The Economic Determinants of the Polish (potential) Veto on the Climate-Energy Package during the EU Summit in December 2008

Summary

The objective of the paper is to shed light on the perspective of some new member states (NMS) of the European Union (EU) – in this case Poland – on the ambitious

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1 An earlier version of this paper was presented and discussed at the research seminar at Energiewirtschafts Institut (EWI) – Institute of Energy Economics, a think tank funded by the University of Cologne, the federal state of North Rhine-Westphalia, and the German energy companies RWE and E.ON on 05.02.2009, ECPR international conference “Fifth Pan-European Conference on EU Politics,” Universidade Fernando Pessoa, Porto (Portugal), 24-26 June 2010, “Sustainability for the 21st Century: Rethinking Paradigm Shifts in Governance, Culture and Business”, Seminar/ Workshop at the Inter University Centre, Dubrovnik 27 September – 1 October 2010. Presentation entitled: “The Larger Europe – Implications for Climate Policy” as well as on the 25th Convent of the Italian Political Science Association, 8-10.09.2011, Palermo, Italy. The author thanks all the participants and discussants for their useful comments and suggestions.
climate-energy endeavours undertaken at the supranational level. The economic consequences of implementing the most advanced plans would be to generate unproportionally high costs for the economy, energy production sector and, as a result, for the households’ budgets. From the Polish perspective it would be counterproductive in terms of the energy security concept agreed in the strategic documents defining climate and energy policies in the 2030 time horizon. Despite the justification and rationale of the European climate crusade, the political and economic costs for some member states are high enough that they do not hesitate to threaten to veto in the EU Council meeting. This paper answers the question as to why the Polish veto on the climate-energy package was a real threat during the EU energy summit in December 2008.

**Keywords**
climate-energy package, security, European integration

**EKONOMICZNE DETERMINANTY POLSKIEGO (POTENCJALNEGO) WETA W SPRAWIE PAKIETU KLIMATYCZNO-ENERGETYCZNEGO PODCZAS SZCZYTU UE W GRUDNIU 2008 ROKU**

*Streszczenie*

Celem niniejszego artykułu jest naświetlenie stosunku jednego z nowych państw członkowskich Unii Europejskiej – w tym wypadku Polski – do kwestii ambitnych planów w zakresie polityki klimatycznej i energetycznej na poziomie ponadnarodowym. Ekonomiczne konsekwencje implementacji najbardziej ambitnej wersji pakietu klimatyczno-energetycznego wygenerowałyby nieproporcjonalnie wysokie koszty dla polskiej gospodarki, w tym w szczególności dla sektora energetycznego, a w rezultacie dla budżetów gospodarstw domowych. Z polskiej perspektywy scenariusz taki mógł być kontrproduktywny wobec koncepcji bezpieczeństwa energetycznego zdefiniowanego w strategicznych (w perspektywie 2030 r.) dokumentach rządowych. Pomimo racjonalnych uzasadnień klimatycznej krucjaty podejmuowanej w UE, jej polityczne i ekonomiczne koszty pozostawały w niektórych państwach członkowskich na tyle wysokie, że nie wahały się one używać argumentu weta blokującego podczas spotkań Rady Europejskiej. Niniejszy tekst dostarcza więc odpowiedzi na pytanie, dlaczego polskie weto było realnym zagrożeniem podczas szczytu europejskiego w grudniu 2008 roku.

