



Assessment of climate change policies as part of the European Semester

Country Report Lithuania

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Ecologic Institute, Berlin and eclareon GmbH

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ICF Consulting Services Limited
Watling House
33 Cannon Street
London
EC4M 5SB
T +44 (0)20 3096 4800
F +44 (0)20 3368 6960
www.icfi.com

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Job No.	30300170
Prepared by	Jurga Tallat-Kelpsaite, eclareon GmbH
Checked by	Checked by Matthias Duwe, Ecologic Institute
Date	16 January 2015
First point of contact	Lena Ruthner, ICF International Watling House 33 Cannon Street London EC4M 5SB Lena.Ruthner@icfi.com

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1 Short Summary

In Lithuania, climate and energy targets are outlined in key strategic documents - the National Strategy for Climate Change Management Policy and the National Energy Independence Strategy. The National Strategy on Climate Policy sets national climate targets and objectives for the short-, medium- and long-term. The concrete implementing initiatives, however, are outlined in the Inter-institutional Action Plan. Mitigation measures aim to reduce GHG emissions, develop a competitive low-carbon economy, deploy eco-innovative technologies, increase energy-efficient production and consumption, as well as streamline renewable energy across all economic sectors. The key objective of the National Energy Independence Strategy is to reduce Lithuania's dependence on energy imports, mainly through interconnections with Poland (LitPol Link 1 and LitPol Link 2) and Sweden (NordBalt) currently being constructed, which should enable the integration of Lithuania's and European electricity systems, the increase of the share of renewable energy sources (to 23% by 2020), improved energy efficiency and last but not least the construction of the planned new nuclear power plant.

By 2020, Lithuania can increase its emissions not covered by the EU ETS by 15% compared to 2005, according to the Effort Sharing Decision (ESD). The latest data for 2013 show that Lithuania not only met but exceeded its annual allocation interim target under the ESD for the year 2013 by 0.5 percentage points. National projections indicate that the country would miss its 2020 target by about 1.9 percentage points with existing measures but can meet the target with additional measures.

The key policy developments in 2014 include the Lithuanian-Polish power link (LitPol Link 1 and LitPol Link 2) as well as Lithuanian-Swedish power link (NordBalt). The construction of both interconnections is progressing very smoothly and is scheduled to be finalized by the end of 2015 (see Chapter 4.2.3). Also with regard to energy efficiency in residential buildings positive developments could be observed. The legal modifications of 2013 and 2014 seem to have accelerated the modernisation of multi-family buildings (see Chapter 4.2.2). In the transport sector, the greatest developments concerned the second part of the "Rail Baltica" project. When completed it will connect six European capital cities: Helsinki (Finland), Tallinn (Estonia), Riga (Latvia), Vilnius (Lithuania) and Warsaw (Poland), including an extension to Berlin (Germany) (see Chapter 4.2.4).

2 Climate and energy policy priorities

Climate change is an increasingly important topic in Lithuania's policy development. In November 2012, the National Strategy for Climate Change Management Policy (Nacionalinė klimato kaitos valdymo politikos strategija) (Seimas, 2012a) covering the period between 2013 and 2050 was adopted. The strategy sets national climate targets and objectives for the short-, medium- and long-term. In May 2013, an Inter-institutional Action Plan (Govt, 2013a) came into effect, providing for concrete implementing policies to achieve the objectives of the National Strategy for Climate Change Management Policy. Mitigation measures aim to reduce greenhouse gas (GHG) emissions, develop a competitive low-carbon economy, deploy eco-innovative technologies, increase energy-efficient production and consumption, as well as streamline renewable energy across all economic sectors.

Climate change related goals such as the promotion of renewable energy and an increase in energy efficiency are also among the key objectives of the 2012 National Energy Independence Strategy (Nacionalinė energetinės nepriklausomybės strategija) (Seimas, 2012b). After the shut-down of the Ignalina Nuclear Power Plant in 2009, Lithuania is highly dependent on energy imports. Over 60% of its electricity is imported (The Baltic Course, 2014a). The Lithuanian-Polish power link (LitPol Link 1 and LitPol Link 2), currently under construction, as well as the Lithuanian-Swedish power link (NordBalt) are meant to end Lithuania's isolation and integrate it in the European Union's electricity market (see Chapter 4.2.3).

Lithuania should also gain more energy independence through a further increase in the use of local renewable sources. According to the strategy, the share of renewable energy sources in final energy consumption shall reach at least 23% (20% in the electricity sector, 60% in the central heating sector, and 10% in the sector of transport) by 2020. In addition, the strategy envisages the construction of the new Visaginas Nuclear Power Plant (VNPP). In 2013, a parliamentary working group has proposed amendments to the National Energy Independence Strategy. Proposals to amend the strategy emerged after the referendum on the construction of VNPP in October 2012 as the majority of the population (63%) voted against renewed construction (MoEn, 2013a; CEC, 2012). In October 2012, the draft parliamentary resolution was registered, effectively revising the national energy strategy so that electricity will be produced by combined heat and power (CHP) plants and from renewable energy sources rather than nuclear power as previously planned (MoEn, 2013a). However, no decisions have been taken so far.

