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Assessment of climate change policies in the context of the European Semester

Country Report: Lithuania



Ecologic Institute

Authors team: Eike Dreblow, Matthias Duwe, Tim Wawer, Lena Donat, Elizabeth Zelljadt, Andrew Ayres

eclareon

Author: Jurga Tallat-Kelpsaite

Client: DG Climate Action

Service Contract: 071201/2012/635684/SER/CLIMA.A.3

Ecologic Institute

eclareon

Ecologic Institute, Berlin:

Pfalzburger Strasse 43/44
10717 Berlin
Germany
www.ecologic.eu

eclareon GmbH

Giesebrechtstraße 20
10629 Berlin
Germany
www.eclareon.eu

Contact:

Eike Dreblow,
Fellow Climate and Energy
Tel. +49 (30) 86880-165
Fax +49 (30) 86880-100
[eike.dreblow\(at\)ecologic.eu](mailto:eike.dreblow(at)ecologic.eu)

Contact:

Jurga Tallat-Kelpsaite
Consultant, Policy Department
Tel. +49 (30) 88 66 74 000
Fax +49 (30) 88 66 74 010
[policy\(at\)eclareon.com](mailto:policy(at)eclareon.com)

This country report has been produced as a joint output by Ecologic Institute and eclareon to support the Directorate General for Climate Action (DG CLIMA) at the European Commission in its work on the European Semester (Service Contract: 071201/2012/635684/SER/CLIMA.A.3).

The report provides an overview of current emission trends and progress towards targets as well as policy developments that took place over the period May 2012 to January 2013.

The content of the report represents the state of knowledge in February 2013, specific updates were made adding the latest official greenhouse gas emission data by the European Environment Agency (EEA).

Please feel free to provide any comments or suggestions to the authors through the contacts listed above.

Short summary

- **Background:** Lithuania took significant steps towards addressing climate change in 2012; its energy strategy puts a strong focus on nuclear power.
- **GHG target:** Non-ETS emissions in 2011 were below the 2013 target and according to the latest national projections the 2020 target can only be reached with additional measures.
- **Policy development:** In 2012, two major pieces of legislation addressing climate change were passed: the Renewed National Independence Strategy and the National Strategy for Climate Change Management Policy.

I Background on climate and energy policies

Lithuania took significant steps towards addressing climate change in 2012 with two major pieces of legislation through the parliament: the renewal of the National Energy Independence Strategy (26 June 2012) and the adoption of a new comprehensive National Strategy for Climate Change Management Policy (6 November 2012).

The latter sets out short-term (till 2020), medium-term (till 2030 and/or 2040) and long-term (till 2050) goals and objectives for climate change mitigation and adaptation in all sectors. These are largely “aspirational” framework targets that set the course for future specific policies and measures, rather than concrete regulations, subsidies, requirements, or standards actually entering into force. The strategy codifies the country’s targets into Lithuanian law under the effort sharing decision, which stipulates that GHG emissions in non-ETS sectors may not increase by more than 15% compared with 2005 levels. Overall, the main emphasis of the strategy for achieving the climate change objectives is on renewable energy expansion, energy efficiency measures, and on the construction of a new nuclear power plant (Visaginas Nuclear Power Plant (hereafter - VNPP)).

The renewed Energy Independence Strategy lays out strategic projects in the power sector that foster Lithuanian energy independence. This includes establishing electricity connections with Poland and Sweden. The strategy also foresees development of and integration into a regional electricity market among Baltic States and connection to Nordic and continental European electricity markets. The energy independence strategy and the climate change strategy share the goals of fostering renewable energy use and the building of the VNPP. Specifically, the independence strategy declares an intended shift in the heating sector from mainly gas-based production towards biomass. It sets Lithuania’s aim to progressively increase the use of renewable energy to 23% of final energy consumption by 2020, with no less than 20% of renewable energy in the electricity sector, no less than 60% in the district heating sector, and no less than 10% in the transportation sector. However, the measures promoting renewable energies to finally achieve these targets are going to be defined later. An analysis of the implications for future GHG emissions shows that the achievement of the targets would avoid 11 million tonnes of CO₂eq by 2020 (equal to 51% of Lithuania’s GHG emissions in 2011).

Green Growth is barely discussed in the media or within the political initiatives in Lithuania. Discussions linking energy and economic growth currently focus on the

