

## POLAND

### Country at a glance

- Population: 38.27 million (2010) [1]
- Total area: 312,685 sq. km [2]
- Carbon emissions per capita: 7.97 metric tons (2010) [3]
- Energy consumption per capita: 30 MWh (2010) [4]
- Percentage of global carbon emissions: 1.01% (2010) [3]



### Coal mine in southern Poland

This coal mine, near the city of Czechowice-Dziedzice of 35,000 people, is one of the mines producing coal for generating about 90% of Poland's electricity, plus additional coal for export. Poland plans to reduce its dependence on coal by using more renewable energy. According to the Polish National Renewable Energy Action Plan, the 2020 target for renewables is 19% of the national energy capacity.

Polski: Kopalnia PG Silesia w Czechowicach-Dziedzicach by Krzysztof Kwaśny.

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**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 <sup>(a)</sup>			Electricity Generation <sup>(b)</sup>		Heat Generation <sup>(c)</sup>		
	unit	ktoe	%	ktoe	ktoe	GWh	%	GWh	%	GWh	%
Coal, including brown coal & peat		55,381	82	-2,741	55,398	644,282	55	138,267	88	83,657	88
Oil fuels		744	1	25,642	25,368	295,024	25	2,892	2	1,824	2
Natural gas		3,692	5	8,872	12,801	148,877	13	4,798	3	5,989	6
Nuclear		0	0	0	0	0	0	0	0	0	0
Hydroelectric		251	0	0	251	2,921	0	2,920	2	0	0
Biofuels and waste		7,164	11	435	7,594	88,318	7	6,548	4	4,086	4
Solar photovoltaics		0	0	0	0	0	0	0	0	0	0
Solar thermal		2	0	0	2	28	0	0	0	0	0
Tide, wave and ocean		0	0	0	0	0	0	0	0	0	0
Wind		143	0	0	143	1,664	0	1,664	1	0	0
Geothermal		13	0	0	13	156	0	0	0	0	0
Electricity (imported)		0	0	-116	-116	-1,354	0	0	0	0	0
Sub total Renewables		7,574	11	435	8,004	93,087	8	11,132	7	4,086	4
<b>Totals</b>		<b>67,391</b>	<b>100</b>	<b>32,091</b>	<b>101,454</b>	<b>1,179,916</b>	<b>100</b>	<b>157,089</b>	<b>100</b>	<b>95,556</b>	<b>100</b>

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	15,552	92	0	15,439	95	113	1	0	0
Natural gas	221	1	0	0	0	0	221	0	0
Biofuels and waste	887	5	0	887	5	0	0	0	0
Electricity	272	2	0	0	0	242	30	0	0
Sub total									
Renewables	887	5	0	887	5	0	0	0	0
<b>Total</b>	<b>16,933</b>	<b>100</b>	<b>0</b>	<b>16,325</b>	<b>100</b>	<b>355</b>	<b>253</b>	<b>0</b>	<b>0</b>

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

## Stand on climate change

Poland signed the Kyoto Protocol on 15 July 1998 and ratified it on 31 December 2002. It was only entered into force on 16 February 2005.

## National climate change programmes

In November 2003, the council of ministers of Poland approved a Climate Policy – "strategies for greenhouse gas emission reductions until 2020" in order to join the efforts of the international community for the protection of the global climate [5]. Further in 2009, they developed the National Strategy for Adaptation to Climate Change which included vulnerability of sectors, the public and the cost-benefit analysis of possible adaptation measures [6]. Besides, Poland also has potential for carbon trading from which revenues will be directed to help finance climate change mitigation projects.

Some notable legislation includes:

- Environmental Protection Act [7].
- Energy Act [8].
- The Act on Support for Thermal Modernization Projects [9].
- Building Law [10].

The objectives of Poland's Energy Policy 2030 are: [11]

- Improvement of energy efficiency
- Diversification of electric energy generation
- Development of renewable energy sources
- Limitation of the impact on the environment by the energy sector

A programme is in progress for promoting renewable fuels by creating the conditions needed to encourage their use. The "Strategy for the Development of Renewable Energy Sources" aims to increase the share of renewable energy in the energy mix to 14% by 2020.

The climate change policy is being implemented via medium (2007-2012) and long term (2013-2020) objectives. They are presented by sectors as follows: [12]

Energy:

1. Promoting renewable energy generation and combined heat and power production
2. Improvement of energy efficiency
3. Emissions reduction

The means for achieving the above are:

- Obligation to purchase energy from renewable sources via legislation and agreements
- Financial support for projects to develop combined heat and power production
- Incentives for companies to invest in energy saving projects
- Implementation of clean coal and low carbon technologies
- Incentives for the public sector to launch projects on reducing energy consumption
- Enforce legislation for the prevention of GHG emission

- Financial support for the production of energy from renewable sources
- Certification of electricity from renewable sources
- Certification of “green” energy usage, i.e. for higher energy efficiency
- Exemption from excise tax if energy is from renewable sources

Industry:

1. Rationalization of energy consumption
2. Promoting low emission technologies
3. Improving of energy efficiency in industrial processes as well as electrical equipment

The means for achieving the above are:

- Legislation for improvement of energy efficiency for lighting and electric motors
- Regulation for limiting the consumption of fluorinated greenhouse gases
- Agreements by companies to commit to CO<sub>2</sub> reductions from their industrial processes
- Financial support for the development of environmentally friendly and technically viable methods of reducing GHG emissions

Transport:

