



Country profile – Lithuania

The section 'Key climate- and energy-related data' was prepared by the EEA. It includes the latest data available as of 31 July 2014

The section 'Climate and energy policy framework' was prepared by eclareon and Ecologic Institute, Germany. It includes the latest information on national policies and measures available as of 31 May 2014.

For methodological details and other country profiles, see www.eea.europa.eu/themes/climate/country-profiles.

Key climate- and energy-related data — Lithuania

Key data on GHG emissions	2005	2011	2012	2013	EU 2012
Total GHG emissions (UNFCCC, Kyoto Protocol) (Mt CO ₂ -eq.)	23.3	21.7	21.6	20.4	4 544.2
GHG per capita (t CO ₂ -eq./cap.)	6.9	7.1	7.2	6.9	9.0
GHG per GDP (g CO ₂ -eq./PPS in EUR)	573	423	396	359	350
Share of GHG emissions in total EU-28 emissions (%)	0.5 %	0.5 %	0.5 %	0.5 %	100.0 %
EU ETS verified emissions (Mt CO ₂ -eq.)	6.6	5.6	5.7	7.5	1 848.6
Share of EU ETS emissions in total emissions (%)	28.3 %	25.9 %	26.4 %	36.6 %	40.7 %
ETS emissions vs allowances (free, auctioned, sold) (%)	- 51.1 %	- 36.9 %	- 47.3 %	n.a.	- 14.1 %
Share of CERs & ERUs in surrendered allowances (%)	0.0 %	27.1 %	43.3 %	n.a.	26.4 %
Non-ETS (ESD) emissions, adjusted to 2013–2020 scope (Mt CO ₂ -eq.)	12.4	11.8	11.6	12.9	2 566.6
Key data on renewable energy	2005	2010	2011	2012	EU 2012
Share of renewable energy in gross FEC (%) () = including all biofuels consumed in transport	(17.0 %)	(19.8 %)	20.2 %	21.7 %	14.1 %
Share of renewable energy for electricity (%)	3.8 %	7.4 %	9.0 %	10.9 %	23.5 %
Share of renewable energy for heating and cooling (%)	30.1 %	33.2 %	33.7 %	35.5 %	15.6 %
Share of renewable energy for transport (%) () = including all biofuels consumed (%)	(0.5 %)	(3.6 %)	3.7 %	4.8 %	5.1 %
Key data on energy consumption	2005	2010	2011	2012	EU 2012
Primary energy consumption (Mtoe)	7.9	6.1	5.8	5.9	1 584.8
Primary energy consumption per capita (Mtoe/cap.)	2.4	1.9	1.9	1.9	3.1
Final energy consumption (Mtoe)	4.6	4.8	4.7	4.8	1 104.5
Final energy consumption per capita (Mtoe/cap.)	1.4	1.5	1.5	1.6	2.2
Efficiency of conventional thermal electricity and heat production (%)	81.3 %	82.9 %	91.7 %	90.1 %	50.0 %
Energy consumption per dwelling by end use	2005	2009	2010	2011	EU 2011
Total energy consumption per dwelling (toe/dwelling)	1.12	1.23	1.19	1.22	1.42
Space heating and cooling (toe/dwelling)	0.82	0.87	0.84	0.87	0.96
Water heating (toe/dwelling)	0.08	0.08	0.09	0.09	0.18
Cooking (toe/dwelling)	0.11	0.12	0.12	0.12	0.08
Electricity (lighting, appliances) (toe/dwelling)	0.12	0.15	0.14	0.14	0.20

Progress towards GHG targets (under the Effort Sharing Decision, i.e. non-ETS emissions)

2013 ESD target (% vs base year)	- 3.8 %	2020 ESD target (% vs base year)	+ 15.0 %
2013 ESD emissions (% vs base year)	- 4.3 %	2020 ESD projections WEM (% vs base year)	+ 16.9 %
		2020 ESD projections WAM (% vs base year)	+ 1.6 %

Based on approximated emission estimates for 2013, emissions covered by the Effort Sharing Decision (ESD) (i.e. in the sectors which are not covered by the EU ETS) are expected to be below the annual ESD target in 2013. Projections indicate that 2020 ESD emissions are expected to be below the 2020 ESD target, only if measures planned until 2013 are fully implemented.