planned construction of the VNP, the new nuclear plant which is Lithuania's key strategic project for competitive domestic power generation and an integral part of the Baltic Energy Market Interconnection Plan (BEMIP). Lithuania's former large nuclear power source, the Ignalina plant, closed in December 2009, bringing about an increased dependence on fossil fuels and a slight CO₂ emissions increase. Lithuania and its regional partners as well as strategic investor Hitachi, Ltd. (Japan) are in the preparatory phase of the new facility, touting it as a great boon to the local economy by reducing the country's energy dependence and allowing it to become an important supplier of electricity for the whole region. Supporters of the project assume that the new power source will displace enough fossil-fired generating capacity to cut 2.4 million tons of CO₂ emissions annually, and they also argue that it will attract foreign investment and create new jobs (Lithuanian Parliament 2012b). According to the former Prime Minister A. Kubilius (Government of the Republic of Lithuania 2012), VNPP will create about 6,000 new jobs. Current estimates for the cost of the new nuclear power plant are around LTL 17 billion (approx. € 4.9 billion), including an investment of LTL 6 billion (approx. € 1.7 billion) by Lithuania. ⁽¹⁾ However, the new government, which has been in place since November 2012 and is led by Lithuania's Social Democratic Party, argues that the nation opposes the construction of the nuclear power plant, citing results of an referendum on the VNPP taking place in October 2012: 63% of the population voted against the new nuclear power plant (Lithuanian Central Electoral Commission 2012). In January 2013, the Prime Minister A. Butkevičius stated that the government would agree to the construction of the new nuclear power plant if an independent assessment could show that electricity price increases due to the construction of VNPP would be acceptable to final consumers and that the power plant could operate profitably. The President also suggested organizing a second referendum when conclusions of the independent experts are finalized (Diena 2013).

2 GHG projections

Background information

In 2011, Lithuania emitted 21.6 Mt CO₂eq (UNFCCC inventory 2011). Total emissions decreased by more than 50% between 1990 and 2011, driven mainly by the transition to a market economy in the 1990s and more recently by the global financial crisis. Energy supply, agriculture, and transport accounted for the highest emissions. However, emissions in all sectors dropped significantly (some by up to 60%) between 1990 and 2011. The collapse of production in most sectors seen in all former Soviet states accounts for Lithuania's sharp emissions decline in the early 1990s, as does the significant decline in agricultural activity. By 2011, emissions from energy use were still nearly 80% below 1990 levels. Emissions from industrial processes fell rapidly in the early 1990s, but started to increase steadily until the start of the global financial crisis. The sharp drop in industrial emissions between 2008 and 2010 has been now almost outweighed by a 70% increase between 2010 and 2011 (UNFCCC inventory 2011, EEA 2012c, UNFCCC 2012).

¹ Currency exchange rates of 23.01.2013 (www.oanda.com)

Progress on GHG target

There are two sets of targets to evaluate: 1) the Kyoto Protocol targets for the period 2008-12 (which has just ended) and 2) the 2020 targets for emissions not covered by the EU ETS.

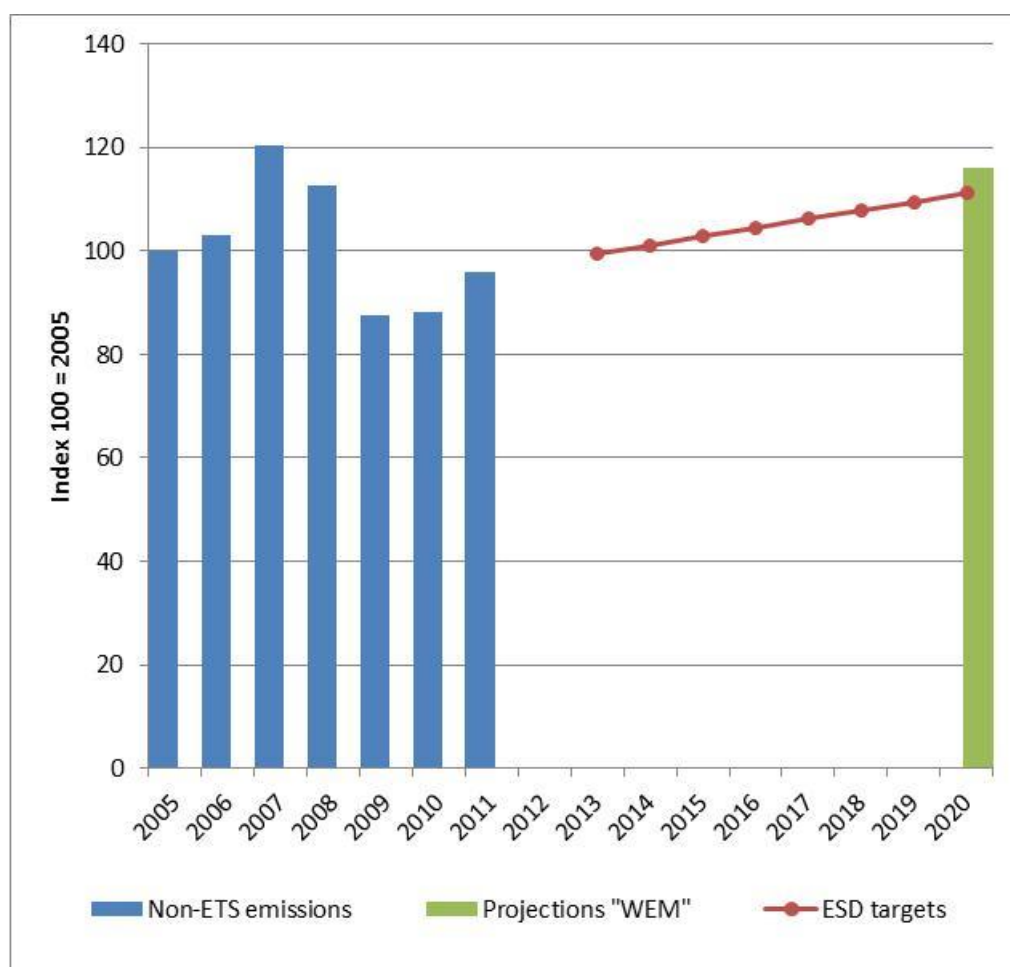
Under the Kyoto-Protocol the emission reduction target for Lithuania for the period 2008-2012 has been set to minus 8 % based on 1990 for CO₂, CH₄ and N₂O and on 1995 for F-gases. The latest available greenhouse gas data (for the year 2011) show that Lithuania's emissions have decreased on average by 56.3% compared to the Kyoto base year (EEA 2013a). Thus, Lithuania is expected to meet its Kyoto target through domestic emissions reductions directly.