**Słowa kluczowe**
pakiet klimatyczno-energetyczny, bezpieczeństwo, integracja europejska
INTRODUCTION

The Republic of Poland seems to be the most problematic troublemaker when it comes to EU’s climate and energy package and its development. This new member state, which joined the community in 2004 in the so called “big-bang” enlargement, benefits the most from the EU budget in the form of regional policy (cohesion and structural funds) and will continue to do so at least until 2020. At the same time Poland is very incompatible (by the structure of its energy-mix) with the trajectory of the climate-energy set of policies of the EU. Due to the heritage of the communist period but also due to the mis-governance of the energy and climate policies in the last decades at the domestic level, Poland still has an extensive coal mining sector dedicated to the most carbon heavy electricity production; this is related to high pollution levels (CO₂ emissions and other green house gases) and an underdeveloped “green economy.” Changing this situation, which would be very much welcomed from an environmental point of view, would, however, bring unbearable costs for the economy. It has been speculated that the calculated costs of the “green transition” could outweigh the benefits of EU membership that Poland, to date, Poland has experienced. Naturally in such a situation, Poland will try to limit the most ambitious EU plans in this regard and – in parallel – will try to supranationalise the costs of such a transformation. This paper delivers a contextual analysis of such a behaviour in the critical situation when the EU was in the process of decision-making on the famous 3 x 20 package) by answering the question of why the Polish veto on the climate – energy package was a real threat during the EU energy summit in December 2008.

Even though this article is empirical by nature, the author employs selected European integration theoretical perspectives – the (neo) functionalism, two-level game and multilevel governance models – as descriptive, explanatory and interpretative vehicles. These theoretical proposals are only suggested in order to escape the trap of dichotomous thinking (Regions and Empires versus Markets and Institutions logic) when searching for theoretical perspectives in European energy relations investigations.

² The end of the current seven years financial perspective (2014-2020).
The central point of the article is its empirical dimension, which covers the political background of Polish government positions before and during the December 2008 EU summit when negotiating the future form of the climate-energy package. The author delivers the conclusions of a report [Wphyrw... 2008] that supported the bargaining tactics of the Polish government. In multi-variant forecasts, it analyzes the predicted impact of the implementation of the EU package on the Polish economy, energy-production sector, and household budgets. This factor motivated the Polish governmental delegation to threaten to use the potential veto for the ambitious environmental goals of the community, as they were perceived to be counter-productive to the country's economic development.

THE EU CLIMATE AND ENERGY PACKAGE AT THE THEORETICAL AND POLITICAL CROSSROADS

The goal of CO₂ emission reduction is one of the major pillars of the European Union climate-energy package, alongside the building of energy markets, improving energy efficiency, developing energy security, and enhancing renewable energy sources in the energy mix (production and consumption). In fact, this mixture constitutes a set of policies rather than one compound policy, and also represents a combination of national, supranational, and shared competencies, giving the whole system a complex³ and rather incoherent structure.

Even though energy policy is one of the most intriguing aspects of the integration process in Europe, the amount of scholarly attention paid to this area has been relatively low (when compared to, for example, the Common Agricultural Policy or Monetary Union). Despite the initial names of the Communities establishing treaties (the European Steel and Coal Community, Eur-atom and European Economic Community) – it has not been a primary field of integration. Only after the Single European Act, as part of a single market project, an integrative impetus was given to energy markets by the

³ Consisting of 28 member states – meaning 28 sub-mutations
EU Commission (bypassed via Common Market and environmental policy channels) [Belaud 1995; Corelje, van den Linde 2006]. However, resistance from state governments (which traditionally play a dominant role in this policy) and strong interest groups continue to make it difficult to build pan-European energy market(s) and a coherent energy policy at the supranational level. The EU does not dispose of a modern, pan-European energy policy that we can be satisfied with. This situation also does not help the Union in its external relations (where ‘one voice’ could provide a synergy effect), especially with the Russian Federation; Russia has become the most important provider of energy resources [Rutland 2008], using ‘energy diplomacy’ not only in post-Soviet zones, but also heavily influencing the Union’s internal energy, especially in gas and oil market(s).

The modern EU energy policy, which had missed certain necessary treaty provisions (until the Lisbon Treaty), has been built as a part of the Common Market and environmental policy, which permits supranational institutions to have greater autonomy from member state governments. Consequently, we have observed an interesting spillover effect in which the development of one policy generates pressure and outcomes in another field. This derives from treating energy as a product, and energy production and distribution as a service – which allows for secondary legislation on energy issues that is legally rooted in primary low level rules (namely, the free flow of capital, products, and services). Moreover, the close correlation between energy and environmental issues is utilized in the same spillover mechanism, and energy objectives are built by the snowball dynamics of environmental policy.