Progress towards renewable energy targets

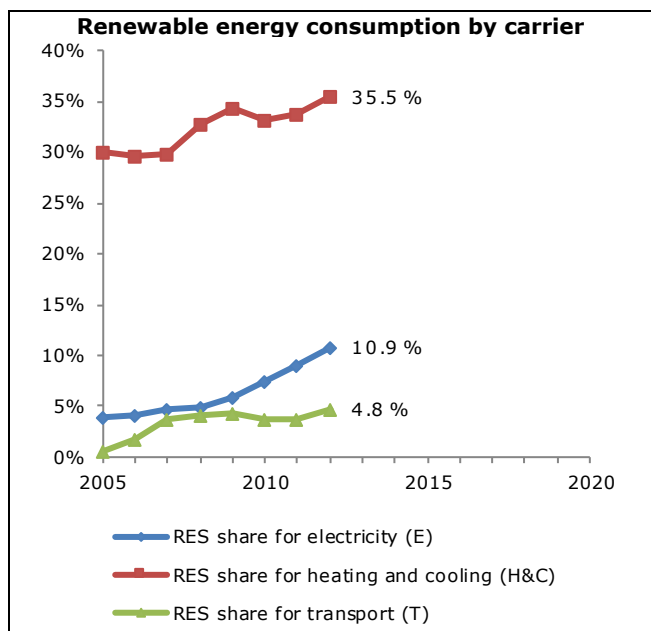
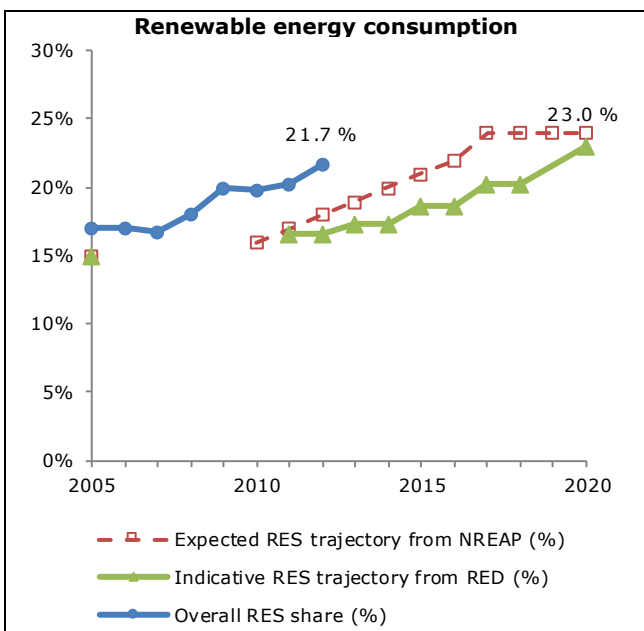
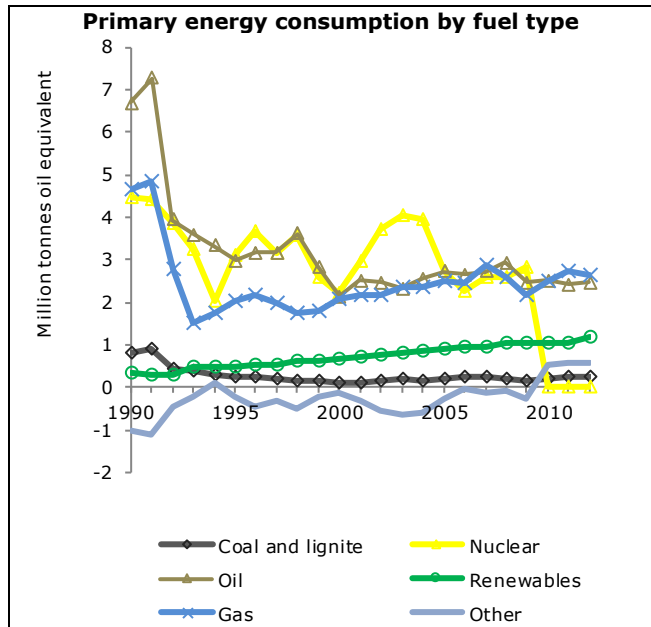
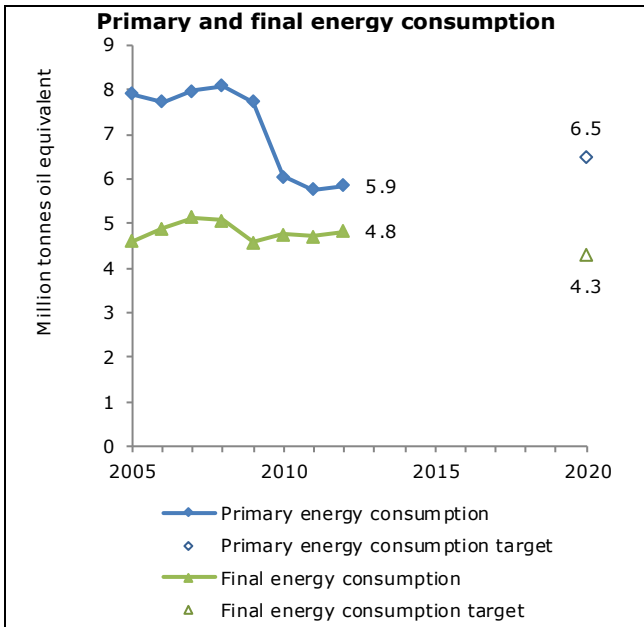
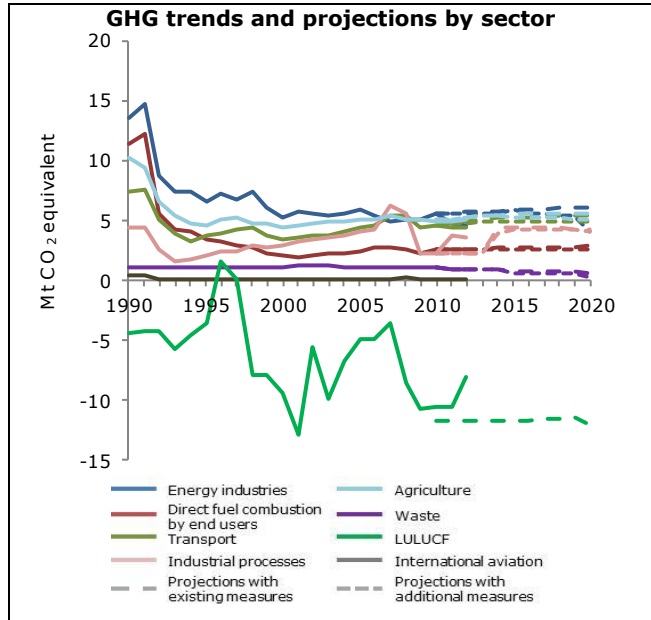