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) ⁽²⁾. According to the 2011 inventory data, emissions in 2011 were 4% below the Annual Emissions Allocation (COM 2013) for the year 2013. National projections show that Lithuania is expected to increase its emissions by 2020 by 20% compared to 2005, in a scenario with existing measures. Only in a scenario with additional measures is Lithuania projected to stay below its target, increasing emissions by 2020 by only 7% compared to 2005 ⁽³⁾ (EEA 2013b).

Figure 1 shows Lithuania's non-ETS emissions until 2011, its targets under the ESD for the period 2013-2020, and the projections with existing measures for 2020.

² Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020.

³ Calculations are based on domestic emissions only, without accounting for possible use of flexibility options. The 2020 targets and 2005 non-ETS emissions are all consistent with 2013-2020 ETS scope, i.e. they take into account the extension of the ETS scope in 2013 and the unilateral inclusion of installation in 2008-2012.

Figure I: Non-ETS emission trends and projections compared to the ESD targets

Source: EEA. Projections are based on 15/04/2013 draft GHG inventory submissions under the UNFCCC and MS projections submitted

Table I: GHG emission developments, ESD-targets and projections (in Mt CO₂eq)

	1990	2005	2010	2011	ESD target*		2020 Projections**	
					2013	2020	WEM	WAM
Total	48.8	23.3	21.1	21.6				
Non-ETS emissions (% from 2005)		16.8	14.8	16.1	16.7	14.9	15.5	13.9
				-4%	-1%	15%	20%	7%
Energy supply (% share of total)	13.5 28%	5.7 24%	5.3 25%	4.4 21%				
Energy use (w/o transport) (% share of total)	11.5 24%	2.6 11%	2.6 12%	2.6 12%				
Transport (% share of total)	7.6 16%	4.4 19%	4.6 22%	4.5 21%				
Industrial processes (% share of total)	4.4 9%	4.1 18%	2.2 11%	3.7 17%				
Agriculture (% share of total)	10.3 21%	5.1 22%	5.0 24%	5.0 23%				

Source: UNFCCC inventories 2011; EEA (2013b); COM (2013), Calculations provided by the EEA and own calculations.

* The ESD target for 2013 and for 2020 refer to different scopes of the ETS: The 2013 target is compared with 2011 data and is therefore

consistent with the scope of the ETS from 2008-2012; the 2020 target is compared to 2020 projections and is therefore consistent with the scope of the ETS from 2013-2020. Non-ETS emissions in 2005 for the scope of the ETS from 2013-2020 amounted to 12.9 Mt CO₂eq.

** 2013 projections with existing measures (WEM) or with additional measures (WAM).

Legend for colour coding: green = target is being (over)achieved; orange = not on track to meet the target

Total greenhouse gas emissions (GHG) and shares of GHG do not include emissions and removals from LULUCF (carbon sinks) and emissions from international aviation and international maritime transport..

National projections of GHG emissions up to 2020, summarised by the EEA, need to be prepared by the Member States in accordance with the EU Monitoring Mechanism ⁽⁴⁾ every two years, and the latest submission was in 2013. The projections need to be prepared reflecting a scenario that estimates emissions reductions in line with policies and measures that have already been implemented (with existing measures, WEM), and an additional scenario that reflects developments with measures and policies that are in the planning phase (with additional measures, WAM) may also be submitted.

In the following two tables, these measures - as outlined by the Member States as basis for their projections as of April 2011 ⁽⁵⁾ - have been summarised with a focus on national measures and those EU instruments expected to reduce emissions the most ⁽⁶⁾. An update on the status of the policies and measures is included in order to assess the validity of the scenarios.

Table 2: Existing and additional measures as stated in the 2011 GHG projections

Existing Measures (only important national measures; w/o EU legislation)		Status of policy in January 2013
Cross-cutting	National Strategy for Implementation of the UNFCCC until 2012	implemented
Energy	Increasing renewable energy use in the electricity sector:	
	• National Strategy for the Development of Renewable Energy Sources	ongoing
	• The Action Plan for 2011-2020	ongoing
	• National Energy Independence Strategy	ongoing
	• National Strategy for Climate Change Management Policy	ongoing
	Increasing renewable energy use in the district heating sector:	
	• National Strategy for the Development of Renewable Energy Sources	ongoing
	• The Action Plan for 2011-2020	ongoing
	• National Energy Independence Strategy	ongoing
	Increasing cogeneration capacity	
• National Energy Independence Strategy	ongoing	
• National Strategy for the Development of Renewable Energy Sources	ongoing	
• National Strategy for Climate Change Management Policy	ongoing	

⁴ Decision No 280/2004/EC of the European Parliament and of the Council of 11 February 2004 concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol.

