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**E U R O P A**

## **Mapping CCS in Poland**

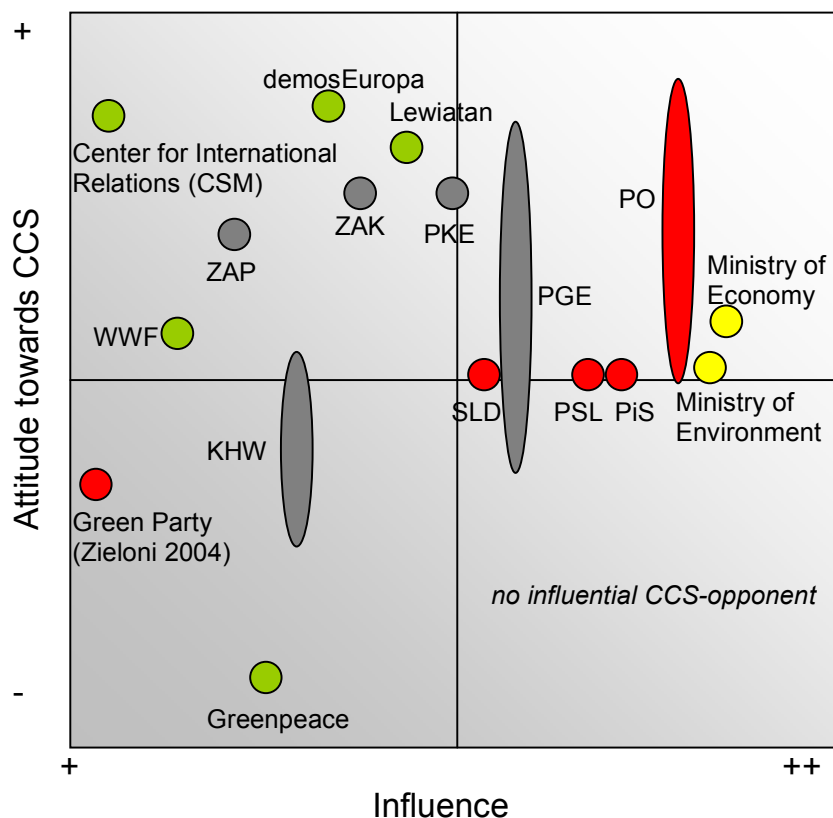
**Summary, October 2009**

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## Attitude / Influence chart of interviewed actors



### Political parties (red dots):

**PO** – Platforma Obywatelska (Civic Platform), ruling coalition member, Donald Tusk – Prime Minister, Jerzy Buzek (not an official member) – President of the EP;

**PSL** – Polskie Stronnictwo Ludowe (Peasant Party), ruling coalition member, Waldemar Pawlak – Minister of Economy, deputy PM;

**PiS** – Prawo i Sprawiedliwość (Law and Justice), main opposition force, Jarosław Kaczyński – former PM;

**SLD** – Sojusz Lewicy Demokratycznej (Democratic Left Alliance), opposition, Grzegorz Napieralski;

**Zieloni 2004** – Green Party, member of Centrolewica (Centre-Left; Dariusz Rosati), outside Parliament.

### Business (grey dots):

**PGE** – Polska Grupa Energetyczna – Bełchatów (Łódź Region);

**PKE** – Południowy Koncern Energetyczny – Katowice (Silesia);

**ZAK** – Zakłady Azotowe Kędzierzyn (Opolskie Region);

**ZAP** – Zakłady Azotowe Puławy (Lubelskie Region).

### Energy production and emission breakdown from different fossil fuels

Resource	% of power generation	GWh (electricity)	CO <sub>2</sub> emissions (million tonnes) from electricity
Coal	92	148 609	172,61
Gas	2	3 111	3,06
Oil	1,5	2 441	0,70
<b>Total</b>	<b>95,50%</b>	<b>154 161</b>	<b>176,37</b>

### Scenarios for different greenhouse gas reduction trajectories

Title	Organisation	Years Covered	Brief description
<a href="#">Energy Policy of Poland until 2030</a>	Ministry of Economy	2008-2030	<p>Key priorities:</p> <ul style="list-style-type: none"> <li>• The security of energy supplies</li> <li>• energy effectiveness based on own resources of raw materials,</li> <li>• increased use of renewable sources of energy,</li> <li>• development of competitive markets for fuels and energy</li> <li>• reducing the impact of energy industry on the environment.</li> </ul> <p><a href="#">Press release</a></p>

### Thermal Power Plants

[See a map of existing thermal power plants in Poland](#)

Poland's thermal power stations produce 90% of the country's energy. They are 60%-coal-fired and 38%-lignite-fired.

