

Implementing EU Climate and Energy Policies in Poland: From Europeanization to Polonization?

Jon Birger Skjærseth



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Jon Birger Skjærseth

jbs@fni.no

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Author

Jon Birger Skjærseth

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Abstract

This report examines Poland's implementation of the EU climate and energy policy package to attain 2020 goals: the extent to which and how these policies have been implemented to date, why and with what consequences for Poland's positions on new EU climate policies. Because unanimity is required on new long-term climate and energy policy goals, the relationship between the EU and Poland is crucial. Indigenous coal accounts for nearly 90% of the country's electricity production and 50% of its total CO₂ emissions. The first observation is that there have been significant implementation problems concerning the ETS, RES and CCS Directives. The EU package cannot be said to have been a 'game changer' – Poland has mainly opposed and absorbed the package to make it fit with existing policies and energy mix. Second, implementation challenges arise from EU adaptation pressure and 'misfit' with national policies, negotiating position and energy mix. Domestic politics has also proved important: The consistency in governmental prioritization of coal, opposition to climate policy by state-owned energy groups and privileged access to decision making for these groups. Moreover, lack of willingness, ability and opportunities at the national level to transform the linking of various policies and issues that promoted EU level agreement has made Poland increasingly resistant to long-term EU policies. This is partly reflected in the new 2030 climate and energy policy framework adopted by the European Council in October 2014. Still, there are some signs of changes that may drive Poland towards a 'greener' pathway in the future.

Key Words

Poland, EU, climate policy, energy policy, EU climate and energy package, implementation.

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1 Introduction

In 2007, Poland agreed to the EU 20–20–(20) climate and energy targets in the European Council of heads of state and government: to cut greenhouse gas (GHG) emissions, and increase the share of renewables and energy efficiency by 20 per cent by 2020 compared to 1990 levels. The GHGs target would be stepped up to 30 per cent if an adequate international climate treaty was agreed. In December 2008, Poland also agreed to a package of binding policies for achieving these targets. The core package negotiated in the course of 2008 included a revision of the EU Emissions Trading System (EU ETS) covering large industrial emitters; a decision on effort-sharing among member states (ESD) for sectors not covered by the EU ETS, like transport and agriculture; promotion of renewable energy sources (RES); and the world's first legal framework for safe carbon capture and storage (CCS).¹ These targets and policies were to be implemented between 2009 and 2020, as a first step towards decarbonizing the EU by 2050.²

Poland represents a particularly interesting case for the EU's decarbonization effort, as indigenous coal accounts for nearly 90% of the country's electricity production and 50% of its total CO₂ emissions. To what extent and how has Poland implemented the EU climate and energy package to date? How can implementation be explained, and what are the consequences for Poland's position on new long-term EU climate policies?

Since 2009, Poland has apparently become more reluctant to short- and long-term EU climate policies. In 2011 and 2012, it vetoed the Commission's energy roadmap and the low-carbon roadmap that proposed a stepwise plan towards a decarbonized Europe by 2050. Polish opposition may weaken the content of new EU policies, because long-term climate and energy goals require unanimous agreement in the European Council. Poland is the EU's sixth largest member state, and serves as an informal leader of the larger group of Central and East European countries (CEECs). The relationship between the EU and Poland is accordingly crucial to the development of long-term EU climate and energy policies. In October 2014, the European Council adopted a new 2030 climate and energy policy framework also intended a basis for the EU's position at the Paris climate summit in 2015. Does this framework represent 'Europeanization' of Polish climate and energy policy – or a 'Polonization' of EU climate and energy policy?³

The next section introduces the conceptual framework. Sections three and four analyse the relationship between Polish policies, bargaining position and the outcome of the negotiations on the EU climate and energy

¹ Policies for reducing CO₂ emissions from new cars and for fuel quality, from 'well to wheel', were negotiated independently of the core package. Further policies on energy efficiency were adopted independently and according to a different time schedule.

² In October 2009, the European Council, including Poland, agreed to support an EU goal to reduce GHG emissions between 80 and 95% by 2050 compared to 1990 levels (European Council, 2009).

³ The concept 'Polonization' has been used by Ancygier (2013).

package in 2008. The next section assesses whether and how Poland has implemented the package to date, with a view to 2050 decarbonization. Section six analyses 'fit' with EU requirements and domestic politics as explanations of implementation based on the preceding parts. Section seven discusses the consequences of experience and learning from implementation for Poland's position and the outcome of new EU climate and energy policies and goals for 2030 and 2050. The final section summarizes the main conclusions. The report builds on a combination of secondary sources and interviews (see below).

2 Conceptual framework

Given the highly decentralized structure of EU implementation processes, whether the EU will succeed in its decarbonization effort will depend primarily on the *implementation* of adopted climate and energy policies in the member states. This may lead to a considerable gap between EU goals and actual results on the ground in the member states. Whether the EU succeeds will also depend on further development and reform of its existing climate and energy policies. As climate change is a long-term challenge, domestic implementation and development of new EU policies are dynamic processes that mutually affect each other. In particular, experience with implementing current policies may affect the development of new policies towards 2050.