1. Promotion of public transport and use of alternative fuels
2. Encouraging the use of other modes of transport other than private vehicles
3. Reducing pollution from vehicles
4. Encouraging the use of environmentally friendly vehicles
5. Encouraging use of bicycles and walking

The means for achieving the above are:

- Improvement of infrastructure for cyclists and pedestrians
- Emission reduction
- Construction of motorways, ring roads and expressways to improve traffic conditions and thus improve air quality
- Institute more demanding emission standards for internal combustion engines
- Develop of rail transport and combined transport
- Create collective transport for students and employees
- Develop technical projects relating to environmentally friendly vehicle design
- Improve organization of rail and road systems
- Levy excise duty on petrol and diesel

Agriculture:

1. Rational land use
2. Energy efficiency in agriculture
3. Promotion of renewable sources of energy

The means for achieving the above are:

- Dissemination of a “Code of Good Agricultural Practice” that promotes limits on pollutant emissions
- Energy saving technologies in production
- Using biofuels and biogas technologies
- Use of unconventional energy sources
- Development of new technologies that harvest biofuels

## Ministries involved in climate change/energy policy making:

Ministries involved	Web links
Ministry of Agriculture and Rural Development	<a href="http://www.minrol.gov.pl/pol/">www.minrol.gov.pl/pol/</a>
Ministry of Economy, Labour and Social Policy	<a href="http://www.mpips.gov.pl/">www.mpips.gov.pl/</a>
Ministry of Finance	<a href="http://www.mf.gov.pl/ministerstwo-finansow">www.mf.gov.pl/ministerstwo-finansow</a>
Ministry of Transport, Construction and Marine Economy	<a href="http://www.transport.gov.pl/">www.transport.gov.pl/</a>
Ministry of Infrastructure	<a href="http://www.transport.gov.pl/">www.transport.gov.pl/</a>
Ministry of Science and Higher Education	<a href="http://www.nauka.gov.pl/">www.nauka.gov.pl/</a>
Ministry of Foreign Affairs	<a href="http://www.msz.gov.pl/en/">www.msz.gov.pl/en/</a>
Ministry of Internal Affairs and Administration	<a href="http://www.msw.gov.pl/portal/en">www.msw.gov.pl/portal/en</a>
Ministry of Environment	<a href="http://www.mos.gov.pl/">www.mos.gov.pl/</a>
Central Statistical Office	<a href="http://www.stat.gov.pl/gus/index_ENG_HTML.htm">www.stat.gov.pl/gus/index_ENG_HTML.htm</a>

## Education institutes involved in climate change/energy policy making:

Ministries involved	Web links
Institute of Meteorology and Water Management	<a href="http://www.imgw.pl/wl/internet/zz/index.html">www.imgw.pl/wl/internet/zz/index.html</a>
Institute of Environmental Protection	<a href="http://www.ios.edu.pl/">www.ios.edu.pl/</a>
Military University of Technology	<a href="http://www.wat.edu.pl/">www.wat.edu.pl/</a>
Polish Geological Institute	<a href="http://www.pgi.gov.pl/">www.pgi.gov.pl/</a>

## 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/fr.html>. [Accessed: 28-Mar-2013].
- [3] CO<sub>2</sub> Emissions from Fuel Combustion Statistics database 2012, "Indicators for CO<sub>2</sub> emissions." © OECD/IEA, 2012.
- [4] World Energy Statistics and Balances database 2012, "World Energy Balances." © OECD/IEA, 2012.
- [5] Ministry of the Environment – Republic of Poland. Poland's Climate Policy. Available at: [http://www.mos.gov.pl/g2/big/2009\\_04/cf234906b019de170218bf79f913990c.pdf](http://www.mos.gov.pl/g2/big/2009_04/cf234906b019de170218bf79f913990c.pdf)
- [6] European Climate Adaptation Platform – Poland. Available at: <http://climate-adapt.eea.europa.eu/countries/poland>
- [7] Act on Environmental Protection - Office of SEJM. Available at: <http://isap.sejm.gov.pl/DetailsServlet?id=WDU20010620627>
- [8] Poland Energy Law – Office of SEJM. 10 April 1997. Available at: <http://www.erranet.org/index.php?name=OE-eLibrary&file=download&id=3691&keret=N&showheader=N>
- [9] Country Report: Poland Version1 2010 by QAIST. Available at: [http://www.estif.org/fileadmin/estif/content/projects/QAIST/QAIST\\_results/QAIST-country\\_report-Poland\(Sept10\).pdf](http://www.estif.org/fileadmin/estif/content/projects/QAIST/QAIST_results/QAIST-country_report-Poland(Sept10).pdf) (Page2)
- [10] Poland's Legislative Affairs on Climate Policy. Available at: [http://www.polishlaw.com.pl/pct/fileakty\\_prawne7\\_0.pdf](http://www.polishlaw.com.pl/pct/fileakty_prawne7_0.pdf)
- [11] Ministry of Economy – Energy Policy of Poland until 2030. Available at: [http://www.mg.gov.pl/files/upload/8134/Polityka%20energetyczna%20ost\\_en.pdf](http://www.mg.gov.pl/files/upload/8134/Polityka%20energetyczna%20ost_en.pdf)
- [12] Poland's Climate Policy – Strategy until 2020. Available at: [http://www.mos.gov.pl/g2/big/2009\\_04/cf234906b019de170218bf79f913990c.pdf](http://www.mos.gov.pl/g2/big/2009_04/cf234906b019de170218bf79f913990c.pdf)