environmentally friendly construction* containing detailed recommendation documents *Recommendations on green public procurement promotion in the state institutions and municipalities* and *Recommendations on environmentally friendly construction*.

These recommendations are available on the website of the Procurement Monitoring Bureau.[37] The recommendations contain references to legal instruments relating to procurement, samples of energy efficiency criteria to be included in the procurement conditions and clarification of the practical use of such criteria.

3.5. End-use energy efficiency measures in transport

The *2014-2020 Transport Development Guidelines*[38] (hereinafter the Transport Guidelines) were approved by Cabinet Order No 683 of 27 December 2013. Transport in Latvia plays an important role in the economy and accessibility. A sustainable transport system must ensure a high-quality transport infrastructure, high traffic safety, transport and logistics services establishing preconditions for the development of other sectors, providing jobs and a significant contribution to the growing exports of services and accessible public transport, which ensures accessibility throughout Latvia (a convenient single public transport system achieving mutual alignment between bus and railway services). Strategic objectives of implementing the transport policy include energy efficiency improvement and promoting electromobility. The Transport Guidelines emphasise that energy efficiency improvement is an indirect objective to be achieved through a series of measures. In the railway sector, the electrification of several railway lines (resulting not only in higher energy efficiency, but also in a significant reduction of harmful emissions) and developing the Rail Baltica line are important in terms of energy efficiency improvement (part of the freight currently transported by motorways would be carried by rail, which is a more energy efficient way of transport).

To implement the measures set out in the Transport Guidelines, the 2014-2016 Electromobility Development Plan was approved by Cabinet Order No 129[39] on 26 March 2014. The plan has been developed based on three priorities: to increase the competitiveness of Latvian enterprises for the creation of a new field of transport; to increase the energy independence of Latvia and to reduce gases causing pollution and greenhouse effect. Electromobility concerns different areas at the same time: ensuring environmental protection and sustainability, energy, entrepreneurship, and transport. Therefore, electromobility has a considerable potential in further development of the economy of Latvia. In order to promote the development of electromobility, the plan provides for specific directions of the support policy relating to its most important elements: distribution of electric vehicles, building a network of recharging stations, supporting the development of innovative products, and educating the society and ensuring access to information on electromobility. 14

[37] http://www.iub.gov.lv/node/63
[38] http://polsis.mk.gov.lv/documents/4607
[39] https://likumi.lv/doc.php?id=265261

specific objectives (SOs) and measures are planned in the transport sector in the 2014-2020 programming period, including: promoting low carbon emissions in transport (a car recharging network; a tram infrastructure in Riga, Liepāja and Daugavpils; passenger buses in other development centres of national significance) and a sustainable transport system (railway, incl. railway electrification).

3.6. Promotion of efficient heating and cooling

3.6.1. Comprehensive assessment

Latvia has set up a legal framework to ensure the promotion of cogeneration based on an expedient heat demand on the internal energy market. High-efficiency cogeneration has developed rapidly in the energy sector of Latvia since 2000.

In Latvia, electricity production by cogeneration is regulated by the *Energy Law*, the *Electricity Market Law* and Cabinet Regulation No 221 of 10 March 2009 *On electricity production and pricing of electricity produced by cogeneration*, the *Law on Public Utilities Regulators* and the related legal instruments.

These provisions and measures have been implemented pursuant to the requirements of Directive 2004/8/EC.[40] Since Directive 2012/27/EU repealed Directive 2004/8/EC, and Latvia must transpose also Article 14 of Directive 2012/27/EU into its national legal framework by 5 June 2014, the provisions of Directive 2004/8/EC already transposed by Latvia must be reviewed.

In accordance with the Concept Order, it has been decided to support the option of not setting exemptions for all installations listed in Article 14 of Directive 2012/27/EU from the obligation to carry out an analysis of the potential for heat and cogeneration and cost-benefit analysis.