Since the 1980s, the study of implementation of EU policies has developed through various phases (Treib, 2008). The first phase focused mainly on the effectiveness of administrative institutions. The second phase placed implementation research within the study of Europeanization, focusing on the consequences of European integration for the member states (Olsen, 2002). Implementation represents essentially the ‘sharp end’ of Europeanization of EU climate and energy policies. The locus of research was placed at the intersection between EU and national policies in which degree of compatibility between EU policy and domestic institutions came in the spotlight. Adaptations pressure and misfit between the EU and national levels were cited to explain implementation failure (Knill and Lenchow, 2000; Knill 2001). In the final phase, the role of domestic politics gained prominence. Research has also tended towards quantitative studies of legal transposition, at the expense of qualitative studies of application of EU legislation on the ground (Treib, 2008).

This study of Poland draws on insights from all phases, qualitatively analysing transposition and application. It seeks to contribute to the EU implementation literature by exploring the consequences of adopting a *package* of EU legislation. The linking of various policies and issues that promoted EU level agreement may be reproduced to varying degrees at the domestic level under different conditions.

2.1 Implementation

Implementation means to ‘carry something into effect’ (Weale 1992:43). This ‘something’ refers to the EU package of climate and energy policies. Implementation essentially refers here to the process of converting the EU package into domestic policies and measures, resulting in behavioural change among actors that either cause the problem or provide solutions.

Legal transposition concerns the formal aspects of EU implementation, such as amendments to national legislation or the adoption of new laws or regulations.⁴ Application concerns substance: the adoption of new

⁴ Measures for implementing a directive are to be notified to the Commission. If the Commission finds that a member state has failed to notify, it opens an infringement case.

domestic policies and measures (PAMs) and the resultant behavioural change, like subsidies for increasing renewable energy and actual increases in production. The distinction between transposition and application is sometimes blurred in the real world, depending on the type of EU legislation and the activities to be regulated. Note that there is no automatic causal relationship between transposition and application. Transposition will not necessarily lead to effective application, and effective application may occur in the absence of transposition – perhaps due to technological developments or economic fluctuations unrelated to the EU policy in question. Compliance is exclusively a question of adherence to legal requirements that may, or may not, involve implementation.

Goal attainment is used as the main criterion for whether implementation is headed in the ‘right’ direction. Assessment of actual goal attainment is not feasible, nor is it necessarily the most pertinent criterion in this case. It is not feasible, as policies are directed towards 2020 and beyond. It is not necessarily most interesting, as short-term policies form part of a longer-term vision, with a view to 2050 decarbonization.⁵ Moreover, we assume that policy directed at ‘unlocking’ high carbon dependence is the ultimate aim of the EU decarbonization vision. Major structural changes will be needed to reduce EU GHG emissions by at least 80% by 2050. Windmills, for example, represent a more permanent renewable investment step in that direction than co-firing biomass with coal in existing coal burners. The latter is an example of absorption, the former of transformation. ‘Absorption’ of EU policies means that member states deal with new climate and energy policy within the context of the existing energy system and mix, whereas transformation refers to actual, perhaps radical, change in behaviour. We interpret implementation ‘effects’ widely, including the consequences for energy technological ‘lock-ins’.

Given these delimitations, we can envisage that member states may oppose, support or reluctantly accept new, binding EU policies. Opposition or resistance will typically involve challenging the Commission in comitology or in the European Court of Justice. This response strategy is likely to lead to transposition challenges, possibly application failure. By contrast, active support signals high willingness to follow through. This response strategy increases the probability for transposition in line with goals and possibly application that is more ambitious and transformative than required. Thirdly, reluctant acceptance can be placed somewhere in-between support and opposition. Implementation in this case will typically involve absorbing new EU policies, so as to make them amenable to the status quo.

⁵ Since the ultimate goal of implementing EU climate and energy policies is to achieve a low carbon economy, it follows that providing more behavioural change in the desired direction than strictly required would merit a higher relative ‘score’ on goal achievement than would providing less.

2.2 Explaining implementation

Implementation can be explained with the point of departure in multilevel governance approaches to EU integration and implementation (Skjærseth and Wettestad, 2008b; Di Lucia and Kronsell, 2010). The first explanation centres on fit/misfit and adaptation pressure in the relationship between EU requirements and national status quo. The international level will be included to the extent it may affect this relationship. The second explanation focuses on domestic politics as a complementary perspective.

Misfit and adaptation pressure

Some EU policies are more challenging to implement than others because states may be expected to do what they cannot do or want not do. The 'goodness of fit' approach aims to explain 'much with little'. The basic argument is that differences between EU requirements and national institutions lead to 'misfits', which pressures member states to change from the status quo (Knill and Lenchow 2002; Knill, 2001). The 'goodness of fit' approach has been criticized for weak explanatory power, for excluding actor interests and for being static and top-down (Treib, 2008). It has been modified and operationalized in various ways and is still regarded as a powerful explanation (Di Lucia and Kronsell, 2010). When this approach is applied to Poland's implementation of the climate and energy package, actor interests and dynamic development will be included while at the same time its parsimonious nature is retained. The underlying assumptions are: a) states are motivated to preserve the status quo; b) 'fit' between EU and national levels includes energy-economic interests; c) EU requirements may change after legislation has been adopted.