⁵ The respective policies and measures were not available at the time of the preparation of this country report. Thus, policies and measures as outlined in April 2011 are given here.

⁶ The implementation of the EU-ETS has not been included. Other EU Directives have only been considered if they have been outlined in the projections as one of the main instruments to reduce GHG emissions.

	Reduction of heat consumption in households and public buildings	
Energy Efficiency	<ul style="list-style-type: none"> • Special Climate Change Programme • Programme for the Renovation of Multi-apartment Buildings • Renovation of Public Buildings 	ongoing ongoing ongoing
	Increasing renewable energy use in the transport sector	
Transport	<ul style="list-style-type: none"> • National Strategy for Climate Change Management Policy • Exemption from environmental pollution tax • Excise tax relief • Subsidy available for the production of dehydrated ethanol 	ongoing ongoing ongoing ongoing
	Reduction of waste disposal in landfills: New combined heat and power cogeneration plant in Vievis, using gas from waste in Kazokiskes landfill	implemented
Other non-ETS sectors	Implementation of the Nitrates Directive	implemented (Programme on reducing water pollution from agricultural sources (Order NO 3D-686/D1-676 of 09.12.2008))

Source: Reporting of MS in accordance with Decision No 280/2004/EC about their GHG emission projections up to 2020, April 2011.

Additional Measures: Still to be implemented (only important national measures; w/o EU legislation)		Status of policy in January 2013
Energy	Construction of a new nuclear plant	to be implemented
Energy Efficiency	Energy savings in transport <ul style="list-style-type: none"> • National Transport Development Programme • Law on Vehicle taxation 	planned discussed
Other non-ETS sectors	Afforestation of low fertility soils: National Forest Sector Development Programme for 2012-2020	to be implemented

Source: Reporting of MS in accordance with Decision No 280/2004/EC about their GHG emission projections up to 2020, April 2011.

3 Evaluation of National Reform Programme 2012 (NRP)

In April of each year, Member States are required to prepare their National Reform Programmes (NRPs), which outline the country's progress regarding the targets of the EU 2020 Strategy. The NRPs describe the country's national targets under the Strategy and contain a description of how the country intends to meet these targets. For climate change and energy, three headline targets exist: 1) the reduction of GHG emissions, 2) the increase of renewable energy generation, and 3) an increase in energy efficiency ⁽⁷⁾.

⁷ There are specific targets for all MS by 2020 for non-ETS GHG emission reductions (see section 2) as well as for the renewable energy share in the energy mix by 2020 (see section 4, renewable energies). Specific energy efficiency targets will be defined (or revised) by the MS until the end of April 2013 in line with the methodology laid out in Article 3 (3) of the Energy Efficiency Directive (Directive 2012/27/EU).

In the following table, the main policies and measures as outlined in the NRP of April 2012 ⁽⁸⁾ have been summarised, and their current status (implemented, amended, abolished, or expired) is given, with specifics on latest developments.

Table 3: Main policies and measures as outlined in the NRP, April 2012

National Strategy for the Development of Renewable Energy Sources	
Status as stated in the NRP	Prepared in 2010
Status as per Jan 2013	Ongoing
Description of policy or measure	The Strategy aims to increase the share of RES in the energy balance and in the electricity, heat production, and transport sectors.
Legal acts implementing the Law on Energy From Renewable Sources	
Status as stated in the NRP	To be drafted in 2012
Status as per Jan 2013	Implemented
Description of policy or measure	Most of the implementing legislation was drafted in 2011. Remaining legal acts were adopted by the National Control Commission for Prices and Energy in 2012.
Lithuanian National Action Plan for Renewable Energy Sources	
Status as stated in the NRP	Prepared in 2010
Status as per Jan 2013	Ongoing implementation of plan's objectives
Description of policy or measure	The action plan provides detailed roadmaps of how Lithuania expects to reach its legally binding 2020 target for the RES share in their final energy consumption.
Second Energy Efficiency Action Plan	
Status as stated in the NRP	Prepared in 2011
Status as per Jan 2013	Ongoing
Description of policy or measure	The Second Energy Efficiency Action Plan was drafted in 2011. It aims to ensure that the national targets on energy efficiency are achieved by 2016.
Special Climate Change Programme	
Status as stated in the NRP	Under implementation since 2010
Status as per Jan 2013	Ongoing
Description of policy or measure	The Programme is aimed at implementing projects to increase the efficiency of energy consumption and energy generation.