This interpretation calls for a neofunctionalist theoretical background and its major analytical vehicle: the mechanism of spillover. Spillover refers to the way in which the creation and deepening

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4 Many contest the claim that the EU has an energy policy at all. The fact that there is a commissioner, a bureaucratic structure and some legislation does not automatically make a policy, particularly in a situation in which energy field competences are spread along shared competences at the supranational and national levels.

5 As we know, due to their exploratory power, functionalist approaches have been essential to the study of international integration, especially in the beginning phase of the real-life integration process.
of integration in one sector creates pressure for further integration
within and beyond that sector; spillover also increases the authorita-
tive capacity at the European level. As it is formulated by one of the
neofunctionalist theoreticians, Philippe Schmitter, Spillover... refers
to the process whereby members of an integration scheme – agreed
on some collective goals for a variety of motives but unequally satis-
fied with their attainment of these goals – attempt to resolve their
dissatisfaction by resorting to collaboration in another, related sector
(expanding the scope of mutual commitment) or by intensifying their
commitment to the original sector (increasing the level of mutual
commitment), or both [Schmitter 1969, p. 162]. This core statement
also reveals another important argument of neofunctionalists: the
assertion that states are not the only important actors on the
international scene. As a consequence, neofunctionalists focus their
attention on the role of supranational institutions and non-state ac-
tors, such as interest groups and political parties.

Another neofunctionalist, Leon Lindberg, explored the idea that
progress in integration could actually deter further integration. Inte-
gration could be “a source of stress among states” due to encroach-
ments upon governments, resulting in a snowball effect [Lindberg
1966]. This conceptualization seems to be quite important in the case
of climate-energy packages. It describes the mechanism by which the
competences of the Single Market and environmental policy grow
and expand to neighbouring spheres, namely, energy policies. An-
other theoretical (neofunctionalist) contribution that should be em-
ployed in this paper is the concept of cultivated spillover, which refers
to the situation in which supranational institutions act as strategic
advocates on behalf of functional linkage and deeper and/or wider
integration [Rosamond 2005, p. 244]. In these cases, supranational
actors (like the EUC or EC) try to push a supranational or trans-
national agenda, even when member states are reluctant to accept
further integration. This resembles the current situation with respect
to energy relations in Europe. In specific energy policy fields, member
states, motivated by nation-state-level political determinants, resist
delegating competencies to the lower levels of the of the multi-level
governance structures of the EU, which are closer to the citizens (as
is understood by the subsidiarity principle). Additionally, suprana-
tional institutions promote deepening integration in the energy field,
motivated by expert-driven claims of the adequacy of supranational measures. This pressure on Europeanization can be analyzed from the perspective of neofunctionalist rhetoric, and can also be illuminated by Robert Putnam’s concept of a two-level game. The two-level game approach [Putnam 1988] was applied as a theoretical vehicle for analyzing relations in the international energy market from the beginning of European integration. It posited that the same actors play in two parallel arenas, a national one and an international one. When a political decision costs too much in the domestic domain (in political terms: an unpopular reform, etc.), it may be transferred to the international level in order to share or spread the responsibility and accountability. On the other hand, it may also be the case that a veto player in the international arena justifies its behaviour due to domestic politics. This again resembles the Community level, especially in Council negotiations. The example of the December 2008 EU summit will illustrate the motivations of EU member state governments in their ‘on the edge’ negotiating tactics. However, the two-level game approach omits the role of supranational third parties as well as private actors, which are increasingly important in this process. This is why, in the 1980s and 1990s, multi-level governance (MLG) gained relevance, as it was allowed to capture the differentiated horizontal layers (supranational – national – sub-national) as well as other private, public or private-public actors (which were sometimes from distant polities and economies) [Bache, Flinders 2004]. The 1990s and the first years of 21st century welcomed the supranationalist and ‘markets and institutions’ school of thought, which has recently been challenged by the ‘renaissance’ of neo-imperial Russian ambitions (which brought realism, intergovernmentalism, and the ‘regions and empires’ paradigm back to the agenda). These competing interpretations of energy relations in Europe must be organized and structured in order to meet all of the potential that is hidden in available theories. The two main traditional streams of international relations theories – (neo)liberalism [Keohane, Nye 1977] and (neo)realism [Morgenthau 1967] – have been articulated in European integration studies, primarily as supranationalism [Galster 1988] and intergovernmentalism [Moravcsik 1993]. As far as energy relations are concerned, scholars often use Markets and Institutions (MI) vs. Regions and Empires (RE) logic. MI exemplifies focuses on
economically and politically integrated multilateral institutions and markets. RE proposes a world that is broken up into rival political and economic blocs, competing for resources and markets through political, economic, and military power. These two ‘storylines’ have a significant impact on developments in the understanding of energy market(s) [Corelje, van den Linde 2006].