The 'distance' between the member states' pre-existing policies, energy-economic situation, negotiating positions and the final EU outcome expresses degree of fit. Adaptation pressure can in addition be affected by subsequent modifications and adjustments of EU legislation and by international obligations. International obligations in line with EU policies can, for example, reduce the pressure by levelling the playing field for actors exposed to international competition. Energy-economic interests are here narrowly operationalized as the relative share of fossil fuels in the energy mix compared to the EU average. Different fuels (coal, oil, gas) emit different amounts of CO₂ in relation to the energy they produce.⁶ Policies refer to content and framing. Content is related to national and EU policies and goals. Framing refers to beliefs and climate policy norms (Braun, 2014). This may comprise various aspects of EU policies, but will here be understood as the EU's longstanding ambition to play a leadership-by-example role in the international climate negotiations.

⁶ For example, hard coal emits almost twice as much as natural gas. See <http://www.eia.gov/tools/faqs/faq.cfm?id=73&t=11>. Accessed 14.11.14.

All this leads to the following proposition: High mismatch between pre-existing policies, energy-economic situation, negotiation position and the final EU outcome will increase misfit, lead to opposition and decrease the feasibility of policy implementation.

Because several EU policies were negotiated simultaneously as a package in 2008, issue-linkages at EU level are likely to lead to varying fit and adaptation pressures between the different components of the legislative package components. When unanimity is required, member states will tend to trade concessions between different policies according to their differing national priorities. Varying fit and adaptation pressure will in turn lead to Poland to respond to and implement the various package components differently. This proposition will be assessed according to each of the package components (ETS, RES, CCS, ESD) and the package as a whole.

Domestic politics

Also with a certain level of compatibility between EU requirements and the national situation, implementation may still vary, due to variation in domestic politics over time or between different policy areas.

A simple 'model' of domestic politics explains responses to common EU policies by the state, or government itself, society and the relationship between the state and society where domestic institutions channel influence through the electoral and corporate channels. This perspective relaxes the assumption that states are necessarily motivated to preserve the status quo and looks more deeply into internal political and administrative processes. New governments or administrative actors may bring in new priorities after EU policies have been negotiated and adopted. Governments may support radical change or oppose minor changes, depending on whether EU requirements conform to their political preferences. Societal actors may be strengthened or weakened by new policies, and may gain or lose political influence. As possible explanations of implementation 'failure' or 'success', we focus in the following on governmental and societal actors whose agreement and support is necessary to change the status quo, policy style as linking state and societies in various ways, and administrative organization.

Governmental veto players and affected societal actors.

Implementation problems can arise because EU policies affect governmental actors in ways that create opposition. If such actors are 'veto players', they can block or slow down the adoption of policies necessary for implementing EU requirements. By 'veto players' is meant a set of specific individuals or collective actors whose agreement is necessary to change the status quo (Tsebelis, 2002). To be re-elected, lawmakers must respond to and promote affected constituency interests; hence such interests often influence policymakers' positions on issues. This in turn can create veto players, such as majority governments. We expect that *continuity* in (majority) government over time – from the EU negotiations to national implementation – will improve the likelihood of support and

implementation in line with EU goals. A majority government will make the legislative assembly less important for implementation, but competing parties may still affect the position of governments, particularly at election time.

Societal actors, such as industry sectors or companies, may support or resist higher-order policy goals. For understanding the incentives of affected societal actors to comply with higher-order policy goals, the key factor is how these sectors are affected by EU policies, including the extent to which different societal actors are affected in the same way. The general assumption is that the interests of affected societal actors may deviate (more or less systematically) from governmental positions, possibly influencing the implementation of EU legislation. Determinants that will be explored include the extent to which costs and benefits are widely distributed or concentrated (Wilson, 1973). When costs are concentrated to specific subgroups of society while benefits are widely distributed, there is reason to expect high incentives to oppose national policies. This may lead to transposition failure or application challenges as captured by the notion of vertical disintegration of climate and energy policies – meaning that the aggregate of ‘micro-decisions’ among affected societal groups may deviate more or less systematically, or substantially, from higher-order policy goals (Underdal, 1979). In some cases, segments of society may be described as *social blocs* characterized by tight alliances among ministries, parliamentary committees and industrial sectors (Skidmore and Hudson, 1993). If such blocs see implementation of EU policies as threatening their core interests, then implementation is likely to meet severe resistance. Access to and influence on decisionmaking may still vary (see below).⁷

We expect that concentration of costs and distribution of benefits will increase resistance to governmental policies and reduce the likelihood of implementation. Resistance will be particularly difficult to overcome if negatively affected societal actors represent social blocs or segments of society. A package approach will tend to increase the scope of affected sectors and can level out costs by distributing the burden between various domestic sectors: or, alternatively, it will reinforce cost-concentration by targeting the same sectors with different EU instruments.