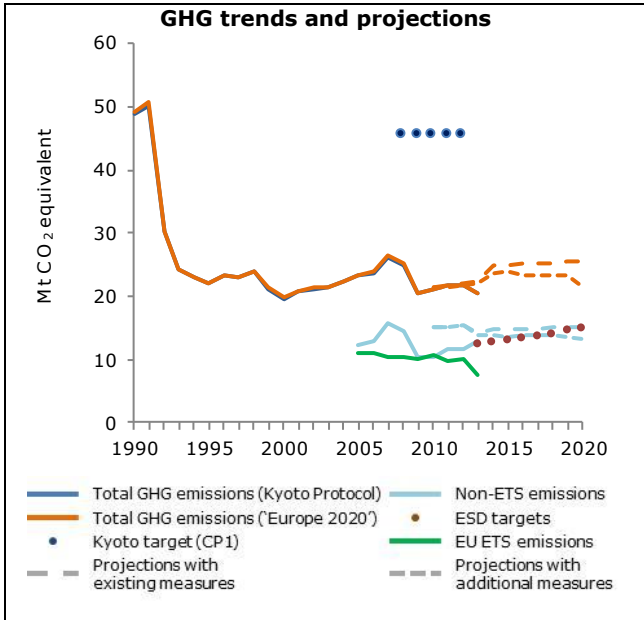
2012 RES share in gross final energy consumption (%)	21.7 %	2011–2012 indicative share from RES Directive (%)	16.6 %
2020 RES target	23.0 %	2012 expected share from NREAP (%)	18.0 %