This theoretical background shows the interpretative potential of international integration theories. The selected approaches provide terminology and claims that may be useful when researching energy relations in Europe. They can be treated as complementary to other perspectives (such as economic or legal studies), reflecting the inter-disciplinary nature of the investigated issue. In this paper, they serve as an interpretative background for the empirical case study described below.

POLITICAL BACKGROUND

The Republic of Poland ratified the Athens Accession Treaty in 2003 and joined the EU in 2004, taking on all the obligations associated with *acquis communitaire* (with some transition periods negotiated in the association period (1998-2002), which were mostly derogations in environmental provisions). Since the formulation of the so-called Copenhagen Criteria (1993), it was obvious that any new candidate intending to join the club must follow the rules of the club, which include the ability to implement all of the sectoral and horizontal Community policies (among other rules). Consequently, the *newcomer* must accept all policies as they are – a *take it or leave it* situation – which also applies to energy issues. Due to the fact that the EU was the only reasonable option for Central European states, the EU did not hesitate to use conditionality policy measures in order to expand its legislative order [Riedel 2008, pp. 68-82]. The gravitational pull of the Union – the largest market in the world – as well as the attractiveness of full membership, allows the EU to influence its potential future members and other partners beyond the more institutionalized and formalized instruments.

Poland only participated in the creation and development of the Community energy policy after 2004. This relatively short period of
time was very rich in energy relations. Some of the most important milestones of energy developments since the 'big bang' enlargement include the Ukrainian and Belarusian seasonal 'gas pipe crisis,' Kazimierz Marcinkiewicz's 6 2006 energy solidarity treaty proposal, the 2007 and 2008 EU summit conclusions, and the Nord-Stream project development, which has had very negative media coverage in Poland.7

During this time, many turbulent events occurred in Polish politics, including in energy policy. It is impossible to reconstruct the dynamics of the political situation in Poland in an article format (and it is also beyond the scope of this text); however, for the purposes of underscoring the problems of discontinuity, it is important to note that Poland had five governments8 and three energy strategies from 2004 to 2008 (in the time span between the accession and the climate-energy summit).

This lack of continuity is an effect of different sets of circumstances connected with Poland’s social and political capital, among other factors, such as the lack of trust (inter-personal, inter-group and institutional) and the often pathological connections of political life with different interest groups. This can be illustrated by Professor Jerzy Buzek’s government (1997-2001), which prepared a contract with a Norwegian partner (gas pipe infrastructure and supplies) as a part of a diversification policy, and the next government (Leszek Miller, 2001-2004), broke the contract immediately after coming into office, claiming that the conditions were not economically justifiable.9 A similar project is currently under development – the Norway-Denmark-Poland pipe from the North Sea.

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6 Polish Prime Minister, 2005-2006.
7 It attracted the attention of the Polish public and has been described as the new Ribbentrop-Molotov pact, as the Norstream pipe is by-passig Poland, which loses its transit country privileges (vital in the geo-political conditions of Central Europe).
8 Headed by: Leszek Miller, Marek Belka, Kazimierz Marcinkiewicz, Jarosław Kaczyński and Donald Tusk.
9 This is not a consequence of different views on energy policy, but rather a totally confrontational, and non-deliberative (aggregative and antagonistic democracy) rather than consensus- and compromise-driven.
The current binding governmental document, ‘Polish Energy Policy Strategy – 2030,’ defines the objectives of Polish energy policy, which can be summarized as three pillars:

- state energy security (energy security-diversification, the Russian dependency problem),
- growth of economic competitiveness (to a large extent through improving energy efficiency),
- environment protection from the negative effects of energy production and distribution.