Policy style and access.

Opposition from negatively affected societal actors does not necessarily translate into political influence. How influence is channelled between state and society in regulatory policies may be referred to as ‘regulatory’ or policy styles. The term ‘policy style’ refers here to what is assumed to

⁷ Conversely, if benefits are concentrated and costs widely distributed, few will gain but many must pay. Under such conditions, we expect strong support for relevant policies, and relatively easy implementation. If both costs and benefits are widely distributed, mobilization is likely to be low, and affected societal groups are unlikely to have strong incentives either in support for, or in opposition, to higher-order commitments. In cases where both costs and benefits are concentrated, incentives are likely to depend on whether costs and benefits are equally certain and immediate.

be a distinct national approach to regulation. A fundamental distinction in the study of comparative environmental politics goes between policy styles that promote a high level of participation by affected societal actors and consensus-building, versus imposition (see e.g. Jänicke 1992). The basic assumption is that policy styles can affect how EU policies are implemented.

As to *how* societal target groups are included, we can distinguish between *formal* and *informal* participation and access to decisionmaking. Some insiders with privileged status may represent the 'core', whereas others are more peripheral (Maloney et al. 1994). This can change over time and conform with, or deviate from, social blocs or segments of society. With regard to *who* is involved, a conflictual approach can be said to be characterized by limited formal access to decisionmaking for negatively affected societal actors – which in turn is likely to promote stringent governmental policy goals.⁸ Since environmental regulations frequently imply net costs for affected actors, their strategy is often aimed at watering down governmental regulations.⁹ Conversely, a consensual approach is more characterized by open formal access for affected target groups. That will tend to ensure more lenient governmental regulations, since the interests of the target groups will probably be reflected in domestic goals – making support for governmental policy more likely when regulations are to be implemented. In a dynamic perspective, the key question is whether the national actors with responsibility for implementation were involved in shaping national positions in the EU negotiations on the package. Societal actors may also exert influence directly at the EU level – a channel underscored by Multilevel Governance approaches (Skjærseth and Wettestad, 2008a).

We expect a consensual policy style to improve the feasibility of implementation. A package approach covering a wide range of sectors may affect national consultation processes by bringing in new constellations of public and private actors. This may open up for new alliances that enhance the probability of implementation. Conversely, a package may cement old alliances or bring together new clashing constellations of public and private actors. That could promote new alliances that reduce the probability of implementation.

Administrative organization.

Due to fragmentation in administrative organizations and laws, implementation problems may arise even when affected societal actors are included and their interests are aligned with governmental priorities. The need for administrative coordination is likely to be particularly high when several complex EU policies are to be implemented at the same time. Essentially, fragmentation refers to the distribution of competence

⁸ If such actors have not had their say, their interests are less likely to be reflected in domestic goals than otherwise.

⁹ However, when stringent decisions are to be implemented, resistance and opposition among target groups may become severe, since regulations are likely to be directed against their interests.

between the subordinated regulatory agencies and government levels involved in implementation. The basic assumption is that different regulatory actors will tend to perceive problems differently, and will apply differing decisionmaking criteria. In turn, perceptions and criteria are largely shaped by the formal roles of governmental agencies. This assumption is captured by Allison's (1971:176) aphorism, 'where you stand depends on where you sit'.

Fragmentation has a horizontal as well as a vertical dimension. Horizontal fragmentation centres on the number of governmental agencies involved at each level of government, and the coordination between them. Vertical fragmentation centres on the number of levels involved: the distribution of competence between the state, provinces and municipalities. The climate and energy package was adopted at EU level, but implementation will take place at different levels in the member states. At the municipal level, problems may look very different from how they appear at the state level. In particular, what are seen as national 'interests' at the state level will not necessarily match preferences at the regional or municipal levels. Whenever local interests deviate from what the government has defined as the 'national interest', local opposition to national goals can be expected. If local opposition goes hand in hand with the decentralization of competence in the relevant sector, there is a risk of defection from national goals. In short, the risk of vertical and horizontal disintegration of policies between competent authorities tends to increase with increasing fragmentation of competence.

We may expect that fragmentation within the state apparatus itself or between various levels of government will tend to reduce the feasibility of implementation. A package approach may counterbalance – or deepen – fragmentation, depending on whether it is transposed coherently or as single pieces of legislation.

2.3 Exploring consequences

Domestic implementation of short-term EU policies may affect positions on new long-term policies. The main explanation explored here builds on the preceding sections: it holds that Poland possibly wanted the climate and energy package, but experience with and learning from implementation of the package acted to increase resistance. One reason is that the distribution of costs and benefits and values promoting EU-level agreement will not necessarily be reproduced domestically.