With regard to the heating sector the National Energy Independence Strategy strives for more efficiency in energy generation, transmission and consumption. To this end, initiatives saving energy, waste to energy projects as well as initiatives increasing the use of biomass for heat production will be supported by the state. According to the strategy, Lithuania will reduce heat consumption in residential and public buildings by 30-40% by 2020. Annual heat savings are expected to amount to 2-3 TWh compared with 2011 (Seimas, 2012c).

To reduce its dependency on gas imports from Russia, Lithuania opened a liquefied natural gas (LNG) terminal in Klaipėda in October 2014. During the first year of the terminal's operation around 1 billion m³ of gas are expected to be regasified. Afterwards, its annual capacity shall reach 2-3 billion m³. In 2012 Lithuania consumed almost 3.4 billion m³ of gas supplied from Russian energy company Gazprom. Thus the new LNG terminal could provide almost the entire annual volume of natural gas to be consumed in Lithuania (Klaipėdos nafta, 2014).

3 GHG trends and projections

Lithuania reduced its total GHG emissions by 12% between 2005 and 2013. The share of GHG emissions not covered by the European Emission Trading Scheme (EU ETS) is around 63%, which is above the EU28 average (see Table 1).¹

Table 1 Key data on GHG emissions

		National data				EU28
		2005	2011	2012	2013	2013
Total GHG emissions	Mt CO ₂ eq	23.3	21.7	21.6	20.4	4 539
Non-ETS emissions	Share in total emissions	72%	74%	74%	63%	58%

Source: EEA 2014a; EEA 2014c

By 2020, Lithuania can increase its emissions not covered by the EU ETS by 15% compared to 2005, according to the Effort Sharing Decision (ESD). The latest data for 2013 show that Lithuania met its annual allocation interim target under the ESD for the year 2013 (see figures in Table 2). However, national projections indicate that the country could miss its 2020 target by about 1.9 percentage points with existing measures (WEM) but will meet the target with additional measures (WAM) (EEA, 2014a).

¹ The European Environment Agency has developed a complex methodology to measure progress on the Non-ETS/ESD targets of all EU Member States. This report uses the figures arrived on this basis. A detailed explanation and the underlying absolute amounts are contained in Annexes 1-3 of the EEA report No 6/2014 "Trends and projections in Europe 2014. Tracking progress towards Europe's climate and energy targets for 2020" available at <http://www.eea.europa.eu/publications/trends-and-projections-in-europe-2014/>

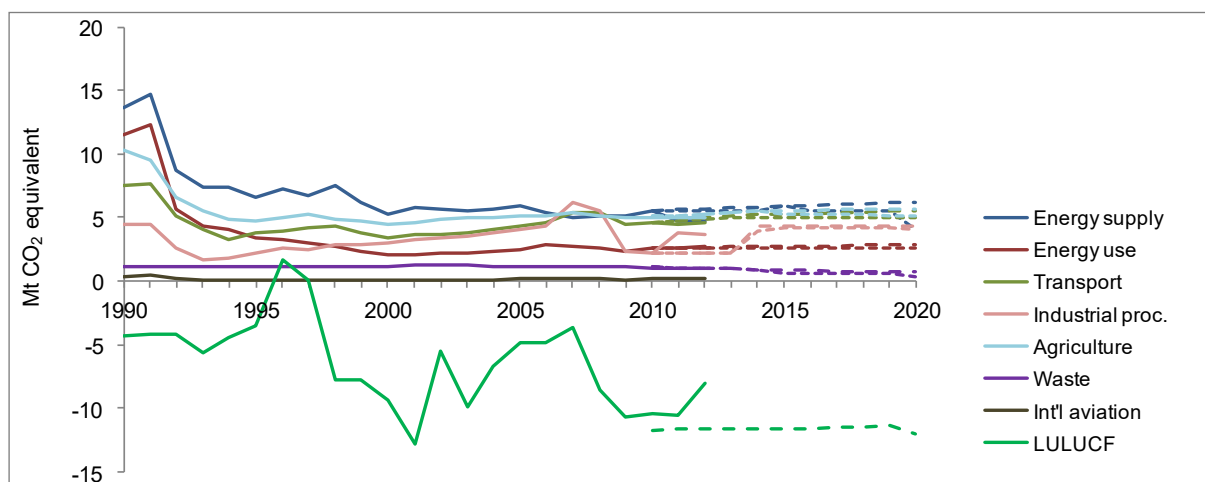
Table 2 Non-ETS emission targets, trend and projections

		Compared to base year
2013	ESD interim target]- 3.8%
	ESD emissions	- 4.3%
2020	ESD target	+ 15.0%
	ESD projections WEM	+ 16.9%
	ESD projections WAM	+ 1.6%

Source: EEA 2014a. Green indicates target met or exceeded, orange indicates a value below.

GHG emissions are mainly created by the energy industry followed by the transport and the agricultural sectors (see figure below for historic and estimated emissions by sector). Projections indicate that by 2020 emissions will remain relatively stable.

Figure 1 GHG trends and projections by sector



Source: EEA 2014a. Actual data until 2012 and projections from 2010 onwards.

4 Policy development

This section covers significant developments made in key policy areas between January and December 2014. It does so through two different perspectives: 1) progress on the policies communicated under the National Reform Programme 2) developments in the identified national priority sectors and policy areas.