In accordance with the requirements of Article 14 of Directive 2012/27/EU, Latvia has carried out a *Comprehensive assessment of the potential for the application of high-efficiency cogeneration and efficient district heating and cooling, and cost-benefit analysis in accordance with the requirements of Directive 2012/27/EU*.[41] The following results were received from this assessment:

1) In general, the share of cogeneration in the DH [district heating] system of Latvia is already high (72.6 %); on top of that, in some of the regional DH systems in Latvia the maximum share of cogeneration is nearly achieved in heat production, and there is a high share of renewable resources in their fuel usage patterns (e.g. in Jelgava, with 97 % of heat produced by cogeneration and 85 % of RES in the fuels used). As a result of the potential analysis it was found

[40] Directive 2004/8/EC of the European Parliament and of the Council of 11 February 2004 on the promotion of cogeneration based on a useful heat demand in the internal energy market and amending Directive 92/42/EEC

[41] https://www.em.gov.lv/lv/nozares_politika/energoefektivitate_un_siltumapgade/zinojumi_eiropas_komisijai/

that there is no potential for increasing the share of RES at the national level; however, an analysis carried out also identified that in some individual cities (Daugavpils, Liepāja and Jūrmala) there could be the potential for the introduction of high-efficiency cogeneration in district heating, but a more in-depth financial analysis of this particular case is needed. The calculations were based on electricity and heat market prices.

2) As compared to individual heating solutions, DH is characterised by a high level of efficiency, as it includes a higher share of efficient cogeneration. At the same time, DH requires substantial investments in the infrastructure and has high operation and maintenance costs. The efficiency of DH is also reduced by energy losses in the network. These considerations make DH economically viable only in the territories with a comparatively high heat demand density.
The heat density in the territories analysed mainly shows a sufficient heat demand for the expansion of the existing DH system to be economically viable. The highest potential for district heating is in the household sector. However, we observed only limited demand for DH from households and industries, since most of them prefer individual heating solutions for economic reasons.

3) In order to realise the potential for DH, it is necessary to develop economic incentives for final consumers to ensure that the costs of DH do not exceed the costs of alternative individual heating. Such incentives mostly represent measures to achieve a reduction in the total heat tariff in the DH system; inter alia it is necessary to attract EU financial support for investments in establishing new regional DH networks and renovating the existing (old) networks in the municipalities where the existing or planned heat network intensity exceeds 2 MWh/m. In addition, operation and maintenance processes of DH operators and the related costs should be reviewed and optimised.

3.6.2. Other measures addressing efficient heating and cooling

In Latvia, heat supply is provided using district heating systems, local heat supply and individual heat supply. Municipalities organise heat supply in their administrative territory in accordance with the permanent function set out by the *Law on Municipalities*.[42] The 2020 Energy Guidelines state that energy efficiency measures implemented in recent years made it possible to reduce heat losses in networks, for example, in Riga up to 13 %. Faster implementation of energy efficiency improvement measures in the district heating supply is hampered by lack of investments, limited borrowing capacity of municipalities and slow rate of capital turnover. For these reasons, inefficient facilities are still operating in municipalities, which results in increased fuel consumption and cannot provide the required quality of heat supply. Complex renovation of the system may optimise the energy production process and reduce heat energy losses in transmission systems.

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[42] https://likumi.lv/doc.php?id=57255

In order to improve the efficiency of district heating systems, the activity *To promote energy efficiency and the use of local RES in district heating* is being implemented under the EU funds programme in the current 2014-2020 programming period. As part of this activity, support is provided to promote energy efficiency and the use of local RES in district heating. Under this measure, the reconstruction of heat sources will be supported to improve energy efficiency and to switch to the use of RES, incl. purchase and installation of production equipment; energy efficiency improvement of the heat transmission and distribution system and conversion of the cogeneration plant into a heat source. Project acceptance has already started, and energy supply companies engaged in district heating may submit their projects.

3.7. Energy transformation, transmission, distribution, and demand response

On 22 June 2016, amendments to the *Electricity Market Law* entered into force, which define aggregators, as well as regulate the operations of the aggregator and demand response on the electricity market. Demand response is an important instrument for efficient use of energy, since it significantly increases the opportunities for consumers or third parties nominated by them to take action on changes in final electricity consumption.

Demand response is a way to develop the potential of energy-efficient use of the infrastructure. Demand response is a basis for the development of smart grids and more efficient management of networks to be provided by smart grids.