The average share of renewable sources in gross final energy consumption for 2011–2012 was 21.0% (1.1 Mtoe), which is higher than the indicative RED target for 2011–2012 (16.6%). At the same time, the share of renewables in 2012 (21.7 %) is higher than the expected 2012 NREAP target (18.0 %). Over the period 2005–2012 the observed average annual growth rate in renewable energy consumption amounted to 3.8%. In order to reach its 2020 NREAP target, Lithuania needs an average annual growth rate of 3.7% in the run-up to 2020. In absolute terms, this is equivalent to 1.5 time its cumulative effort so far.

Progress towards energy efficiency targets

Primary energy consumption:		Final energy consumption:	
2005–2012 average annual change	- 4.2 %	2005–2012 average annual change	+ 0.7 %
2012–2020 average annual change to target	+ 1.3 %	2012–2020 average annual change to target	- 1.5 %

During the period 2005–2012, primary energy consumption decreased at a faster pace than is necessary to meet the 2020 target. This decrease was due to structural changes, which brought about significant reductions in the energy sector's consumption as well as distribution losses. However, final energy consumption increased instead during this period. Further efforts to reduce energy consumption, particularly in the industry and residential sectors, could contribute to helping Lithuania achieve its target on final energy consumption.



Climate and energy policy framework

Challenges and opportunities

Lithuania is highly dependent on energy imports and, thus, has set up plans to reduce the dependence on energy imports, especially from Russia. Policies in place address the power grid and the building of a new liquefied gas terminal. Through the promotion of renewable energies, energy dependence on any energy imports could be further reduced, local jobs and revenues could be created, and air quality benefits could be generated.

Another challenge is energy efficiency in residential buildings. Lithuania has established refurbishment policies and a funding scheme to address this problem. However, due to limited state and private funds the share of refurbishment projects is currently small compared to the large number of buildings requiring modernisation. Nonetheless, the savings potential (for example, for heat) is high (as high as 50 %), especially in multi-family buildings. A broader refurbishment programme would represent a significant opportunity for the construction sector and associated jobs through increased investments.

The transport sector also remains a challenge for Lithuania. Transport fuel taxes, for example, are amongst the lowest in the EU. The impact of existing policies attempting to tackle the high share of emissions from the transport sector is limited. While it has so far not been possible to reach consensus on the introduction of vehicle taxation it can be argued that such an introduction would be beneficial in many ways, including the generating of financial revenues to be used for greater investments in transport infrastructure.

Climate and energy strategies

In 2012, Lithuania adopted a Strategy on Climate Change Management Policy for 2013–2050 (Seimas, 2012). It sets out mitigation and adaptation targets to be met in the short, medium and long terms. By 2050, Lithuania will ensure its economic sectors adapt to climate change, reduce emissions, shift to a low-carbon competitive economy, introduce eco-innovative technologies, and improve the energy production efficiency and use, and use of renewable energy sources (RES) in all economic sectors. Specific measures are outlined in an accompanying Action Plan to implement policies and achieve the climate change goals. It aims to develop eco-innovative technologies and increase energy-efficient production and consumption. The National Energy Independence Strategy's main goal is Lithuania's energy independence before 2020. The Strategy is to produce electricity in combined heat and power (CHP) plants and resort to RES. It also addresses building the new Visaginas Nuclear Power Plant (VNPP) after the shut-down of the only nuclear power station in the country in 2009. In a non-binding referendum in October 2012, most voters (64.77 %) voted against the construction of the VNPP (Lyrtas, 2013a). Lithuanian political parties have nonetheless expressed their commitment to the construction of the VNPP.

Renewable energy

Renewable energies already play an important role in Lithuania's energy supply. The National Renewable Energy Development Programme for 2014–2020 is planned to be approved by the end of 2014 after a strategic impact assessment report is completed. The mentioned Programme will in principle determine national renewable energy consumption targets in electricity, heat and transport sectors as well as establish measures for their achievement. The main support mechanism for renewable electricity generation is a feed-in tariff (FIT) established in the Law on Energy from Renewable Sources (2011). The Law has been amended several times in 2013, mainly with the aim to balance the development of RES in order to avoid increasing electricity prices to final energy consumers (public interest protection). The amendments included that the tariffs are reviewed each quarter allowing the National Control Commission for Prices and Energy to respond to the rapidly changing prices of technology and equipment. According to the Ministry of Energy, in the period of 2012 (I) to 2013 (IV), the average reduction of FIT rates for renewable energy technologies amounted to 23–25 %.

The government approved the Draft National Heating Sector Development Programme for 2014–2021 in April 2014. It is meant to increase the installed capacity of biomass heating systems and provides support through the EU Structural Funds. Furthermore, the Lithuanian Environmental Investment Fund (LEIF) subsidises investment projects aiming to mitigate as well as adapt to climate change in the long-term perspective, which also covers the shift from fossil fuels to RES in electricity and heating sectors.

Energy networks

Lithuania has made significant progress in constructing interconnections of its power grid and natural gas infrastructure with neighbouring countries (Litgrid, 2013). In February 2014, the National Control Commission for Prices and Energy announced the approval of the Lithuanian electricity transmission network development plan for 2013–2022. It addresses funding for the Lithuania–Sweden power interconnection, the capacity integration of the VNPP, the construction of the power link with Poland and the preparation of the network for synchronous operation with the European Continental Network. Further studies will be carried out to identify the maximum number of power plants using renewable energy able to be connected to the existing transmission network.

