

LUXEMBOURG

Country at a glance

- Population: 0.51 million (2010) [1]
- Total area: 2,586 sq. km [2]
- Carbon emissions per capita: 20.93 metric tons (2010) [3]
- Energy consumption per capita: 97.03 MWh (2010) [4]
- Percentage of global carbon emissions: 0.04% (2010) [3]



Double decker train in Luxembourg by Cornischong. Permission Under CC BY-SA 1.0 commons.wikimedia.org/wiki/File:CFL-Dosto-Steierwon-w.jpg

Double-decker train in Luxembourg

These high speed trains are a major means of short and long distance connections with the rest of Europe. Being electric driven they are more environmentally friendly than diesel trains and road transport.

Table 1 Breakdown of energy use, electricity and heat generation, 2010

	Primary energy sourced within country		Energy imports minus exports	Primary energy used within the country ^(a)		Electricity Generation ^(b)		Heat Generation ^(c)			
	unit	ktoe		%	ktoe	GWh	%	GWh	%		
Coal, including brown coal & peat		0	0	75	75	875	2	0	0	0	0
Oil fuels		0	0	2,849	2,437	28,339	58	1	0	3	0
Natural gas		0	0	1,196	1,196	13,912	28	2,918	90	304	0
Nuclear		0	0	0	0	0	0	0	0	0	0
Hydroelectric		9	7	0	9	108	0	108	3	0	0
Biofuels and waste		113	87	42	155	1,801	4	129	4	20	0
Solar photovoltaics		2	1	0	2	21	0	21	1	0	0
Solar thermal		1	1	0	1	10	0	0	0	0	0
Tide, wave and ocean		0	0	0	0	0	0	0	0	0	0
Wind		5	4	0	5	55	0	55	2	0	0
Geothermal		0	0	0	0	0	0	0	0	0	0
Electricity (imported)		0	0	350	350	4,065	8	0	0	0	0
Sub total Renewables		130	100	42	172	1,995	4	313	10	20	0
Totals		130	100	4,511	4,229	49,187	100	3,232	100	328	0

Source: Based on World Energy Statistics and Balances Database 2012, "World Energy Balances." © OECD/IEA, 2012.

Notes:

Standard conversion used is 1 ktoe = 11.63 GWh

(a) Sum of energy sourced within country, energy imports minus exports, international marine and aviation bunkers and stock change flows.

(b) Includes all electricity generation, including any exported.

(c) Does not include electrical heating. Includes waste heat recovery from electricity generation plants.

Table 2 Breakdown of transport fuel use, 2010

(in ktoe)	Total transport mix	%	Domestic aviation	Road	%	Rail	Pipeline transport	Domestic navigation	Non-specified (transport)
Oil products	2,133	98	0	2,130	98	3	0	0	0
Natural gas	0	0	0	0	0	0	0	0	0
Biofuels and waste	42	2	0	42	2	0	0	0	0
Electricity	10	0	0	0	0	10	0	0	0
Sub total	42	2	0	42	2	0	0	0	0
Renewables									
Total	2,185	100	0	2,172	100	13	0	0	0

Source: Based on World Energy Statistics and Balances Database 2012, "World Energy Balances." © OECD/IEA, 2012.

Stand on climate change

Luxembourg ratified the United Nations Framework Convention on Climate Change in 1994, and the Kyoto Protocol in 2002. Pursuant to that Protocol and the terms of the European agreement distributing the burden among, at that time, the EU-15 Member States, Luxembourg undertook to reduce its GHG emissions by 28% below its 1990 level over the period 2008-12. This is the deepest cut of any agreed by the 15 Member States. When the Act approving the Kyoto Protocol was adopted in Luxembourg (2001), its GHG emissions were down by more than 30% between 1990 and 1998 [5].

Climate change has been a policy issue of the highest importance in Luxembourg for many years. The first climate policy objectives for Luxembourg were adopted in 1990 when the Government decided on a stabilization target for CO₂ emissions by 2000 at their level in 1990, and a 20% reduction target for CO₂ emissions by 2005. The climate strategy has been gradually developed since then, primarily within the framework of policy decisions on the environment, energy and transport.

National climate change programmes

Many of the policy instruments in Luxembourg's climate policy have been introduced and gradually tightened up since the 1990's. A "National Strategy for reducing GHG emissions" was adopted in May 2000 and outlined how Luxembourg intends to meet its reduction potentials. The strategy identified six areas for action: renewable energies, energy production efficiency, energy savings, "green taxation", transportation, and co-operation with developing countries and countries in transition. This was followed by regulations instituting subsidies for the rational use of energy and the promotion of renewable energy sources. A ministerial working group, headed by the Ministry of the Environment, was set up to evaluate the progress of measures implemented at the national and community levels.

This first national "Action Plan for reducing CO₂ emissions" was adopted by the Government in April 2006, and presented to the public in May 2006. It outlines how Luxembourg intends to meet its emissions reduction commitments under the Kyoto Protocol and identifies two major goals:

- Limiting dependence on fossil fuels, especially by accelerating their replacement through renewable energy sources (in particular, for thermal energy generation)
- Seeking energy savings by enhancing the energy efficiency of transportation, industry and buildings.

Transportation:

- Promote and favour urban development around the main railways axes
- Reduce congested roads and bottlenecks that create vehicles lines, hence unnecessary emissions of various pollutants
- Realisation of large railway projects at national, regional and cross-border levels (new stations; new lines, improving existing lines)
- Create a maximum of bus reserved lanes and put strong emphasis on the extension of the bus network for cross-border commuters
- Promote cycling and walking

Residential:

- Increase energy efficiency and the use of Renewable Energy Sources (RES) in the residential building sector
- Achieve higher energy efficiency in new and existing residential buildings by designing new energy efficiency standards
- Build new “low energy” and “passive” residential buildings

Industry:

- Increase energy efficiency of electrical appliances sold
- Voluntary agreement on energy efficiency
- Information and training campaigns for industrial players

Ministries involved in climate change/energy policy making:

Ministries involved	Web links
Minister of the Environment	www.environnement.public.lu
Ministry of Economy & Exterior Commerce	www.eco.public.lu
Ministry of Agriculture, Viniculture & Rural Development	www.ma.public.lu
Ministry of Finance	www.etat.lu/FI
Ministry of Interior	www.miat.public.lu
Ministry of Transport	www.mt.public.lu
Ministry of Sustainable Development and Infrastructures	www.biodiv.lu
Ministry of Housing	www.mdt.public.lu
Ministry of Public works	www.mtp.public.lu

References

- [1] “World Population Prospects: The 2010 Revision.” Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat.
- [2] “CIA - The World Factbook.” Available at: <https://www.cia.gov/library/publications/the-world-factbook/geos/th.html>. [Accessed: 12-Mar-2013].
- [3] CO₂ Emissions from Fuel Combustion Statistics database 2012, “Indicators for CO₂ emissions.” © OECD/IEA, 2012.
- [4] World Energy Statistics and Balances database 2012, “World Energy Balances.” © OECD/IEA, 2012.
- [5] “Second, Third, Fourth and Fifth National Communication of Luxembourg, Under the United Nations Framework Convention on Climate Change”. Ministry of Sustainable Development and Infrastructures. Available at: http://unfccc.int/resource/docs/natc/lux_nc5.pdf