⁸ All NRPs are available at: http://ec.europa.eu/europe2020/documents/related-document-type/index_en.htm

Programme for the Renovation of Multi-apartment Buildings	
Status as stated in the NRP	Implementation period 2005-2020
Status as per Jan 2013	Ongoing
Description of policy or measure	Between 2005 and the end of 2011, 442 multi-apartment buildings were modernised.
Renovation of Public Buildings (EU Structural Assistance for 2007–2013 (Operational Programme for Promotion of Cohesion))	
Status as stated in the NRP	Until 2020
Status as per Jan 2013	Ongoing
Description of policy or measure	In 2011, financing was allocated to 66 projects.
Voluntary agreements with energy companies	
Status as stated in the NRP	2011-2020
Status as per Jan 2013	Ongoing
Description of policy or measure	9 voluntary agreements with energy companies were signed in 2011.
National Strategy for the Implementation of the United Nations Framework Convention on Climate Change until 2012	
Status as stated in the NRP	2008-2012
Status as per Jan 2013	Implemented
Description of policy or measure	The Strategy includes scientific research providing information and education to the public.
National research programme 'Future Energy'	
Status as stated in the NRP	Programme implementation period 2010-2014
Status as per Jan 2013	Ongoing
Description of policy or measure	The Programme is aimed at ensuring Lithuania's energy-related objectives.
National Transport Strategy (Draft)	
Status as stated in the NRP	under preparation
Status as per Jan 2013	Planned
Description of policy or measure	By implementing anticipated initiatives, the draft Strategy aims to reduce final energy consumption in the transport sector by 8% by 2020.

4 Policy development

This section covers significant developments made in key policy areas between May 2012 and January 2013. It does not attempt to describe every instrument in the given

thematic area. The time-frame was chosen based upon the release of the National Reform Programmes (in the section above) in April 2012, which contain the status quo for policy on most topics

Environmental Taxation

Lithuania's economy sported the seventh-lowest implicit tax rate on energy in the EU at an equivalent of € 82.6 per tonne of oil in 2010 while energy intensity is high compared to other EU MS (eighth-highest in 2010) (Eurostat 2013). Revenues from energy taxation as a percentage of GDP (1.8%) placed Lithuania in 18th place in 2010. Revenues from all environmental taxes accounted for 1.9% of GDP, making Lithuania rank 25th in comparison to other MS in 2010 (Eurostat 2012b).

The main measure for environmental taxation in Lithuania is the environmental pollution tax, which accounted for more than 90% of the environmental tax revenues in 2010 (EuroStat 2012c). The pollution tax is paid by polluters from point sources, mobile sources (used for economic and commercial activities), and manufacturers and importers polluting the environment with product and/or packaging waste.

The Law on Pollution Tax ⁽⁹⁾ sets out certain tax exemptions for all these groups of polluters. For example, polluters in transport vehicles are exempt from paying the tax if they have installed exhaust gas neutralisation systems, 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 meets established standards. The tax relief is also applied to the emissions from point sources. Emissions resulting from the use of biofuel are exempted from the tax. In the case of implementation of environmental measures reducing emissions from point sources by at least 5% calculated from the determined maximum pollution level, the tax is reduced by 5%. 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).

New developments have taken place as vehicle taxation is planned to be introduced. However, the draft ⁽¹⁰⁾ was rejected in mid-2012 due to an unclear definition of the basis of the tax (for more details see section transport).

Energy Efficiency

As mentioned above, Lithuania's economy exhibits high energy intensity, but this intensity dropped by 25% between 2005 and 2010. This took place together with increasing overall energy consumption; end-use consumption increased 11.7% from the 2001-2005 average to 2010, mainly in the transport sector and with slight increases in the residential and service sectors (Eurostat 2013).

⁹ The Law on Pollution Tax of the Republic of Lithuania, 13 May 1999, VIII-1183

¹⁰ Resolution No. 691 of the Government of Lithuania of 13.06.2012.

The aforementioned renewal of Lithuania's National Energy Independence Strategy sets increasing efficiency of heat consumption in households and public buildings as a national priority, and the strategy aims for gradual improvement of the country's heat production and transportation infrastructure by, e.g. replacing inefficient boilers and installing combined heat and power facilities. The strategy does not specify actual policies or measures, but includes estimates of energy and emissions savings that such measures could achieve. Increased energy efficiency in buildings (particularly better insulation) would achieve 2–3 TWh heat savings in 2020 compared to 2011, while reducing consumption of natural gas in district heating, heat production, and transportation infrastructure upgrades could achieve 0.4 TWh of savings annually. These measures would avoid 1.1 million tonnes of CO₂ equivalent from the heating sector by 2020, which represents about 5% of Lithuania's total 2011 GHG emissions. Together, the foreseen initiatives would cost the government sector 11 - 13 billion LTL (approx. € 3.2 - 3.8 billion), including the assets of state-owned companies, EU structural funds, and other international support. Additional 11 - 14 billion LTL (approx. €3.2 - 4 billion) will be attracted from private investors. The investment shall yield annual savings of 3 - 4 billion LTL (approx. € 868.619.000 - 1.2 million) (3 - 4 % of the Lithuanian GDP), which are currently spent on imported energy resources.

The Lithuanian Parliament recently took a step towards implementing actual measures to achieve these efficiency targets by approving specific legislation. 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*)⁽¹¹⁾, which lays out the "Programme for the Modernisation of Multifamily Buildings" that provides loans and/or subsidies for efficiency upgrades in dwellings, has been amended. The amendments give municipalities greater authority to approve efficiency upgrades. Furthermore, a new financing model has been introduced, according to which loans for renovations are provided not only to the apartment owners but also to the administrators of multi-apartment buildings, public entities, and other persons, responsible for projects and appointed by municipalities. The changes are expected to accelerate the modernisation process in Lithuania. The programme containing this package of amendments was approved by Lithuania's Parliament on 17 January 2013 and will enter into force after 1 March 2013.