In addition, the Gas Interconnection Poland–Lithuania is being implemented to integrate Lithuania into the EU gas market. Currently, an Environmental Impact Assessment is being carried out. The engineering design and construction period will follow from 2015–2018.

Energy efficiency

Lithuania has made significant progress with regards to energy efficiency. A draft of the Law on Energy Efficiency is planned to create an Energy Efficiency Obligation. Energy **taxation** is below EU average and there are quite a few exemptions, for example for electricity, coal and coke used by households and charitable organisations, and for natural gas used as motor fuel in local regular buses.

Lithuania aims to increase the amount of electricity produced from **combined heat and power** during the heating season by 35 % by 2025. By 2020, Lithuania intends to meet the target of 75 % of heat provided in heating systems from CHP plants.

In the context of energy efficiency measures in the **industrial** sector, the Energy Efficiency Action Plan (Energy Efficiency Action Plan, 2014) that sets out relevant measures is an important step to promote energy efficiency. Furthermore, the government has adopted voluntary agreements with the industry sector to improve energy efficiency

(EEA, 2013). Energy consumption audits are financed by the state, committing companies to introduce efficiency measures.

In the **building** sector, the Lithuanian Housing Strategy aims to renovate and modernise existing buildings to reduce thermal energy consumption by up to 30 % by 2020. Minimum energy performance standards for new and modernised buildings and energy performance certificates have been introduced. An important step was to also amend the Law on State Support for the Acquisition or Rent of Housing and for the Renovation of Multifamily Buildings (Grynas, 2013). Amendments introduced a new financing model for renovation to accelerate Lithuania's building refurbishment process. Furthermore, the LEIF provides multiple grants to projects resulting in improved energy efficiency in buildings. The Ministry of Environment and the Ministry of Energy are currently drafting a new Public Building Energy Efficiency Programme. In addition, the Law on Energy (2002) includes minimum efficiency requirements for electrical appliances, boilers and heat generators.

Transport

Lithuania has adopted a National Communication Development Programme 2014–2022. It addresses sustainable development of the transport and communications system, efficient management of public resources and the increase in the competitiveness of the sector. Regarding **taxation**, there is no registration tax; ownership tax is only for commercial vehicles, based on weight. Attempts to reach consensus on taxing private cars have so far not been successful (Lyrtas, 2013b). In addition, the Law on Pollution Tax sets out extensive tax exemptions for commercial vehicles, including for example if they have installed exhaust gas neutralisation systems, or if the vehicle uses biofuels that meet established standards. In terms of renewables, Lithuania aims to increase biofuel consumption in the sector to 15 % by 2025 (EEA, 2013). A mandatory blending in of biofuels in mineral fuels and an excise tax relief for biofuels are currently being implemented.

Furthermore, Lithuania is investing in the **rail transport system**. In February 2014, Estonia, Latvia and Lithuania agreed that Vilnius will be connected to the rail gauge Rail Baltica. The Baltic States are also negotiating the establishment of a joint venture to implement the Rail Baltica II project. Eighty-five per cent of the project will be financed by the EU. The planned railway line will connect Helsinki, Tallinn, Riga, Vilnius and Warsaw and Berlin. In June 2014, the Rail Baltica task force reached agreement on the joint venture, which will be responsible for implementing the second part of the Rail Baltica project (MoT, 2014). Further investments are made to promote the environmental friendliness of the public transport system. Buses meeting the Euro 5 and Enhanced Environmentally Friendly Vehicle (EEV) emission requirements have been bought and further purchases are planned for 2014.

Agriculture

The National Strategy for Climate Change Management Policy addresses key emission reduction activities in the agricultural sector. The Strategy aims to promote organic farming practices and the management of meadowlands no longer in production, and intends to reduce methane emissions through manure management systems at animal facilities and to introduce measures to reduce greenhouse gas (GHG) emissions from nitrogen-based fertiliser. Important measures taken to reduce the loss of nutrients during agriculture activities are Order No. D1-367/3D-342 of 14 July 2005 on environmental requirements for manure management, and a programme for minimisation of water pollution caused by agriculture activities.