In the same document and in other official statements and publications, Polish energy security is defined as the state of the economy that covers current and future demand for fuels and the energy of final receivers (individual consumers and companies) in a technically and economically justifiable manner, accompanied by the minimization of the negative impacts on the environment and living conditions. As a part of this strategy, current projects and major planned investments include: Gazopo – Wolin/Uznam (Świnoujście), a liquefied gas terminal; construction of larger gas reserves; Polish resource exploitation (as a reaction to seasonal ‘Gasprom crises’ to which Poland is especially sensitive because of its geopolitical localization); and two nuclear power plants planned in a wider time perspective.

EMPIRICAL STUDY

The December 2008 EU summit was dominated by the problematic of the climate – energy package. After having agreed (in 2007) that emissions should be limited by 20% by 2020, the EU Council faced the challenge of allocating this target among 27 member states. For Poland, this was crucially important as its economy is highly carbon-dependant. Because it contains one of the largest European coal reserves, Poland is one of the safest countries in the EU in terms of energy security. However, this ‘blessing’ becomes problematic in the context of developing EU energy priorities, wherein special emphasis is devoted to CO₂ emissions reduction goals. For the coal share in the Polish energy mix (before the 2008 summit), see the graph below:
Graph 1: Coal share in energy mix in selected EU Member States in the year 2007

Source: Kavaouridis & Kouozas [2008, pp. 693-703].

Emissions-free or low-emissions energy production (which the ETS (Emissions Trading Scheme) implemented in Poland) was greatly welcomed for environmental reasons, but could be economically and politically counter-productive to any structural and cohesion funds, and also dangerous to the economic development of the country. This collision with EU priorities makes Poland a natural troublemaker in terms of energy issues at the supranational level.

Paradoxically, the Polish and EU understandings of energy security are very similar. The EU’s definition of energy security is also based on the logic of three components:

- low dependency,
- stable imports,
- acceptable prices (sustainable – non-accelerating inflation rate, foreseeable, affordable).

This closely correlates with the Polish concept of energy security expressed in strategic executive documents (cited above). However, specific sets of economic and political characteristics make Polish energy development incompatible with the EU goals. Subscribing to the proposed conditions of the 2008 climate – energy package without necessary modernization and an associated transition period would result in serious negative consequences for the Polish energy sector,
economy, and households over the long term. Prevention of these potential negative consequences was the Polish government’s prerequisite for political decisions during the second half of 2008 (during the French Presidency of the Council); its claims were founded on data sourced from the report\textsuperscript{10} which were the grounds for Poland’s position when negotiating during the December 2008 EU summit.

The goal of the report was to forecast the impact of the implementation of an EU energy package on the Polish economy, energy-production sector, and household budgets. The data presented and conclusions drawn justified Poland’s reasoning during negotiations. From this point of view, the most important elements of the climate–energy package negotiation for Poland at that time were:

- modifications of the EU ETS, including:
  - removal of country-level allocation of emission allowances (one ‘central’ EU level allocation plan),
  - 2013 – 100% of emission allowances for energy plants on a gradual basis: from 20% in 2013 to 100% in 2020 for other sectors,
- greenhouse gas limits for non-ETS sources of 114% (base 2005),
- 15% share of energy obtained from renewable sources,
- CCS (CO\textsubscript{2} Capture and Storage) systems obligatory in plant installations above 300 MW.

The methodology of the analysis was based on multi-variant forecasts that range from a continuation scenario (CON) through reference (REF), up to the most ambitious one (EU CCS) (which included emission trading costs), meeting renewable energy source and bio-fuels goals, as well as CO\textsubscript{2} Capture and Storage installation investments. Long-term goals were set for 2030, which is also the programming time horizon for the Polish Energy Policy Strategy. Details of the variants are described in the table below.