4.1 Key policies as outlined by the National Reform Programme

Member States prepare National Reform Programmes (NRPs) each April outlining the country's progress and the key policies and measures to achieve targets under the EU 2020 Strategy. These key policies and measures are summarised in the following table and their current status is provided.

Table 3 Key policies and measures as outlined by the NRP 2014

The Special Programme for Climate Change	
Status in the NRP	In force
Status as per Dec 2014	In force
Description of policy	<p>The Special Programme for Climate Change supports projects which have potential of increasing energy efficiency in energy generation and consumption as well as increasing the use of renewable energy resources and eco-friendly technologies (including efficient generation of energy by cogeneration).</p> <p>In 2014, 74.47 million LTL (approx. 21.5 million EUR) from this programme were granted for the measures to increase the efficiency of energy consumption, further 54.38 million LTL (approx. 15.7 million EUR) ⁽²⁾ were allocated for renewable energy projects (NRP, 2014).</p>
The multi-apartment building renovation (modernization) programme	
Status in the NRP	In force
Status as per Dec 2014	In force
Description of policy	<p>According to the Lithuanian Housing Energy Efficiency Agency, by the end of 2014 3,099 projects improving energy efficiency in multifamily buildings have already been prepared and approved by the respective institutions under the Programme for Renovation of Multifamily Buildings (see Chapter 4.2.2)</p>
Law on Energy Efficiency	
Status in the NRP	Planned
Status as per Dec 2014	Under development
Description of policy	<p>When adopted, it shall be one of the key legislative instruments to achieve energy efficiency targets of 2020. The key element of the draft law is the establishment of an Energy Efficiency Obligation Scheme. If established, this measure could save 11,677 TWh of energy between 2015 and 2020. The scheme is meant to focus on energy efficiency improvement measures in buildings and in industrial sectors (see Chapter 4.2.2).</p>

² Currency exchange rates of 31.12.2014 (www.oanda.com)

Renovation of public buildings (Operational Programme for the European Structural and Investment Funds 2014–2020)	
Status in the NRP	In force
Status as per Dec 2014	In force
Description of policy	By the end of 2013 a total of 769 public buildings were renovated under the Operational Programme for the European Structural and Investment Funds 2007–2013. Under the new operational programme covering the period 2014-2020 more than 612 projects shall be implemented by 2020 (under the measures Renovation and Modernization of Governmental Institutions and Offices Buildings and Renovation and Modernization of Municipality institutions and offices buildings). The energy savings are expected to amount to over 200 GWh (NRP, 2014).

Construction of electricity connections with Poland (LitPol Link) and Sweden (NordBalt)	
Status in the NRP	In force
Status as per Dec 2014	In force
Description of policy	Construction of both electricity connections LitPol Link (connection with Poland) and NordBalt (connection with Sweden) is currently ongoing and is scheduled to be completed by the end of 2015 (see Chapter 4.2.3.).

Construction of gas interconnection Poland–Lithuania (GIPL)	
Status in the NRP	In force
Status as per Dec 2014	In force
Description of policy	GIPL shall connect the Lithuanian gas system to the EU gas networks and markets. The construction work is planned for 2015-2019 (see Chapter 4.2.3.).

4.2 National policy priorities

The below sub-sections provide updates on key existing and new policies in priority sectors and policy areas of relevance to the energy and climate targets under the Europe 2020 strategy³. Each sector or policy area contains information on the most important policy instruments in operation or development.

4.2.1 Environmental Taxation

In Lithuania the implicit tax rate on energy is the fourth lowest in the EU with EUR 70 per ton of oil equivalent in 2012 (Eurostat, tsdcc360). However, the share of environmental tax revenues in overall tax revenue was 6.1% in 2012 and therefore even with the EU average (Eurostat, ten00064). However, when comparing these revenues with GDP, Lithuania's environmental tax revenues lie at 1.7%, which is below the EU average of 2.4% in 2012 and the second lowest value in the EU (Eurostat, ten00065).

The Environmental Pollution Tax accounted for more than 90% of environmental tax revenues in 2010 (EuroStat, 2012b). The environmental pollution tax is paid by polluters from various point and mobile sources, with point sources referring to economic and commercial activities and mobile sources to

³ The Consortium jointly with DG Clima identified these based on identified challenges in Country Profiles (EEA, 2014), share of sectors in total GHG emissions, and Country Specific Recommendations (2014). DG Clima has identified additional relevant issues to be reviewed for some or all Member States, including country specific energy challenges.

manufacturers and importers polluting the environment with product and/or packaging waste. The corresponding Law on Pollution Tax (Mokesčio už aplinkos teršimą įstatymas), however, sets out extensive tax exemptions for different groups. For example, polluters in transport vehicles are exempt from paying the tax if they have installed exhaust gas neutralisation systems, or if the transport vehicle is used for agricultural activities (if income gained from such activities accounts for more than 50% of their total income), or if the vehicle uses biofuels that meet established standards. Tax exemptions are also applied to the emissions from point sources, with for instance, tax exemption for emissions from biofuels. The pollution tax for emissions from point sources is paid according to the actual quantity of emissions discharged into the atmosphere during the reporting period, while tax for emissions from mobile sources is paid according to the quantity of fuel used during the reporting period. The pollution tax on product and/or packaging waste is paid according to the quantity of taxable products and/or filled taxable packaging actually placed on the internal market during the reporting period (State Tax Inspectorate, 2013). The multitude of exemptions has affected impact of the pollution tax on emission reductions, but nevertheless it has become the main source of environmental tax revenues.