There are at least three issue-linkage mechanisms that can promote EU-level unanimity in cases that depart from the status quo. First, issues that are differently valued by policymakers can be combined, creating possibilities for mutually beneficial exchange of concessions (Sebenius 1983; McKibben 2010) – as in the case of differing concerns for energy security and climate change. Second, distributional obstacles can be overcome by adding issues as side-payments, a mechanism whereby 'winners' can compensate 'losers' so that all benefit. Direct side-payments may be institutionally difficult to arrange or insufficient to compensate 'losers' fully, but issues may serve as effective 'side-payments' (Tollison and Willett 1979; Sebenius 1983). For example,

revenues from auctioning of emissions trading allowances can be used to compensate lower-income member-states' investment in low-carbon technologies. Finally, issues can be added to exploit interdependencies, and synergies may be exploited to the advantage of all parties (Sebenius 1983). For instance, policies for combatting climate change can reduce air pollution, thereby raising decisionmakers' willingness to agree on climate policies.

Theories of issue-linkages have less to say about consequences for implementation. Consequences will be explored here by analysing how issue-linkages at the EU level have affected domestic implementation and Poland's position on new long-term EU climate policies. Domestic reproduction of synergies, value-sharing and side payments will probably depend on the degree of alignment between EU requirements and Polish positions, and on the willingness, ability and opportunities to exploit issue linkages domestically.

Or, one alternative explanation of Poland's increasing resistance could be that Poland never wanted the climate and energy package, but was 'forced' or pressured to accept it due to the saliency of the climate change and energy issues and the 'threat of conditionality': the pressure on applicant states to accept the *acquis* to adapt to the EU-15 climate policies and norms made Poland agree to new policies that it did not actually prefer. EU pressure would lead to mismatch between EU requirements and Polish positions.

3 Polish climate and energy policies up to 2007

Poland's domestic policies were dominated by the Soviet Union from 1945 to 1989. The key goal of state policy was industrialization based on coal for power plants and heavy industry, steelworks in particular. Policymakers did not have to worry about the next election, and political decisions were taken independent of expert advice or societal concerns for the environment (Bokwa, 2007). Social demands for improved environmental quality and policy were virtually absent. Critical reports on the state of the environment were not made public and were effectively excluded from public debate. Democratic changes expressed by initiatives like establishing the Polish Ecological Club in Cracow in 1980 were halted by martial law in 1981. Economic interests related to mining, energy, chemical and metallurgical industries served as the main 'link' between the state and society. Alliances representing these sectors could block any decisions that might threaten their interests (Bokwa, 2007:119).

From 1989, Poland embarked on the transformation from a centrally planned economy to a free-market system. This led to structural changes and modernization of the economy, followed by more effective energy use (OECD, 2012). The largest energy intensive industries such as steel and cement plants were sold. Some unprofitable hard coal mines were closed, and the entire energy industry was reformed and consolidated. After the turn of the millennium, the electric power industry was vertically consolidated into four groups consisting of many companies with a managing company for each group, partly owned by the state, i.e. Ministry of Treasury: PGE, Tauron, ENEA and ENERGA.¹⁰

In the 1990s, Poland started to prepare for EU membership by reforming its legal system. From then onwards, the EU has had significant influence on the country's energy and climate policies. In 2000, Poland presented an energy plan and a strategy for development of renewable energy sources. The main energy objectives outlined there were security of supply for Poland as an importer of gas from Russia, competitiveness and the environment. The share of renewable energy sources was, after long discussions within the government, set to grow to 7.5% in 2010 in the primary fuel mix. The 2010 target corresponded with the indicative target for Poland that was adopted in the 2001 EU renewable electricity directive (Directive 2001/77/EC). In 2003, Poland's share of renewable energy was 5.1%, based almost exclusively on combustible renewables: co-firing of coal and biomass and waste (IEA, 2011).

A draft regulation on purchasing energy from renewable sources was made public in 2005. The draft stimulating co-firing met resistance from the timber/paper industry, which argued that increased timber use for power production would raise the market price. Technology-neutral green certificates were introduced in 2005 to stimulate the cheapest renewable

¹⁰ PGE: 96% of electricity generated from fossil fuels, mainly hard coal; Tauron: 86% of electricity from hard coal and lignite; ENERGA: smallest, but about 25% from renewables, partly hydroelectric. See Ancygier, 2013.

technologies. However, oversupply of green certificates in the market, particularly in 2005 and 2006, led to a significant fall in their prices, and fewer incentives to invest in renewables (Ancygier, 2013). From 2005, plans for developing a Polish nuclear programme developed. Measures were also announced to promote energy saving.

From late 2002, the Central and East European Countries (CEECs) were granted more access to EU decisionmaking, through the establishment of an 'Interim Committee'. Poland and the other CEECs were included as observers in the final stages of negotiations on the EU ETS directive. The EU ETS was politically decided in autumn 2002 and was formally adopted by the EU-15 in 2003 (Directive 2003/87/EC). Poland set about preparing for participation after signing the accession treaty with the EU in April 2003 (Skjærseth and Wettestad, 2008a). The same year and as part of its obligation under the UN Framework Convention on Climate Change (UNFCCC), the Polish Ministry of the Environment presented the country's first climate action plan (Ministry of the Environment, 2003). The plan sets out international obligations, goals, policies and measures for the medium (2007–2012) and long (2013–2020) terms. GHG emissions had dropped by 30% since 1988 as a result of modernization, and a 40% reduction target was adopted for 2020. While listing several measures to be introduced in various sectors in the future, the climate plan appears vague as to practical implementation. Here we may note that the Ministry of the Environment was at that time isolated from other ministries, the energy sector and businesses. The country had no real policy that would integrate climate policies into other national sector policies.