Waste

The Lithuanian Ministry of Environment has established a number of measures in the context of waste, including legislative measures to implement the waste management requirements of the European Union (MoE, 2013a, 2013b, 2013c). The Waste Management Plan for 2014–2020 aims to achieve that at least 50 % of municipal waste is recycled. The Law on Waste Management's aim is to encourage individuals and businesses to sort the waste they produce. Recently, the Packaging and Packaging Waste Management Law was amended to introduce a mandatory deposit system for cans and polyethylene terephthalate (PET) bottles in Lithuania beginning in February 2016.

Land use, land-use change and forestry

In Lithuania the most important instrument for forest protection and afforestation is the Forestry Law (No I-671). It regulates the legal conditions to improve the preservation of forest in case of land-use change. The National Forest Sector Development Programme for 2012–2020 addresses the afforestation of low-fertility soils. Lithuania also aims to increase the national forest area by 3 % by 2020. The annual felling rate for state-owned forests was, however, increased to 6 % for the period 2014–2018 compared to 2009–2013.

The government recently adopted legislative amendments to address illegal logging in state forests, for example through increased fines (MoE, 2013d). From now on, compensation rates will be calculated based on the 'Methodology for calculating compensation for environmental damage caused by illegal activity committed by natural and legal persons' (Order No. D1-249). In addition, forest officers gain the authority to inspect transported timber goods. According to data from the State Forest Service, illegal logging has already decreased by more than 80 % over the last decade.

References

EEA, 2013, 'EEA Database on climate change mitigation policies and measures in Europe', European Environment Agency (<http://www.eea.europa.eu/data-and-maps/pam>) accessed 7 October 2014.

Energy Efficiency Action Plan (Energijos vartojimo efektyvumo veiksmų planas) (http://ec.europa.eu/energy/efficiency/eed/neep_en.htm) accessed 15 October 2014.

Grynas, 2013, Nauja renovacijos programa įsibėgėja (New renovation programme is gaining momentum) (<http://grynas.delfi.lt/gyvenimas/nauja-renovacijos-programa-isibegeja.d?id=60661141>) accessed 8 October 2014.

Litgrid, 2013, 'The last contract signed in the framework of LitPol Link interconnection project' (<http://www.litgrid.eu/index.php/news-events-/news/the-last-contract-signed-in-the-framework-of-litpollink-interconnection-project-/2166>) accessed 8 October 2014.

Lyrtas, 2013a, 'Ar Lietuva statys atominę elektrinę, paaiškės rudenį' ('Whether Lithuania builds nuclear power plant will be clear in autumn') (<http://www.lyrtas.lt/verslas/energetika/ar-lietuva-statys-atomine-elektrine-paaiskes->

[rudeni.htm](#)) accessed 8 October 2014.

Lrytas, 2013b, 'Automobilių mokesčių įvesti planuoja nuo 2015 metų' ('The vehicle tax is planned to be introduced from 2015')(<http://www.lrytas.lt/verslas/rinkos-pulsas/automobiliu-mokesti-ivesti-planuoja-nuo-2015-metu-201306120810.htm>) accessed 8 October 2014.

MoE, 2013a, 'Atliekų problemos žinomos ir sprendžiamos' (Waste problems are known and are being solved), Ministry of Environment (<http://www.am.lt/VI/index.php#a/13539>) accessed 8 October 2014.

MoE, 2013b, 'Lietuva nepaskęs šiukšlėse – vis daugiau atliekų bus perdirbama' ('Lithuania will not drown in waste – more and more waste will be recycled'), Ministry of Environment (http://www.am.lt/VI/article.php3?article_id=13474) accessed 8 October 2014.

MoE, 2013c, 'Visuomenei pristatomas Valstybinio atliekų tvarkymo 2014-2020 m. plano projektas' ('The National Waste Management Plan for 2014-2020 is presented for public consultation'), Ministry of Environment (http://www.am.lt/VI/article.php3?article_id=13745) accessed 8 October 2014.

MoE, 2013d, 'Už neteisėtus kirtimus – jau pagal naujus žalos atlyginimo įkainius' ('New compensation rates for illegal logging'), Ministry of Environment (http://www.am.lt/VI/article.php3?article_id=14855) accessed 8 October 2014.

MoT, 2014, 'Baltijos šalys susitarė dėl bendros „Rail Baltica“ įmonės akcininkų sutarties', Ministry of Transport and Communications (<http://www.transp.lt/lt/naujienos/13241>) accessed 8 October 2014.

Seimas, 2012, 'Nacionalinė Klimato Kaitos Valdymo Politikos Strategija' ('National Strategy for Climate Change Management Policy'), Lithuanian Parliament (http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=437284&p_query=&p_tr2=2) accessed 8 October 2014.