In August 2014, the Ministry of Environment submitted draft amendments to the Oil and Natural Gas Tax Law (Naftos ir dujų išteklių mokesčio pakeitimo įstatymo projektas) to the Government, which proposed new taxes for hydrocarbons, including shale oil and gas. These measures had not been foreseen in the NRP of 2014. On 17 September 2014 draft amendments were approved by the Government and on 4 December 2014 they became law. According to the amendments, a single basic tax rate of 12% of the selling price per cubic meter shall be applied to all conventional oil and gas resources from January 2015. A compensating tax rate amounting to 4.5% to 9% would remain in force for conventional oil and gas fields, which are explored by private and public funds. For unconventional hydrocarbons a single basic tax rate of 15% of the selling price per cubic meter is being applied from January 2015. Oil-producing companies may apply for a tax relief. If granted, 1% (instead of 15%) tax rate will be applied for three years from the moment of issue of the permit to use unconventional hydrocarbon, however, no later than until 1 January 2020. 10% of the proposed hydrocarbon tax will be allocated to municipalities in which hydrocarbon will be extracted. These funds shall be used for infrastructure improvements, the modernisation of public buildings and public recreational areas, as well as to finance the implementation of environmental measures in these municipal territories (MoE, 2014a).

Lithuania is still on the way to introduce a Vehicle Tax. Since mid-2012, when a Draft Law on Vehicle Taxation (Mokesčio už transporto priemonės įstatymo projektas) (Govt 2013b) was rejected due to an unclear definition of the basis of the tax, a new draft has been under development and it is still not clear how CO₂ emissions will be addressed (Lrytas, 2013; Ekonomika, 2013). For more details see Chapter 4.2.4.

4.2.2 Energy Efficiency

Within the EU28, Lithuania has the eighth most energy-intensive economy. However, energy intensity declined by 30% from 2005 to 2012 and is therefore above the EU average decline of 13% (Eurostat, tsdec360). In contrast, final energy consumption increased by 5% from 2005 to 2012 with increases mainly in the service sector and reductions mainly in the transport sector (Eurostat, tsdpc320). Lithuania is currently on track to meet its indicative EU energy efficiency target (EEA, 2014a).

Since 2013, the Lithuanian Parliament has taken important steps to facilitate energy efficiency renovations in multifamily buildings. By amending the existing housing law (Law on State Support for the Acquisition or Rent of Housing and for the Renovation of Multifamily Buildings of the Republic of Lithuania) (Seimas, 2013a), municipalities were given greater authority to approve efficiency upgrades as of March 2013. Furthermore, a new financing model was introduced whereby loans for renovations are provided not only to the apartment owners but also to the administrators of multifamily buildings, public entities, and other persons responsible for projects and appointed by municipalities (Grynas, 2013). From June 2013, funds for the modernization project (covering preparation, administration, and technical supervision) are provided for by the state and may be reimbursed either after the completion of the renovation process or by directly paying these costs (Seimas, 2013b). Finally, the amount of additional state support for energy efficiency measures from the SPCC was increased from 15% to 25%. Thus, those initiating renovation between June 2013 and the end of 2014 were eligible to receive

state subsidy amounting to 40% of total modernization costs (15% from JESSICA and 25% from the SPCC) (Grynas, 2013; Atnaujink busta, 2013). From January 2015, if modernisation results in at least energy efficiency class C and the thermal energy consumption is reduced by at least 40%, additional support (of up to 25%) can be received (Seimas, 2014a).

In May 2014, further amendments to the housing law were approved by the Parliament. As a result, financial support for modernisation is linked not only with the building's energy efficiency class, but also with the saving of thermal energy. Currently, support is available for projects resulting in at least energy efficiency class D. In addition, projects have to demonstrate that upon modernisation thermal energy consumption is reduced by at least 20% (MoE, 2014b).

To ensure a smooth progress of the renovation process in Lithuania, the Ministry of Environment published a Manual for the Implementation of Renovation (modernisation) of Multifamily Buildings (Daugiabučių namų atnaujinimo (modernizavimo) projektų įgyvendinimo vadovas) in April 2014. The manual describes all stages of the renovation process in detail, from the initiation of the project to the completion of renovation work, and indicates relevant legislation, sample documents, as well as useful links and contacts of responsible institutions or agencies (MoE, 2014c).

The above mentioned legal modifications accelerated Lithuania's modernisation of multifamily buildings. According to statistics provided by the Lithuanian Housing Energy Efficiency Agency, by the end of 2014 3,099 projects improving energy efficiency in multifamily buildings had already been prepared and approved by the respective institutions under the Programme for Renovation of Multifamily Buildings (Daugiabučių namų atnaujinimo programa). Of these 3,099 buildings, project implementation has been approved by the residents of 1,695 multifamily houses, 1,202 houses currently have contract purchasing processes running, and 792 have renovation work agreements signed (MoE, 2014d). Despite the smooth modernisation process, it has to be noted that 96% of multifamily buildings in Lithuania (more than 34,000 houses) were built before 1993 and most of them have a very poor level of energy efficiency (Ekonomika, 2012), the progress of the programme is relatively limited in comparison to the stock of buildings in need of need urgent renovation. It becomes clear, therefore, that the potential for emissions reductions in the housing sector is still significant and even greater efforts to implement incentives to streamline and further accelerate renovation in the future are of great importance.

