STATES & REGIONS

Partner region profile – Silesia

Energy Transition Platform | May 2016

Socio-economic facts

Silesia, Poland

Population: 4,593,358 (2014) | **Area**: 12,333 km^2

Landscape: plains, hills and the Beskidy Mountains; borders with Slovakia and Czech Republic

GDP: US$68,35 billion (2013) | **GDP/capita**: US$14,861 (2013)

Economic sectors: 52% services | 37% industry: mining (coal, iron and zinc); automobile; building materials; chemical; machinery equipment

Jurisdictional power: centralized

Key energy agency: Department of Environmental Protection

During the 20th century, the area of Silesia was divided between Germany and Poland, and the current boundaries of the administrative region of Silesia (Silesia Voivodeship) were set in 1999.

The region had high geopolitical importance due to its significant industrial concentration – with large amounts of coal and lignite deposits, zinc, lead, iron and other ores[1]. Although the coal mines were initially run by private owners, they became state-owned industries after World War II and the development of a planned economy.

After 1991, the region started its transition to a free market economy. Despite technologically outdated industries, high levels of unemployment and the lasting impacts of a planned economy, Silesia is on the way to modernizing its economy and has been part of the European Union (EU) market since Poland joined the EU in 2004[2].

[1] http://www.encyclopedia.com/topic/Silesia.aspx
[2] http://www.zum.de/whkmla/region/germany/silechist.html

Today, Silesia is the most industrialized and urbanized region in Poland, with 78% of its population living in cities. It contributes 12.4% of the national GDP, and the share of industry in the generation of gross value added is 35%[3]. Car manufacturing is now becoming an important industry sector, although Silesia's economy is still mainly based on coal mining, which contributes to 90% of the national mining.

Climate and energy background

The geographical and climate conditions in Silesia are not favorable for the development of renewable energy, as the level of solar radiation is relatively low and the wind potential is limited. However, there are opportunities for hydropower and wind power in the mountainous part of the region.

In terms of environmental pollution, Silesia accounts for 40% of the national greenhouse gas (GHG) emissions. The growth of industrial production as well as coal-based power and heat generation are the main source of air pollution.

However, the concentration of particles has fallen since 1991 thanks to environmental protection efforts. Pollution charges were introduced at the national level, together with environmental funds using the revenues to finance pollution abatement investments[4]. Between 2000 and 2009, dust emissions were cut by 70% and sulfur dioxide by 45% in the region's large production plants[5].

Renewable energy	6.6% of energy produced from renewable energy sources
Energy mix: consumption by sectors	Industry (29%); energy (29%); other (26%); residential (14%); transport and agriculture (2%)
GHG emissions	38,098,784 tonnes – 78% comes from energy sector
Dust emissions	10,263 tonnes – 47% comes from fuel combustion

In June 2013, Silesia adopted a policy strategy for the development of the region, taking into account the goal of sustainable development and the promotion of biodiversity. The following targets have been set for 2020:

- Modernization of the energy sector and diversification of electricity production;
- Reduction in emissions from particulates and gaseous pollutants;
- Increase in the use of local renewable energy sources; and
- Development and dissemination of energy efficient technologies.

The goal of sustainable development should further be attained by:

- Promoting the reduction of emissions and the sustainable use of natural resources in the energy and building sectors, households and public buildings;
- Supporting the modernization of power plants and grids; and
- Supporting the development of renewable energy production and minimizing its costs.

Climate/energy plan:

Development Strategy for the Silesian Voivodeship (full text in Polish)
(outline in English)

[3] https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/silesia
[4] Environment in the Transition to a Market Economy: Progress in Central and Eastern European and the New Independent States, OECD Publishing, 1999, p46
[5] http://www.slaskie.pl/strona_n.php?jezyk=en&grupa=9&dzi=1291123591&art=1293104224&id_menu=366

There are significant opportunities for Silesia to start an energy transition and decrease its reliance on fossil fuels. Although efficiency in coal production has risen by 30% in the last two decades, the extraction of coal in Poland and Silesia is not competitive enough. Last year, the mining industry lost over US$560 million. In addition, coal waste is sold at a low price to households, resulting in high amounts of toxic smog above Silesian cities[6].

With adequate political support, geothermal energy has the potential to be developed in the region as a clean heating source for Silesian households.

Contact

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[6] http://energytransition.de/2016/03/in-poland-a-new-government-same-thorny-old-question/