In addition, the Lithuanian Environment Ministry engaged in research on innovative energy efficiency measures, completing cost-benefit analysis of the roll-out of smart electricity metering grid in September 2012. The study analysed several scenarios for a Lithuanian smart meter program based on parameters including data transfer options, available devices, communication, applicable pricing models, and the scope and speed of the roll-out. It concluded that with the exception of commercial consumers with over 30 kW of permitted power, the rolling-out of the smart metering is not economically viable in Lithuania yet. Nevertheless, it suggests carrying out pilot projects, in order to demonstrate the benefits of smart metering. Moreover, the study encourages the Distribution System Operator (DSO) to continue to automate the metering of major commercial consumers.

¹¹ Draft Law amending articles 13, 14 and 15 of the Law on the State Support for the Acquisition or Rent of Housing and for the Renovation (Modernization) of Multifamily Buildings of the Republic of Lithuania (No XII-149).

Renewable Energy

Energy from renewable sources accounted for 19.7% of total energy consumption in 2010. Thus, Lithuania is in a good position to meet its 2020 target of 23% of total energy use from renewable energy technologies. In the electricity sector, the proportion of final consumption produced from renewable sources increased between 2005 and 2010 from 3.9% to 7.8% but remains at a low level (Eurostat 2013).

In order to foster the development of renewable energies, the renewed National Energy Independence Strategy was published in June 2012. The strategy prioritises renewable energy development, especially wind energy and co-generation plants fuelled by biomass, to increase renewable electricity and heat generation. The strategy aims to foster renewable energy sources so that by 2020 wind farms' generating capacity will total 500 MW (compared to 205 MW in 2011), electricity generated by biofuel plants totals 355 (49 MW), hydropower totals 141 MW (128 MW), and solar power totals 10 MW (1 MW) ⁽¹²⁾. These amounts are national goals concerning renewable energies in the electricity sector, but at the same time, they constitute the caps for the State's financial support to renewable energy sources by 2020, as set in the Law on Energy from Renewable Sources ⁽¹³⁾, which is explained below. Power generation from renewable energies is expected to account for at least 20% of the final electricity consumption by 2020, compared to about 8% of renewable electricity generation in 2010.

The foreseen increase in the role of renewable energies in the heating sector is even more striking, with renewable energy expected to cover no less than 60% of district heat consumption, mainly by unlocking the biomass potential. The strategy notes that achieving this target will require ensuring availability of sufficient biomass resources at competitive prices. Infrastructure for wood biomass collection is envisaged, as well as proper management of wood product flow and an increase in the use of straw. At present, the purchase of heat produced from all renewable energy sources is already promoted by the government. Utilities have a priority purchase obligation for renewable heat generated from independent producers: Heat suppliers are obliged to purchase all RES heat generated by independent heat producers which satisfy quality, supply security, and environmental requirements (RES LEGAL Europe 2012). According to the Lithuanian District Heat Association (2012), in 2010, 19% of the produced heat in district heating came from biomass.

The main existing measure for promoting renewable electricity generation is a feed-in tariff, which saw several changes in 2012. The original feed-in tariff, or guaranteed pricing for renewably-produced electricity, was seen as too generous. According to Lithuania's National Control Commission for Prices and Energy (hereafter – NCC) the installed capacity would be eight times higher than the supported capacity anticipated in the *Law on Energy from Renewable Sources* if all currently planned projects were to be implemented (Delfi Žinios 2012). The parliament therefore passed amendments to the existing *Law on Energy from Renewable Sources* (No XII-170) ⁽¹⁴⁾ on 17 January 2013

¹² All numbers in brackets are installed capacity for the year 2011. Numbers are taken from the National Energy Independence Strategy; 128 MW of hydropower excludes Kruonis hydro pumping power plant.

¹³ Law on Energy from Renewable Sources (No XI-1375).

¹⁴ Law amending articles 2, 11, 13, 14, 16, 20, 21 of the Law on Energy from Renewable Sources (No XII-170). Online available: http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=441938

that, amongst other things, restricts permitting of solar power facilities applied for after July 2013.

In addition, the NCC changed the tariff-setting methodology ⁽¹⁵⁾ by differentiating electricity generating biogas plants according to the type of technology (biogas plants generating electricity from landfill biogas and biogas plants generating electricity from biogas derived from the anaerobic or otherwise recycling biodegrading organic waste or substrates) and their installed capacity. Thus, the different technologies and capacities now receive different tariff rates.

On 4 July 2012, the Government approved caps on financial support through the feed-in tariffs for electricity produced from renewable energy sources. Subsidisation of renewable electricity sources ends when installed capacity of the respective electricity generation source has reached the following levels (see Resolution No 810 for caps) (small-scale wind and biomass projects up to 30 kW are exempted from the cap):

- Wind: 500 MW (still 260 MW to be installed)
- Photovoltaics: 10 MW (still 10 MW to be installed)
- Hydropower: 141 MW (still 14 MW to be installed)
- Biomass: 350 MW (still 230 MW to be installed)

When these caps of financial support are reached, the Government shall make a decision on the further renewable electricity development in Lithuania (Resolution No 810).