In June 2014, the Government approved draft amendments to the Law on Heat (Šilumos ūkio įstatymas). According to the proposed amendments, the National Control Commission for Prices and Energy (NCC) would be responsible for setting maximum annual heat consumption rates for multifamily houses, flats and other premises. When setting the rates, energy efficiency targets and objectives established in the National Energy Strategy would have to be taken into account. Moreover, municipal executive authorities would be granted the right to oblige managers of multifamily houses that exceed the maximum annual heat consumption rate by more than 20% to develop and implement energy consumption reducing measures, at least to the heat consumption rate established by the NCC. The proposed amendments are still to be approved by the Parliament (MoE, 2014e).

Lithuania also explores possibilities of renovation at city block level. In October 2014, high-level representatives from Lithuanian and German responsible authorities met in Berlin to discuss the possibility of implementing a pilot project in Lithuania during which one block would be renovated in each of three selected municipalities - the municipalities of Šiauliai, Birštonas and Utena. According to the Vice-minister for Environment, Daiva Matonienė, this pilot project could be a good example for other municipalities within the country. Lithuania is currently looking for most rational options of investing in block renovation, and cooperation with Germany is one of those possibilities (MoE, 2014f).

In 2014, Lithuania took some efforts also with regards to energy efficiency in public buildings. From February 2014, supervision of renovation of public buildings is vested with both the Ministry of Environment and the Ministry of Energy (prior to the Ministry of Economy only). The Ministry of Environment is now responsible for energy efficiency improvements in public buildings owned or managed by municipalities, while the Ministry of Energy is supervising the renovation of state-owned buildings. Before, supervision responsibility had been entrusted to the Ministry of Economy (MoE, 2014g). Both Ministries prepared the Public Building Energy Efficiency Programme (Viešųjų pastatų energinio efektyvumo didinimo programa) (Govt 2014) that was approved by the Government on 26

November 2014. The programme envisages to renovate public building area amounting to at least 700,000 m² by 2020 (470,000 m² of central government owned buildings and 230,000 m² of municipal public buildings). In addition, cost of heating has to be reduced by at least 20% in public buildings by 2020. This planned renovation shall result in annual CO₂ reductions of at least 14,000 tonnes.

In 2014, an increase in energy efficient buildings could be observed in Lithuania. According to the Ministry of Environment, energy performance certificates (EPCs) for five class A + buildings, eight class A buildings and more than 1, 000 class B buildings were issued between January and August, 2014. The number of class A and A + energy performance certificates issued in the first seven months of 2014 is higher than in both 2012 and 2013. Since January 2014, newly built homes in Lithuania have to meet at least the requirements of energy efficiency class B. From 2016, newly constructed buildings will be required to have at least energy efficiency class A, from 2018 at least energy efficiency class A +, and from 2021 energy efficiency of all newly constructed buildings will have to comply with the requirements for energy efficiency class A ++. Energy efficiency requirements are applicable also to modernized buildings (see above) (MoE, 2014h).

In May 2014, the Energy Efficiency Action Plan was approved by the Minister of Energy (MoEn, 2014a). The Plan was drafted in accordance with the provisions of the Energy Efficiency Directive (2012/27/EU). It outlines important energy efficiency improvement measures, planned and/or achieved energy savings including measures concerning energy supply, transmission and distribution as well as final consumption to attain the national energy efficiency targets. Among the planned measures an Energy Efficiency Obligation Scheme is mentioned. This measure could save 11,677 TWh of energy between 2015 and 2020. The scheme is meant to focus on energy efficiency improvement measures in buildings and in industrial sectors. The obligation scheme is envisaged in the draft Law on Energy Efficiency (Energijos efektyvumo įfektyvu projektas) which is still under development. A further planned measure outlined in the Plan is the Long-term strategy for the renovation of the national pool of buildings. A draft has already being prepared; however, it has not been adopted by the Parliament so far (Seimas, 2014b). The draft strategy covers the period by 2020. The main goal is to renovate public and residential building area amounting to at least 2.5 million m² by 2020. According to the Plan, there are in total 557,700 buildings in Lithuania with the total area of 162.4 million m².

4.2.3 Energy Networks

Also in 2014 Lithuania has made significant progress in connecting itself to European energy markets. The planned Lithuanian-Polish power link (LitPol Link 1 and LitPol Link 2) as well as Lithuanian-Swedish power link (NordBalt) aim to end Lithuania's isolation and integrate it in the European Union's single electricity market. Phase 1 of the LitPol Link 1 project intends to link 500 MW by 2015 and Phase 2 aims to link 1,000 MW by 2020. The project requires additional 700-800 MW power transmission lines between Lithuania and Poland (LitPol Link 2). In addition, the NordBalt project plans construction of an undersea power cable from Lithuania to Sweden by 2015. This link will enable Lithuania to connect to the Nordic countries' power system to trade electricity, providing access to cheaper power balancing reserves (Seimas, 2012b).