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\textsuperscript{10} Report: „Wpływ proponowanych regulacji unijnych w zakresie wprowadzenia europejskiej strategii rozwoju energetyki wolnej od emisji CO2 na bezpieczeństwo energetyczne Polski, a w szczególności możliwości odbudowy mocy wytwórczych wykorzystujących paliwa kopalne oraz poziom cen energii elektrycznej” prepared by: firma Badania Systemowe „EnergSys” Sp. z o.o. for Polskim Komitetem Energii Elektrycznej (Polish Electricity Association), Warszawa 2008.
The Economic Determinants of the Polish

Table 1. Characteristics of main variants of climate and energy policy

<table>
<thead>
<tr>
<th>Symbol of a VARIANT</th>
<th>Major characteristics</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CON Continuation</td>
<td>• Energy sector functions as it functioned before 2007</td>
<td>Comparative Variant – what if there was no EU energy policy</td>
</tr>
<tr>
<td></td>
<td>• CO₂ emissions allowances price = 0</td>
<td></td>
</tr>
<tr>
<td>REF Reference</td>
<td>• No new provisions</td>
<td>Comparative Variant – if we continue as it is...</td>
</tr>
<tr>
<td></td>
<td>• CO₂ emissions allowances price = 20, – EU-RO/t, mostly free allocation of allowances</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Renewables goals as today = 7,5% and 5,75% biofuels (2010)</td>
<td></td>
</tr>
<tr>
<td>EU_CO₂</td>
<td>• After 2013 emission allowances = 39, – EURO</td>
<td>Comparative Variant – if we improve only the emissions part</td>
</tr>
<tr>
<td></td>
<td>• 2013 – 100% of emission allowances for energy plants and gradual – from 20% in 2013</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 100% in 2020 for other sectors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Incomes from ETS directly into the budget and indirectly the households</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• No new items in renewables and biofuels</td>
<td></td>
</tr>
<tr>
<td>EU-MIX</td>
<td>• CO₂ emissions as above</td>
<td>Comparative Variant – improved the emissions part and</td>
</tr>
<tr>
<td></td>
<td>• New goals in renewables ~ 15%, biofuels 10% (2020)</td>
<td>renewables and biofuels</td>
</tr>
<tr>
<td>EU-CCS</td>
<td>• CO₂, renewables and biofuels as above</td>
<td>Comparative Variant – full energy policy</td>
</tr>
<tr>
<td></td>
<td>• Obligatory CCS ready – 2025</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Own compilation based on (Wpływ... 2008).

For the analysis methodology, other parameters are also included, as follows:

- energy efficiency improves 20% by 2030 (according to the 2007 EU Commission proposal),
- the ETS certificate cost ranges from 30-39 Euro/t (according to EU Commission simulations¹¹),
- forecasted GDP growth for Poland – 5.1%,¹²

¹¹ As we know from the current pricing of the emissions allowance certificates, the ETS (European Trading Scheme) failed and does not provide efficient stimulus for the modernisation efforts in order to avoid punishing emission-offenders.

¹² This may seem overly optimistic from the point of view of today’s economic crisis; however, observations of the average Polish GDP growth over the last
- monetary unit – Polish New Zloty PLN (exchange rate 4.05, – PLN = 1 EURO).

The forecasted energy demand in Poland (by 2030, and expressed in PJ) will develop as follows:

Table 2. Energy output forecasts by sector and by energy source in Poland for the year 2030

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>2005</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>2476</td>
<td>2913</td>
</tr>
</tbody>
</table>

  by sectors

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>2005</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farming</td>
<td>189</td>
<td>202</td>
</tr>
<tr>
<td>Industry and Construction</td>
<td>769</td>
<td>876</td>
</tr>
<tr>
<td>Transport</td>
<td>526</td>
<td>664</td>
</tr>
<tr>
<td>Services</td>
<td>214</td>
<td>358</td>
</tr>
<tr>
<td>Households</td>
<td>778</td>
<td>816</td>
</tr>
</tbody>
</table>

  By energy source

<table>
<thead>
<tr>
<th>ENERGY SOURCE</th>
<th>2005</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>423</td>
<td>307</td>
</tr>
<tr>
<td>Gas</td>
<td>404</td>
<td>522</td>
</tr>
<tr>
<td>Liquid fuels</td>
<td>725</td>
<td>857</td>
</tr>
<tr>
<td>Others</td>
<td>156</td>
<td>155</td>
</tr>
<tr>
<td>Electricity</td>
<td>355</td>
<td>636</td>
</tr>
<tr>
<td>Heat</td>
<td>413</td>
<td>437</td>
</tr>
</tbody>
</table>

Sources: Own compilation based on [Wpływ... 2008].