In addition, the government set out the caps for the tender regions (Resolution No 810). According to the Law on Energy from Renewable Sources, in effect since May 2011, the size of feed-in tariffs for the operators of renewable energy plants with a total installed capacity above 30 kW is determined through tenders and the operators have to compete amongst themselves in several regions, as defined by the NCC (RES Legal Europe 2012). The tender regions cover the whole territory of Lithuania.

According to J. Šimėnas, the former Chairman of the Environment Committee of the Lithuanian Parliament, installation of 500 MW of wind power by 2020 (as foreseen in the Law on Energy from Renewable Sources) could create 1,250 new jobs (Šimėnas 2010). The best potential for wind power is in the western and north-western parts of the country. In particular, the region along the Baltic Sea is suitable for the construction of wind turbines, due to the sufficiently high wind speed (higher than 5–6 m/s) (Štreimikienė/Bubelienė 2005). In the western region, a new wind farm with 13.8 MW of total installed capacity began operating in June 2012. Seventy-five million LTL (approx. €21.7 million) have been invested in the project. Annually generated electricity shall amount to approx. 40 GWh. The wind farm operator is committed to devote a certain share of income from the generated electricity to the local community. This could amount to approx. 30-40 thousand LTL (approx. € 8.6 – 11.6 thousand). Another wind farm is planned in the same region, and the planned investments amount to approx. 190 million LTL (approx. € 55 million) (15min 2012).

¹⁵ Resolution No O3-174 of the National Control Commission for Prices and Energy of 25.06.2012. Online available: http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=428662

According to the *Lithuanian Vision 2050* ⁽¹⁶⁾, Lithuania's onshore wind power potential consists of approx. 1,000 MW (LVEA 2011). Currently, environmental impact assessment of offshore wind farms in 4 potential areas is being carried out (Grynas 2012). The investments in offshore wind would amount to approx. € 3 billion. It is expected that the first offshore wind power plants will be constructed by 2014-2015 (Ekodiena 2012). According to the Lithuanian Wind Power Association (2013), investments in Lithuanian wind power plants have already exceed 500 million LTL (approx. €144.7 million).

The Lithuanian Biomass Energy Association (LITBIOMA) suggests that, in the case that the share of biomass in district heating increases to 60-70% and in electricity generation to 15%, the biomass sector could also employ about 8,000 – 9,000 people. Moreover, these jobs would be created mostly in rural areas on a regional basis (LITBIOMA 2011).

Energy Networks

The planned Lithuanian-Polish power link (LitPol Link 1) aims to eliminate isolation of the Lithuanian power sector and eventually integrate in the European Union's single electricity market. Phase 1 of the 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), currently envisaged as an undersea power cable to be constructed 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 (Lithuanian Parliament 2012b).

Further interconnection of the Lithuanian grid with the synchronous grid of continental Europe would allow for system control integration of the Baltic States to 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 of 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 (Lithuanian Parliament 2012b).

Lithuania took further steps toward this eventual grid integration in May 2012, when the country's electricity transmission system operator Litgrid signed an agreement with a Swedish company (Gothia Power AB) that won an international public tender for the feasibility study regarding the Baltic States' integration into the EU's internal electricity market and implementation of possible interconnections. The feasibility study is scheduled to be completed by autumn 2013 and will assess possible synchronous operation options for the Baltic States' electricity energy system interconnection with the European Continental Network (ECN). The investigation is expected to establish clear technological requirements for the interconnection as well as cost estimates (Litgrid 2012).

Transport

Greenhouse gas emissions from the transport sector increased from 2005 to 2010 and could slightly be reduced from 2010 to 2011. Their share in total emissions also

¹⁶ For more information on the Lithuanian Vision 2050 see <http://www.inforse.org/europe/VisionLT.htm>

increased to 21% (see Table 1). Revenues from taxation of transport (excluding fuels) were nonexistent in 2010, placing Lithuania last in comparison with other EU MS (Eurostat 2012). Newly registered cars emission efficiency could be increased significantly by almost 23% from 2005 to 2011. Thus, they emitted 144.3 gCO₂/km or 4% above the EU average (EEA 2012e).

The aforementioned National Strategy for Climate Change Management Policy (Lithuanian Parliament 2012a) includes general goals for reducing emissions from motor vehicles in Lithuania, including expansion of public road and rail transit and increased bicycle use. A draft National Transport Development Programme is currently in preparation, in response to a strategic environmental impact assessment report provided to and approved by Lithuania's Ministry for Transport and Communications in December 2012. Information about the assessment's results is being prepared for the public. The draft programme promotes, e.g., 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, the taxation of vehicles is planned to be introduced. So far, Lithuania does not tax vehicles. However, a draft law on vehicle taxation was submitted to the Parliament in December 2011, but it was rejected in mid-2012 due to an unclear definition of the basis of taxation. Lawmakers suggested basing vehicle taxation levels on objective criteria, potentially including CO₂ emissions. The new draft is under development and it is still not clear if CO₂ emissions will form the basis, partly form the basis in addition to other criteria, or will be left out of the new taxation system.