Poland was reluctant to the EU ETS, and failed to get its National Allocation Plan (NAP) approved by the Commission before the ETS was launched in 2005. Under the ETS, carbon pricing will be most costly for coal; as a result, electricity prices were expected to rise in most in coal-dependent countries. In 2005, the Commission provisionally accepted the Polish NAP, on the condition that allowances be slashed by 16.5%. Polish industry (representing nearly 900 installations under the system) and the government reacted with strong indignation (ENDS, 9 March 2005). In 2007, the same pattern repeated itself with increased intensity when Poland prepared its NAP for the second trading period (2008–2012). Together with the Czech Republic, Estonia, Hungary and Slovakia, it took legal action against the Commission. Poland appeared unified in its opposition to lowering the number of allowances, arguing that the trading system could threaten the nation's economy (ENDS, 1 August 2007). However, it was among the first to transpose the 2004 'Linking Directive' (Directive 2004/101/EC), which gives companies the right to purchase credits abroad through the Kyoto Protocol's flexible mechanisms, in order to comply with the EU ETS. Investments in cheaper external credits would ease the pressure on Polish industry.

By 2006, oil prices were rising, climate 'hype' was sweeping Europe, and public opinion supported EU-level action on energy and climate-change challenges (Skjærseth, 2013). Political and public attention to climate change was also raised by Al Gore's award-winning documentary, 'An Inconvenient Truth', released in May that year; and in October by

warnings in the *Stern Review* that failure to act on global warming would impose major costs on the global economy. Energy security climbed the political agenda also because of the Ukraine–Russia energy dispute that threatened European gas supplies and highlighted the EU’s dependency on foreign imports for its energy needs.¹¹ Internationally, a series of talks were held among the parties to the UNFCCC and its Kyoto Protocol. The EU put forward a proposal that the developed countries should cut emissions by 15–30% by 2020, with further cuts by 2050. Widespread agreement emerged that new international reduction targets should be decided by 2009 at the latest.

¹¹ The dispute led Russia to cut off (on 1 January 2006) all gas supplies passing through Ukrainian territory. Russia is by far the EU’s largest oil and gas supplier, and Russian gas piped through Ukraine and other regions feeds not only the Central and East European countries (CEECs), but also Western Europe, including France, Germany and Italy.

4 Negotiating the package: 2007–2008

In January 2007, the Commission presented two key communications prepared jointly by DG Energy and DG Environment that framed EU climate and energy policies in a synergistic way: an ambitious climate policy would contribute to the achievement of energy goals; an ambitious energy policy would contribute to the achievement of climate-policy goals (Commission, 2007a; 2007b). These communications also proposed the 20-20-(20) targets, with the EU playing a leadership-by-example role in international climate policy.

In the run-up to the adoption of these targets by the European Council in March 2007, Poland preferred removal of the pledge for unilateral EU action if the international negotiations in Copenhagen on a successor to the Kyoto Protocol should fail (Eikeland, 2012). The European Council adopted the key elements of the new integrated EU climate and energy policy, underscoring the central role of the EU ETS in the EU's long-term strategy for reducing GHG emissions. The Polish government was at the time led by Lech Kaczynski from the Law and Justice Party (PiS). The EU targets were adopted by unanimity, but Poland, Hungary and the Czech Republic voiced concerns on how efforts to reach the climate target would be shared. These coal-dependent states also worried that a binding target on renewables could force them to invest in more costly energy sources (Skjærseth, 2013).

In January 2008, the Commission formally proposed the climate and energy package of binding policies for achieving the 20–20–(20) targets by 2020 as a first step towards a low-carbon economy by 2050 (Oberthür and Pallemmaerts 2010). The package was to be adopted by unanimity in the European Council in one single round. Poland entered the negotiations with a reluctant but somewhat mixed position. On the one hand, its GHG emissions had dropped significantly since 1989, and the Polish focus on affordable and secure energy supply was in line with EU priorities. On the other hand, Poland was reluctant to the 20% GHG reduction target adopted in 2007, the EU ETS, and to the EU's ambition of leadership by unilateral action in the upcoming international climate negotiations. In Warsaw, the first government of Donald Tusk had taken office in October 2007; it sent somewhat mixed signals on renewables (Ancygier, 2013). Poland was positive to co-firing biomass and coal, but was also concerned about increases in electricity prices. The stage was set for hard negotiations between the EU and Poland on the proposed package. Poland coordinated its position with the Visegrad Group (V-4), which from 1991 came to include the Czech Republic, Hungary, Poland and Slovakia. The V-4 is a formal body for cooperation on various issue-areas, with a rotating presidency. When Poland succeeded the Czech Republic in autumn 2008 (July 2008–June 2009), one of the country's priorities was to: '...promote exchanges of information on the preparation of positions concerning the energy and climate package...'¹²

¹² <http://www.visegradgroup.eu/documents/presidency-programs/2008-2009-polish-110412>. Accessed 30.01.14.