In order to answer this energy demand growth, the total annual costs (for the necessary investments) would exceed 14 bln PLN. At the same time (under the specifics of the Polish energy mix), more PJ of energy produced will generate increased emissions, including \( \text{CO}_2 \) emissions, which are expected to reach 450 mln tones per year by 2030 (compared to 310 mln tones per year in 2005) if there are no efficiency improvements or limits and ETS are imposed. This will occur even though the ‘dirty’ methods of energy production (in the case of Poland, traditional coal) will decrease proportionally, as indicated in the chart below.

decade justify such a projection. The EU cohesion and structural funds alone offer 1.2-1.3 % GDP; additionally, thanks to the low-base effect, this relative figure was at that time realistic.
Graph 2. Forecasted energy mix for Poland as forecasted until 2030

Sources: Own compilation based on [Wpływ... 2008].

In 2020, new energy sources will appear on the Polish ‘energy landscape’ – the creation of two nuclear energy plants were announced as priority projects already by Donald Tusk, at that time the Prime Minister (and this policy is continued by the new Prime Minister, Ewa Kopacz). To some extent they will replace coal (both black and brown coal), as well as gas, which is extracted from its own reservoirs on a minimal scale (exploitation will peak within the period 2020-2025), but will mostly be imported from Russia. Dependency on Russian supplies is perceived to be the most dangerous threat to the Polish energy sector and economy. Additionally, renewable energy sources are predicted to grow proportionally from symbolic measures in 2005 up to 15% in 2030. This growth shows the forecasted proportions of the energy mix; however, it is important to remember that due to increases in parallel energy demand, on a practical level the amount of coal used in energy production will remain at present levels.

This reconstruction of the energy mix will be costly. This cost will be included in the energy prices paid by final consumers. The costs of generating 1 MWh are expected to rise from 110, – PLN in 2005 to 245, – PLN in 2030 in the ‘continuation scenario,’ and to 365, – PLN in the EU MIX scenario. This is primarily due to the necessary investments that must be financed (see – table below).
Table 3. Required investments in the Polish economy in time horizon 2030 in selected scenarios

<table>
<thead>
<tr>
<th>Scenarios</th>
<th>Required investments in 2006 – 2030 (PLN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuation scenario</td>
<td></td>
</tr>
<tr>
<td>Energy plants (in total)</td>
<td>130 bln</td>
</tr>
<tr>
<td>Energy plants (Renewable energy sources)</td>
<td>38.9 bln</td>
</tr>
<tr>
<td>EU-MIX scenario</td>
<td></td>
</tr>
<tr>
<td>Energy plants (in total)</td>
<td>248 bln</td>
</tr>
<tr>
<td>Energy plants (Renewable energy sources)</td>
<td>101 bln</td>
</tr>
</tbody>
</table>

Sources: Own compilation based on [Wpływ... 2008].

The analyzed data show that the realization of the 2008 energy package will require 110-130 bln PLN in investments, which is greater than in the hypothetical variant (CON) without the climate-energy policy. Realization of the 2008 goals will require 50 bln PLN more in investments than the reference variant – REF.

One important question for consideration remains: how will the forecasted change in energy price influence Polish GDP from 2005-2030?

To continue with this scenario, Polish GDP will grow 4.59% and reach 3,339 bln PLN in 2030. If the EU-MIX scenario is implemented, GDP will grow 3.29% slower (at a pace of 4.29%), reaching 2,895 bln PLN (the difference = 503 bln PLN, which is more than half of today’s Polish GDP).
Graph 3. Forecasted GDP growth in Poland as forecasted until 2030

Sources: Own compilation based on [Wpływ... 2008].

Graph 4. Forecasted inflation rate in Poland (in selected scenarios) until 2039

Sources: Own compilation based on [Wpływ... 2008].

In 2007 and 2008, the Polish economy also experienced a jump in inflation rates, which was partially a side effect of fast economic growth and corresponding salary increases; however, a large part of this inflation was due to increased prices for imported fuels (mainly oil and gas), which were reflected directly and indirectly in the costs of other products and services. Consequently, together with the growing
energy costs, the increased inflation rate was also predicted, as presented in the chart above.