Interconnection of the Lithuanian grid with the grid of continental Europe would integrate the Baltic States with Europe's power market. The Baltic States have reached a political agreement on this issue and secured the support of the European Commission. By decision of the Council of the European Union on 28 February 2012, the European Commission was authorised to negotiate (on behalf of the Baltic States) with Russia and Belarus over the control of the Baltic energy systems as well as their compatibility with the 3rd EU Energy Package (Seimas, 2012b).

After completion of all preparatory work in 2013, the construction of the power link between Lithuania and Poland (LitPol Link) was officially announced on 5 May 2014 (Litgrid, 2013a; Litgrid, 2013b; Litgrid, 2013c; Litgrid, 2014a). The three key components of the LitPol Link project are: (1) transformer substations at both ends of the link (in Alytus (Lithuania) and in Elk (Poland)), (2) a high-voltage, direct current (HVDC) back-to-back converter station in Alytus (Lithuania), and (3) a high voltage overhead power line in length of 163 km (51km in Lithuania and 112 km in Poland). Construction work will cost 288 million LTL (approx. 83 million EUR). The preliminary value of the LitPol Link project being implemented by Lithuania and Poland is 1.2 billion LTL (approx. 346 million EUR) (Litgrid, 2014a). In August 2014, the Lithuanian electricity transmission system operator Litgrid and Nordic Investment

Bank (NIB) signed a 50 million EUR loan agreement to partially finance the Lithuania-Poland interconnection LitPol Link. To support preparatory works of the LitPol Link (e.g. environment impact assessment, special planning, etc.) financing of around 15 million LTL (approx. 4.3 million EUR)⁽⁴⁾ was allocated through the EU's trans-European energy networks (TEN-E) programme and the Ignalina International Decommissioning Support Fund (Litgrid, 2014b). In December 2014, Litgrid announced that two thirds of the planned "LitPol Link" power interconnection construction work in Lithuania's territory has already been completed. The operation of the "LitPol Link" power interconnection is scheduled to begin in December 2015 (Litgrid, 2014c; MoEn, 2014b).

Further developments could be observed also concerning the Lithuanian-Swedish power link "NordBalt". In April 2014, one of the key stages of the strategic project "NordBalt" was initiated – the deployment of the undersea power cable between Lithuania and Sweden. The power line will be approximately 450 km in length and 700 MW in capacity and will be the world's third-longest undersea power cable. By the end of 2014, 250 km of connection had already been placed at the bottom of the Baltic Sea. The cabling work will continue into spring 2015. Also the "NordBalt" power link is expected to be operational by the end of 2015. The construction work is carried out by the Swedish technology company ABB. The overall estimated project budget comes from Lithuania, Sweden and the European Union and amounts to 1.9 billion LTL (approx. 548.5 million EUR)⁽⁵⁾ (MoEn, 2014c; Litgrid, 2014d; Litgrid, 2014e).

The Gas Interconnection Poland-Lithuania (GIPL) is a strategic energy infrastructure project that upon its implementation will integrate Lithuania into the EU gas market, which would enable diversified gas supply to Lithuania, thereby increasing national energy security and creating a competitive gas market (MoEn, 2013). The project is progressing and the tender for a feasibility study on GIPL was awarded to "ILF Consulting Engineers Polska" in July 2012 (Pipelines International, 2012). In May 2013, conditions of tender for drafting GIPL development plan were announced (Verslo Žinios, 2013). On 19 August 2014, the Polish and Lithuanian natural gas transmission systems operators GAZ-SYSTEM S.A. and AB Amber Grid applied to the Innovation & Networks Executive Agency (INEA) for the co-financing of the GIPL project from Connecting Europe Facility (CEF). Two applications have been submitted, one for territory planning and design, another for construction stage (The Baltic Course, 2014b). On 29 October 2014, CEF decided to allocate 295.4 million EUR for the construction of the GIPL (MoEn, 2015). The estimated value of the project amounts to 558 million EUR (422 million EUR in the territory of Poland, and 136 million EUR in the territory of Lithuania) (The Baltic Course, 2014b). The GIPL construction work is planned for 2015-2019 (MoEn, 2015).

In October 2014, Litgrid published the Lithuanian electricity transmission network development plan for 2014-2023 (Lietuvos elektros energetikos sistemos 330–110 kV tinklų plėtros planas 2013–2022 metams). Planned investment in the electricity transmission system between 2013 and 2022 amounts to more than 3 billion LTL (approx. 856.2 million EUR). *Inter alia*, 789.2 million LTL (approx. 225.2 million EUR) are planned for the Lithuania-Sweden power interconnection (NordBalt) and 594.4 million LTL (approx. 169.6 million EUR) will go to the construction of the power link with the neighbouring Poland (LitPol Link). Further 154.3 million LTL (approx. 44 million EUR) are envisaged for the capacity integration of the new Visaginas Nuclear Power Plant, while 766.9 million LTL (approx. 218.9 million EUR)⁽⁶⁾ shall be invested into the preparation of the network for synchronous operation with the European Continental Network (Litgrid, 2014f; NCC, 2014).