In addition, the government supports the use of biofuels. Renewable energies are intended to account for no less than 10% of fuel energy consumption. According to Eurostat (2012a), in Lithuania the share of renewable energy sources in the transport sector amounted to 3.6% in 2010 (4.7% in EU-27). In order to achieve this target, the production and consumption of renewable energies in transport are promoted by the government: To support the production of biofuels, the National Paying Agency under the Ministry of Agriculture reimburses part of the price of rapeseed oil used for the production of rapeseed methyl (ethyl) ester (RME) and part of the price of rapeseed and cereal grain purchased for the production of dehydrated ethanol. The maximum reimbursement for rapeseed and cereal grains is set by the Minister of Agriculture each year. In 2011, the reimbursement for rapeseed grains amounted to approx. € 46 per tonne, and for cereal grains to approx. € 33 per tonne. This measure is implemented by the National Paying Agency on behalf of the Ministry of Agriculture (RES Legal Europe 2012).

The consumption of biofuels, including biohydrogen, is promoted through an exemption from the environmental pollution tax and an excise tax relief. In order to be eligible for environmental pollution tax relief, biofuels must meet certain statutory standards (RES Legal Europe 2012).

In addition, excise tax relief is applied to transport biofuels produced from biomass in Lithuania. The excise tax rate is reduced in proportion to the percentage of biomass per tonne of biofuel. The relief applies to bioethanol, biodiesel, bio-ETBE, and vegetable oil. To be eligible under this support scheme, biofuels must comply with the mandatory statutory quality requirements and other requirements, standards, and European norms (RES Legal Europe 2012).

Agriculture

In the agriculture sector, key emission reduction activities described in the national strategy include the promotion of organic farming practices and 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.

Waste

The National Strategy for Climate Change Management Policy anticipates new construction of waste treatment facilities in major Lithuanian cities by 2014. According to the strategy, the maximum allowed amount of disposed biodegradable municipal waste shall not exceed 253,900 tonnes per year in 2020. This would support the foreseen reduction of methane emissions from biodegradable waste and sewage sludge. In addition, the strategy outlines that at least 30% of the annual amount of waste should be used for electricity generation.

LULUCF

The National Forest Sector Development Programme for 2012-2020 (¹⁷) was approved by the government in May 2012. The programme sets out key objectives in the forest sector, including the protection of Lithuanian forests, the rational use of the forest resources, and the sustainability of forest ecosystems.

According to the programme, 4,300 ha of Lithuanian territory were covered by forests in January 2011. Although this number is slightly higher than the European average, Lithuania seeks to further increase the forest area to 15,000 ha in 2015 and 30,000 ha in 2020.

The measures under the programme shall be financed from the state budget, EU structural funds, and other financial sources. Implementation of the program is coordinated by the Ministry of Environment, while the monitoring is assigned to the State Forest Service under the Ministry of Environment.

¹⁷ National Forest Sector Development Programme for 2012-2020, approved by the resolution No 569 of the Government of the Republic of Lithuania of 23.05.2012.

5 Policy progress on past CSRs

As part of the European Semester, Country Specific Recommendations (CSRs) for each MS are provided by the EU Commission in June of each year for consideration and endorsement by the European Council). The recommendations are designed to address the major challenges facing each country in relation to the targets outlined in the EU 2020 Strategy. In the following table, those CSRs that are relevant for climate change and energy that were adopted in 2012 are listed, and their progress towards their implementation is assessed.

Existing Country Specific Recommendations	Progress
<p>Review and consider increasing those taxes that are least detrimental to growth, such as housing and environmental taxation, including introducing car taxation, while reinforcing tax compliance</p> <p>Step up measures to improve the energy efficiency of buildings, including through removing disincentives and a rapid implementation of the holding fund</p>	<p>Regarding the introduction of vehicle taxation, a Draft Law for the introduction of a vehicle tax (No XIP-3959) ⁽¹⁸⁾ was rejected in mid-2012 for further improvements. No developments have taken place regarding the introduction of other environmental taxes.</p> <p>The Draft Law amending articles 13, 14, and 15 of the Law on the State Support for the Acquisition or Rent of Housing and for the Renovation (Modernization) of Multifamily Buildings of the Republic of Lithuania ⁽¹⁹⁾ was submitted and approved by the Parliament on 17.01.2013. The amendments provide for a new renovation financing model according to which loans are provided not only to apartment owners but also to multi-apartment building administrators, public entities, and other persons responsible for projects and appointed by municipalities.</p>
<p>Promote competition in energy networks by improving interconnectivity with the Member States for both electricity and gas</p>	<p>Work on new interconnections for electricity and gas networks is in progress.</p>

¹⁸ Draft Law on Vehicle taxation (No XIP-3959).

¹⁹ Draft Law amending articles 13, 14 and 15 of the Law on the State Support for the Acquisition or Rent of Housing and for the Renovation (Modernization) of Multifamily Buildings of the Republic of Lithuania (No XII-149).

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