As far as households expenditures are concerned (PLN/Person/MONTH), in 2005 the average person spent 25.6 PLN on electricity and 75.8 PLN on energy in general. These figures will rise. In the (CON) continuation scenario, these figures will be up to 90.04 PLN for electricity expenditures and 208.6 PLN for total energy costs. As a share of total expenditures, this represents an increase from 3.7% in 2005 to 5.6% in 2030; in the case of electricity, this represents an increase from 11% to 12.9% in energy expenditures. In the EU-MIX scenario, the expenditures increase up to 102.06 PLN for electricity expenditures and 234.6 PLN for energy costs. As a share of total expenditures, this represents an increase from 3.7% in 2005 to 7.1% in 2030; in the case of electricity, this represents an increase from 11% to 16.2% in energy expenditures.

CONCLUSIONS

Based on the forecasted impact of the implementation of the EU climate-energy package on the Polish economy, energy-production sector, and household budgets, it was projected that the direct costs connected with adjusting the technological infrastructure to meet the new EU objectives will be 60% greater in comparison to the reference scenario. This means a decrease of 154 bln PLN in GDP in 2020, and a 503 mld PLN decrease in 2030. Household purchasing power was expected to decrease by 10%, primarily due to the increase in the energy cost share of household budgets from 11% in 2005 to 14.4% under the EU-MIX (12.9% – REF). Apart from this, the increased risks of investment in the energy sector (due to fluid energy policy goals at the national and supranational levels) must also be taken into account.

Consequently, due to the expected economic costs for the Polish economy, Poland made the strongest threat of vetoing the

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13 Paradoxically, from today’s point of view, we know that it was the decreasing energy prices on the world markets that generated deflation (not inflation) in Poland in late 2014 and early 2015.
climate-energy package during the December 2008 EU summit. And so it was presented to the EU partners. The ambitious environmental goals set by the EU were perceived by the Polish executive as potentially counter-productive to the economic development of their country (the energy security definition combines environmental with the economic components). While being aware of the global ecological challenges and the EU’s intention to be an international environmental leader, the Polish government’s position is rather defensive due to the economic costs related to the modernization of the Polish energy production sector. The Polish prime minister managed to organize a coalition of Central and Eastern European States (Poland was one of nine countries; the core were the Visegrad’s countries and Germany) that objected to the most ambitious scenarios in 2008.14

The presented case highlights the descriptive, explanatory, and interpretative potential of theoretical approaches to integration when analyzing European energy relations. This permits us to avoid dichotomous thinking when exploring the theoretical vehicles for investigating European energy relations. The most fashionable and contemporary perspectives are the two traditional alternatives: the realist vs. liberal paradigm of international relations. This logic is expressed (in the energy relations field) as the Markets and Institutions or Regions and Empires approach, the latter recently generating increasing enthusiasm among scholars. However, this alternative – applying one contra the other paradigm – is not only incorrect, but also misleading. The complexity of energy relations in Europe and beyond may only be captured in composite multi-theoretical frameworks. Instead of off-the-shelf interpretative models, researchers need to construct a tailor-made set of available theories to be applied individually to each specific problem.

The analyzed case revitalizes the spillover mechanism as a useful interpretative model (which has already been tested in a number of EU studies) that captures the logic of European energy policy developments. Decisions in one policy fragment generate pressures and outcomes in other fields. Apart from the neofunctionalist perspective,

14 As it usually is in the European Union, the blocking coalitions are constructed in an ad hoc manner and from today’s perspective, the 2008 coalition is unimagineable.
other approaches can also be viewed as being legitimate, including Robert Putnam’s two-level game or multi-level governance. The December 2008 EU summit is illustrative in demonstrating the motivations of one EU member state’s government during Council negotiations, revealing that bargaining was deeply rooted at the domestic level. In order to avoid the economic consequences of an ambitious climate-energy package that would transform the energy sector from an industrial to a modern era, the Polish executive managed to build an effective coalition and to ‘internationalize’ the costs of such modernization.

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