4.2.4 Transport

Overall emissions from transport have decreased between 1990 and 2012 but remain almost at the same level since 2005, with some fluctuations. Their proportion in Lithuania's total emissions has generally increased and was 21% in 2012 after reaching its peak in 2010. Similarly, energy consumption from transport has decreased between 1990 and 2012, but increased between 2005 and 2012 (Eurostat, tsdcc210 and tsdpc320). Average emissions for newly registered cars are high in

⁴ Currency exchange rates of 31.12.2014 (www.oanda.com)

⁵ Currency exchange rate of 31.12.2014 (www.oanda.com)

⁶ Currency exchange rates of 31.12.2014 (www.oanda.com).

Lithuania with a level of 139.9 CO₂/km, the fifth highest in the EU, but have decreased by 25% between 2005 and 2012, at a rate faster than the EU average of 22% (Eurostat, tsdtr450). Fuel taxation in Lithuania is below EU average. The road fuel excise duties on diesel are the fourth lowest among EU MS and the excise duties on petrol are the tenth lowest (EEA, 2014b).

In Lithuania no vehicle taxes are based on CO₂ emissions (ACEA, 2014). No registration taxes are levied and ownership taxes only apply to commercial heavy weight vehicles, based on the maximum authorized weight and suspension type. Lithuania has a time-based vignette system for buses, coaches and HDVs using highways (CE Delft, 2012).

The 2012 National Strategy for Climate Change Management Policy (Nacionalinė klimato kaitos valdymo politikos strategija) (Seimas, 2012a) includes general goals for reducing emissions from motor vehicles in Lithuania, including expansion of public road and rail transit and increased bicycle use. The National Transport Development Programme (Nacionalinė susisiekimo plėtros 2014–2022 metų programa) was approved by the Government in December 2013 (Govt 2013c). The document promotes, for instance, short-distance city bike systems and car-share initiatives, and includes draft regulatory acts differentiating the road usage charge payable by owners or managers of vehicles, according to efficiency and emissions metrics.

In this context, taxes on vehicles are planned to be introduced. A Draft Law on Vehicle Taxation (Mokesčio už transporto priemonės įstatymo projektas) (Seimas, 2011) was submitted to the Parliament in December 2011, but it was rejected in 2012 due to an unclear definition of the basis of taxation. Lawmakers suggested basing vehicle taxation levels on objective criteria, potentially including CO₂ emissions (Lrytas, 2013; Ekonomika, 2013). A similar situation arose also in February 2014, when the political council of the ruling parties could reach no consensus on the introduction of the vehicle taxation and, therefore, the tax will have to be further discussed by the ruling parties. Various options have been considered. The least controversial one in the majority's view is a vehicle tax based on the size of the engine. According to the Ministry of Finance, cars with a 1.5 liter engine could be charged with an annual fee amounting to 90 LTL (approx. 25.7 EUR), while owner of a 1.5-2 liter car would have to pay 170 LTL (approx. 48.5 EUR) a year. The highest annual fee would be payable by the owners of cars with engines exceeding 5 liters. The fee would then amount to 590 LTL (approx. 168.4 EUR) (⁷) per year (Delfi, 2014a; Delfi, 2014b). So far, no decisions have been taken on the vehicle taxation so far, although it was planned to introduce the tax from 2015 onwards or even at the end of 2014 (Lrytas, 2013; Ekonomika, 2013; Delfi, 2014b).

In 2014, positive developments could be observed with regard to the improvement of public transport aimed at reducing GHG emissions in the transport sector. The most significant developments could be observed with regards to the Baltic States' joint rail construction project "Rail Baltica II." The planned railway line will connect six European capital cities: Helsinki (Finland), Tallinn (Estonia), Riga (Latvia), Vilnius (Lithuania) and Warsaw (Poland), including an extension to Berlin (Germany). The estimated total cost of the route amounts to around 12.43 billion LTL (approx. 3.59 million EUR), with the route in Lithuania costing approximately 4.4 billion LTL (approx. 1.27 million EUR) (⁸). The "Rail Baltica II" route will include around 360 km of rail in Lithuania, 300 km in Latvia, and around 300 km in Estonia (MoT, 2014a; Delfi, 2014c). After the long lasting negotiations, in June 2014, the "Rail Baltica" task force could finally reach the agreement on the joint venture to be responsible for implementing the second part of the "Rail Baltica" project (MoT, 2014b). The agreement on the joint venture was signed by the heads of the Baltic States representing companies "Rail Baltica statyba" (Lithuania), "Eiropas Dzelzcela Linijas" (Latvia) and "Rail Baltic Estonia" (Estonia) on 28 October 2014. The greatest part of the project (85%) is planned to be financed from EU funds. Application for European funding shall be submitted on 26 February 2015 latest. The railway connection between the Lithuanian-Polish border and Tallinn (Estonia) is scheduled to be completed until 2024 (MoT, 2014c).

To encourage the use of electric vehicles in Lithuania, the Lithuanian electricity distribution company LESTO started to expand the infrastructure for electric vehicles together with partners. In Vilnius, the first high power electrical vehicle charger was installed. According to the Chancellor of the Ministry,

⁷ Currency exchange rates of 31.12.2014 (www.oanda.com).

⁸ Currency exchange rates of 31.12.2014 (www.oanda.com).