The main structure of the Commission's proposed climate and energy package involved two cross-sector instruments. The first was a revised EU ETS aimed at reducing emissions in the ETS sectors (mainly electric power producers and energy-intensive industry) by 21% below 2005 emission levels. The proposal included a transition from a decentralized system based on National Allocation Plans, to an EU-wide cap to be reduced annually by 1.74%. Allocation procedures were altered, from free allowances to a system with payment by auctioning as the main principle. The second cross-sectoral instrument was an effort-sharing decision (ESD) based on differentiated national targets, intended to yield a 10% reduction for sectors not covered by the ETS. In addition, the core package contained two technology-specific directives: one on the promotion of renewable energy sources (RES) based on differentiated national targets, and a proposal for a legal framework for safe storage and capture of carbon (CCS).

To make the package politically feasible at the EU level, it was based on side-payments to compensate poorer member states in three ways: a) by setting different national targets in the non-ETS sectors (ESD) based on GDP/capita; b) by setting different national targets for the share of EU energy consumption from renewable energy sources (RES) based on a combination of GDP and flat-rate increase in the share of renewable energy; c) by using auctioning revenues (ETS) to compensate lower-income member-states through a 'solidarity fund'. Combined, these three policies were intended to ensure fairness in effort-sharing. Moreover, access to cheaper CDM credits abroad and free allowances for energy-intensive industries exposed to international competition through product benchmarking would be effective strategies for limiting potential negative effects on competitiveness of the revised ETS. The emphasis on CCS would provide a solution for the fossil-fuel industry, coal in particular.

The package aimed at providing new low-carbon opportunities in addition to sharing the burden. The Commission underscored the *synergies* between climate and energy: action on climate change was placed at the centre of a new EU energy policy by making energy use more efficient, lessening the need for imported hydrocarbons and reducing vulnerability to fluctuations in oil and gas prices. Action on energy policy was intended to contribute to climate-change mitigation and more effective application of the ETS, while also creating new 'green' jobs. This was to be achieved by strengthening policies on renewables, energy efficiency, liberalization of the European energy market and technological innovation. A European energy technology plan was proposed, to lower the cost of clean energy and place the EU at the forefront of the low-carbon technology sector (Skjærseth, 2013).

Negotiations on this package proposal intensified from July 2008, when France took over the EU Presidency from Slovenia (Skjærseth and Wettstad, 2010). Poland fronted opposition to the 2005 baseline proposed by the Commission, and called for greater flexibility as regards achieving the 20% GHG target and for stronger safeguards against carbon leakage if the upcoming negotiations in Copenhagen should fail. Poland and other CEECs preferred a 1990 baseline for the package that would

benefit economies in transition, as their GHG emissions had dropped considerably after 1990. Poland also wished three specific changes to the proposed revision of the EU ETS: price controls in the form of a carbon price ceiling; free allowances for electric power plants,¹³ and more financial assistance from auctioning revenues under the EU ETS.

Prior to the EU leaders' meeting in October 2008, concessions to Poland were prepared in a new context of the unfolding financial crisis. The Commission had proposed 10% of the revenues to the 'solidarity fund', whereas Poland was calling for 30%. In November, the Baltic states joined the V-4 alliance led by Poland and teamed up in a coordination meeting in Warsaw (ENDS, 6 November 2008). The coalition of CEECs, headed by Poland, threatened to veto the whole package if the energy situation in these countries were not taken sufficiently into account (Ancygier, 2013:126). To prevent this, Commission representatives travelled to Warsaw to 'sell' the climate and energy package by emphasizing synergies and new low-carbon opportunities.

In December, Poland held a summit with French President Sarkozy. The meeting did not resolve the 'solidarity fund' issue, but a compromise was reached on granting power stations a longer derogation period from auctioning, from 2016 to 2020 (ENDS, 8 December 2008). The Polish position was that free allowances to protect energy-intensive industries exposed to international competition should apply to the electricity sector as well. This position was backed by a massive campaign at the national and EU levels, financed by Poland's conventional energy industry. In September 2008, the 'Green Effort Group', composed of the four major Polish energy companies (PGE, Energa, Enea, Tauron) met with the Directors General of DGs TREN (energy), Environment and a Departmental Director of DG Enterprise.¹⁴ In focus was the proposed revision of the EU ETS; the Green Effort Group argued bluntly that it would have heavy negative impacts on the Polish economy. That the Group was later praised by the government for its efforts (Ancygier, 2013:219) underscores the unity between Polish business and the government in their ETS opposition.