Demand response is temporary changes in the electricity usage profile when electricity users respond to market signals, for example such as time-varying electricity prices, promotional payments, independently or using aggregates, to sell reduced demand for electricity consumption at a specified price. The purpose of such market signals is to encourage higher or lower electricity consumption and to optimise the use and balancing of networks, as well as generation and consumption of electricity, for example, by consuming less energy during peak periods or by promoting the integration of renewable energy and micro-generated electricity. Demand response includes all intentional modifications to the electricity usage profile intended to alter the timing or volume of instantaneous demand or total electricity consumption. Demand response is triggered by both an innovative pricing policy encouraging electricity users to change their consumption patterns and load transfers performed, for example, by industrial users or aggregators.

Several tools are now available for electricity users to take part in demand response, such as time electricity tariffs, dynamic hourly electricity prices, device load control, etc. Network and retail tariffs may support, for example, the following dynamic prices for demand response:

(a) time-of-use tariffs – electricity prices are fixed for a specific period and are known in advance;

(b) critical-peak tariffs – for this purpose, it is necessary that the time-of-use tariff is valid for certain peak days, and the prices may cover production and/or purchase prices at the wholesale level;
(c) real-time prices, also known as dynamic prices – electricity prices may vary every hour, and in exceptional cases even more often; and
(d) peak-time rebates, i.e. remuneration for participation in the market.

Mechanisms to remove barriers to demand response are set out in *Directive 2009/72/EC of the European Parliament and of the Council concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC* and *Directive 2006/32/EC the European Parliament and of the Council on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC*.

In accordance with the requirements of Article 15 of Directive 2012/27/EC, Latvia has undertaken an assessment of the energy efficiency potential of its gas and electricity infrastructure. As a result of the assessment it was concluded that:

Latvia has the highest reduction of electricity losses in its distribution infrastructure among the Baltic States' SSOs. However, further significant reduction of losses is impossible using existing technologies without additional financial investments in implementing new technologies. Further, the natural gas system of Latvia is considered to be one of the most effective in the European Union.

Given low electricity consumption and transformer loads, Latvia believes that introducing electric load management solutions will not have a positive effect in the foreseeable future; therefore, its implementation has no technical or economic justification.

Further, regarding the efficiency of gas infrastructure, upon assessing the load of the existing distribution networks, it is possible to ensure an increase in capacity for the installation of micro-cogeneration units. An additional natural gas supply system can provide 25 000 new connections.

Installing micro-cogeneration units in households and non-residential buildings could save energy resources by an average of 30 %, providing self-consumption of electricity. Installing micro-cogeneration units for existing natural gas users could increase the maximum hourly gas consumption by households up to 20 %, depending on the capacity of the unit installed.

The potential assessment of the natural gas infrastructure identified areas in the district of the average-pressure gas pipeline in order to ensure possible immediate connection of cogeneration units, while the low-pressure gas pipeline system requires additional assessment, in particular regarding the infrastructure capacity, in addition to the necessary investments for stabilising natural gas pressure and return.

The number of electricity producers connected to the electricity distribution network continues to increase, in particular the number of micro-

generators consisting of wind and solar units. The pace of connecting power plants (with capacity over 11 kW, mostly cogeneration and hydroelectric power plants) has decreased over the past 3 years. The usual directions of power flows in the electricity distribution network are changing, and there are substations where the generated electricity amount already exceeds consumption.

Currently, significant potential for energy efficiency in the connection of micro-generators in terms of electricity infrastructure is unlikely, unless micro-generators are equipped with electric accumulators or load management is implemented in households.

As regards the installation of micro-cogeneration units for natural gas, the purchasing power of households should be taken into account since the average cost for a micro-generation plant with capacity up to 50 kW is at least EUR 70 000. The potential territories, given the proposed development planning, could be Riga region, outside the city of Riga, where new construction is planned, as well as small garden plots where permanent residential buildings are erected. These are new challenges for system operators, because the relevant networks need to provide stability and quality. Consequently, additional solutions will be required subsequently to implement the energy efficiency potential.

The energy savings contained in this Report have been calculated in accordance with the requirements of Monitoring Regulation No 668, using the data on the results of implementing individual energy efficiency projects that were available by 1 March 2017. Given that in accordance with the requirements of Monitoring Regulation No 668 institutions and bodies subject to energy savings reporting must submit energy savings reports by 1 November of each year, the results of calculations contained in this Report will be updated and submitted to the European Commission in the annual report on the progress of achieving the national energy efficiency targets in accordance with the requirements of Article 4(5) of the *Energy Efficiency Law*.

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