Mr. Thomas Karpavičius, such chargers will certainly provide more opportunities for drivers of electric vehicles as well as encourage their use. With the new charger in place batteries of electric vehicles can be charged in only 30 minutes. In order to encourage the use of electric vehicles and to analyse consumer behaviour patterns, the charging will be free of charge in the near future. So far, only conventional power chargers have been installed in Lithuania. Currently, there are 15 conventional electric vehicle chargers nationwide. Charging of the battery with this kind of charger takes around 4-8 hours (MoT, 2014d).

To reduce passenger vehicles traffic, the Lithuanian Environmental Investment Fund (Lietuvos Aplinkos Apsaugos Investicinis Fondas) invited applications in May 2014 for grants from the Special Programme for Climate Change (Klimato kaitos specialioji programa) financing the inland waterway transport as well as the development of inland waterway infrastructure. Eligible were legal entities providing inland public transport services or engaged in inland waterways infrastructure maintenance. Winning projects were allocated in total 300,000 LTL (approx. 85,667 EUR) ⁽⁹⁾ (LAAIF, 2014).

4.2.5 Agriculture

Over the last decades, agriculture has become one of the most stable sectors of Lithuanian economy. Agricultural areas cover 3.46 million hectares, of which arable land takes 2.93 million hectares and 0.48 million hectares are covered by grassland and pastures (Seimas, 2012a). In 2012, the agricultural sector emitted 5.060 million tons of CO₂e. In 2011, they amounted to 4.987 million tons of CO₂e (Eurostat, tsdcc210).

In the agriculture sector, the key emission reduction activities described in the 2012 National Strategy for Climate Change Management Policy (Nacionalinė klimato kaitos valdymo politikos strategija) and the strategy implementing Inter-institutional Action Plan (2013). The activities outlined in the strategy include the promotion of organic farming practices and the management of meadowlands no longer in production. Reduction of methane emissions through manure management systems at animal facilities are also mentioned, as well as measures to reduce GHG emissions from nitrogen-based fertilizer.

The Inter-institutional Action Plan sets out two tasks for the sector of agriculture. First, the Ministry of Agriculture is obliged to implement the measures for the cost-effective extraction of the methane from animal manure. To this end, investment projects on the collection and the use of biogas for energy production in rural areas, with the aim to reduce methane emissions from livestock complexes, shall be promoted. According to the Plan, biogas projects in Lithuania are facing the following key barriers: the lack of funds, the limited use of thermal energy, the size of farms, and the restricted connection to the natural gas, power and heat supply infrastructure. The second task outlined in the Inter-institutional Action Plan is to implement the measures reducing direct as well as indirect agricultural nitrogen inputs to the environment. In this regard, the Ministry of Agriculture is vested with the responsibility to carry out a research and provide recommendations on sustainable use of nitrogen fertilizers. However, the Inter-institutional Action Plan sets out no deadlines for these tasks and measures (Govt 2013a).

5 Policy progress against Country Specific Recommendations (CSRs) issued 2013

The EU Commission provides Country Specific Recommendations (CSRs) for each MS for consideration and endorsement by the European Council. The recommendations are designed to address the major challenges in relation to the targets of the EU 2020 Strategy. In the following table, the CSRs relevant for climate change and energy are listed, and their progress towards their implementation is assessed.

⁹ Currency exchange rates of 31.12.2014 (www.oanda.com).

Existing CSRs	Progress
<p>Step up measures to improve the energy efficiency of buildings, through a rapid implementation of the holding fund.</p>	<p>In 2013, a new funding model for renovation of multifamily buildings was created and launched in Lithuania (Grynas, 2013). It accelerated the renovation of multifamily buildings. According to statistics provided by the Lithuanian Housing Energy Efficiency Agency, by the end of 2014 3,099 projects improving energy efficiency in multifamily buildings have already been prepared and approved by the respective institutions under the Programme for Renovation of Multifamily Buildings. Moreover, Public Building Energy Efficiency Programme was approved by the Government in November 2014. The programme envisages renovation of public building area that would amount to at least 700,000 m² and to reduce cost of heating by at least 20% in public buildings by 2020. Finally, Lithuania is exploring possibilities of renovation at city block level.</p>
<p>Continue the development of cross-border connections to neighbouring Member States for both electricity and gas to diversify energy sources and promote competition through improved integration of the Baltic energy markets.</p>	<p>Further developments could be observed concerning strategic electricity and gas interconnection projects.</p> <p>In December 2014, two thirds of the planned “LitPol Link” power interconnection construction work in Lithuania’s territory has already been completed. The operation of the “LitPol Link” power interconnection is scheduled to begin in December 2015.</p> <p>In April 2014, one of the key stages of the “NordBalt” project has been initiated – the laying-down of the undersea power cable between Lithuania and Sweden. By the end of 2014, 250 km of connection (of 450 km planned) have been placed on the bottom of the Baltic Sea. The cabling work will continue in spring 2015. The “Nordbalt” power link is also expected to be operational by the end of 2015.</p> <p>In August 2014, the Polish and Lithuanian natural gas transmission systems operators applied to the INEA for the co-financing of the Gas Interconnection Poland-Lithuania (GIPL) project. In October 2014, 295.4 million EUR have been granted for the construction of the GIPL.</p>

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