Existing plants:

Name of the plant	City	Installed electrical capacity [MW]	Available thermal capacity [MWt]
PKE SA Elektrownia Jaworzno III	Jaworzno	1535	372
PKE SA Elektrownia Łagisza	Będzin	840	425
PKE SA Elektrownia Łaziska	Łaziska Górne	1155	186
PKE SA Elektrownia Siersza	Trzebinia	786	36,5
PKE SA Elektrownia Halemba	Ruda Śląska	200	68
PKE SA Elektrownia Blachownia	Kędzierzyn-Koźle	165	174
Elektrownia Rybnik	Rybnik	1775	
Elektrownia Skawina	Skawina	575	511
Elektrownia Połaniec	Połaniec	1800	
Elektrownia Stalowa Wola	Stalowa Wola	350	
Elektrownia Kozienice	Kozienice	2820	
Elektrownia Ostrołęka	Ostrołęka	647	
Zespół Elektrowni Dolna Odra	Nowe Czarnkowo	1742	
BOT Elektrownia Bełchatów	Rogowiec	4440	
BOT Elektrownia Opole	Brzezie k. Opola	1532	
BOT Elektrownia Turów	Bogatynia	2106	
ZE PAK Elektrownia Pątnów	Konin	1200	
ZE PAK Elektrownia Adamów	Turek	600	
ZE PAK Elektrownia Konin	Konin	488	

Planned power stations:

Operator	City	Installed electrical capacity [MW]	Resource
Enea & PAK	Gubin	2400	Lignite
GDF Suez	Police	1432	Coal
GDF Suez	Włocławek	446	Gas
GDF Suez	Lublin	716	Coal
GDF Suez	Połaniec	833	Gas
Orlen	Włocławek	460	Gas
PGE	Gryfino	1600	Coal
PGE	Lublin	1600	Coal
PGE	Opole	2200	Coal
Vattenfall	Opalenie	1660	Coal
Vattenfall & ZAP	Puławy	16620	Coal

Source: <http://www.cire.pl/rynekenergii/elektrownie.php>

citing an article "Kto i gdzie chce wybudować elektrownię" by Rafał Zasuń in „Gazeta Wyborcza”

**State of regulatory process for CCS**

The CCS directive is to be transposed to the Polish law by mid 2011, however, the process has not started yet – the reasons for this remain unknown. As the Ministry of Environment underlines, full transposition of the CCS directive can be done only after it has been proven that the technologies are safe – this requires testing it (above all the CO<sub>2</sub> storage) in Poland; when working on Polish regulations on CCS, Poland should use the experiences from launching and initial phase of operating the demo projects within the EU Flagship Programme. Although e.g. the Polish Platform of Clean Coal Technologies pushes the ministries of economy and environment to launch the process, the Government welcomes the non-obligatoriness of the CCS directive. Adjusting Polish regulations will be carried out by amending (1) the Geological and Mining Law, (2) the Business Activity Law and (3) the Energy Law.

Ministries responsible for the implementation of the EU law on CCS are the Ministry of Economy and the Ministry of Environment:

<b>Name</b>	<b>Position</b>	<b>Contact details</b>
<b>Ministry of Economy</b>		
Mr. Henryk Majchrzak	Director, Energy Policy Dept.	tel. 0048 22 693 53 79 sekretariatDE@mg.gov.pl
Mrs. Elżbieta Wróblewska	Chief Specialist, Energy Policy Dept.	tel. 0048 22 693 53 58 elzbieta.wroblewska@mg.gov.pl
<b>Ministry of Environment</b>		
Mr. Tomasz Chruszczow	Director, Climate Change & Atmosphere Protection Dept.	tel. 0048 22 57 92 656 tomasz.chruszczow@mos.gov.pl
Mr. Andrzej Przybycin	Deputy Director, Geology and Geological Concessions Dept.	tel. 0048 22 57 92 429 andrzej.przybycin@mos.gov.pl

**National CCS supporting programs and plans for full-scale CCS**

1. Ministry of Environment's 4-year programme titled „Actions of Ministry of Environment in order to explore geological structures for CO<sub>2</sub> storage” – 2008-12. The programme's budget accounts for PLN 35 mln (ca. EUR 8 mln). The project is carried out by a consortium led by the National Geological Institute (Panstwowy Instytut Geologiczny). The aim is to exploring Poland's geological conditions to implement CCS.
2. 'Conditions for implementation of zero-emission coal technologies in power sector' – an analysis by Marek Sciazko for the Ministry of Economy, 2007.
3. Strategic R&D programme 'Advanced energy technologies', 2009 – the Ministry of Science and Higher Education finances projects concerning zero-emission power generation with CO<sub>2</sub> capturing, IGCC, power generation from biomass etc.

**The Government's lack of full involvement to put forward a plan for full-scale CCS.**

The authorities argue that only without jeopardising Poland's energy security could reduction of emissions take place (Ministry of Economy, June 2009). However, the Ministry of Economy underlines that 'implementation of clean coal technologies [a term widely used in Poland] is a priority' – not only CCS (other 'CCT': the „Energy policy of Poland until 2030” document provides for development of synthetic fuels production, utilisation of coal-bed methane + methane from ventilation of coal mines, as well as use of coal wastes). It also stressed the need for the new power plants to be 'capture-ready'. Poland aims at being Europe's leader in the low-emission technologies.