The negotiations on the CCS proposal introduced significant changes in measures for incentivizing CCS. The only incentive provided in the Commission proposal had been the expected ETS carbon price, as operators would not have to purchase stored emissions. The European Parliament managed to shift the focus towards financing and making CCS commercially viable by setting aside carbon allowances from a new entrants' reserve – emission rights for new entrants under the ETS – to co-finance CCS demonstration plants. (Chiavari, 2010). It also proposed CO₂ emissions limits on power stations, to force the use of CCS on future coal power – but this was opposed by Poland and other coal-dependent CEECs, expecting high CCS costs. After long and complex negotiations, it was agreed that 300 million allowances from the ETS New Entrants'

¹³ Poland particularly opposed full auctioning from 2013.

¹⁴ <http://www.proinwestycje.pl/ets/notatkabrukselaen.pdf>. Accessed May 2014.

Reserve (NER-300) would be set aside to co-finance up to 12 commercial CCS demonstration projects and new renewable energy technologies.

Concerning the RES Directive, also domestic actors were engaged in influencing the Polish position. In August, the Polish electricity association PKEE responded to the Commission's proposals,¹⁵ arguing that the package would damage the Polish economy by reducing GDP dramatically and raising electricity prices by 60%. According to a report prepared by the PKEE, the proposed RES target for Poland should be reduced from 15 to 12.5% to minimize the negative impacts (ENDS, 4 August 2008).¹⁶ The PKEE was apparently at odds with a draft national energy strategy for 2030 released at the same time, where it was assumed that Poland would meet the renewable energy targets proposed by the Commission in January. Still, Poland argued for a lower share than a 15% increase in RES (Ancygier, 2013:333), although this was put forward with significantly less intensity compared to the ETS derogations. For sectors outside the ETS included in the Effort Sharing Decision, Poland accepted a generous national target of 14% increase in GHG emissions by 2020 compared to 2005.

On 12 December 2008, a final compromise was reached on the EU ETS. First, Poland and other CEECs won concessions postponing the phase-in of auctioning for power plants. In 2013, certain stations would get up to 70% of all allowances for free, decreasing towards zero by 2020. Eligible installations would be those that were poorly integrated in the European grid or that individually provided more than 30% of national electricity in countries with relatively low GDP. These derogations from the main auctioning principle ended up as Article 10c of the revised EU ETS Directive. Eight of the ten new member states that joined the EU in 2004 have made use of these derogations.¹⁷ The snag was that, in exchange for free allocation, these eight member states would have to develop national plans to make their electricity sectors more efficient and diversify their energy mix through investments worth at least the same as the value of the free allowances.¹⁸

Second, as to solidarity, 88 % of allowances to be auctioned each year would be distributed to the member states. Ten percent would be distributed to poorer member states, as proposed by the Commission. Two per cent would go as a bonus to member states whose GHG

¹⁵ PKEE is a member of Eurelectric; it comprises Poland's largest power companies, including Energa, PGE, Tauron and Enea.

¹⁶ In general, PKEE reflects the main positions of the Polish government. It focuses on energy efficiency and global climate solutions and is sceptical to the EU ETS, RES, EU decarbonization by 2050 and, more generally, measures that could make it more difficult for future investments in coal (PKEE). See: http://www.pkee.pl/upload/files/Stanowisko_PKEE_kom_ws_interw_encji_pa_stwa_0_5122013_eng.pdf http://www.pkee.pl/upload/files/pkee_en_1_edit.pdf; http://www.pkee.pl/upload/files/20130214_PKEE_position_paper_Carbon_Market_Report_FINAL_1_.PDF (Accessed 06.02.14)

¹⁷ Malta and Latvia would also qualify, but have chosen not to make use of the derogation. The Commission has accepted all the applications received.

¹⁸ <http://www.theguardian.com/environment/2012/jul/11/coal-energy>; http://www.cleantechpoland.com/?page=news_old&id=420. Accessed 11.02.14

emissions in 2005 were at least 20% below their 1990 emissions: the CEECs. At least half of the auctioning revenues should (i.e. recommended, not binding) be used to finance adaptation and mitigation. Finally, Poland did not get a carbon price ceiling.

The upshot was great variation in the 'distance' between Polish policies and positions put forward with differing intensities and the negotiated outcome. Poland strongly opposed a more ambitious ETS and managed to get several concessions. However, these concessions did not meet Polish demands by far. On RES, Poland was positive to co-firing biomass and coal, but had to accept a somewhat stricter RES target than preferred. Poland welcomed the CCS Directive and the NER-300, but successfully defeated an initiative to link CCS to emissions limits on power stations. The proposed Polish ESD target of 14% increase in emissions was seen as generous and was accepted without any resistance.

5 Implementing the package

The climate and energy package was politically agreed in December 2008, formally adopted in 2009 and implemented through further deliberations on various remaining issues through comitology procedure and by national follow-up plans. According to an assessment by the European Environment Agency, Poland has been neither a leader nor a laggard in implementing measures to achieve the 20–20–(20) targets to date (EEA, 2013). However, this assessment obscures the transposition and application of the EU ETS, RES, ESD and CCS legislation in Poland.¹⁹

The EU ETS

Concerning the second NAP (2008–2012), the Polish government strongly opposed the Commission's response. Most observers believed that it would be a waste of time and energy for Poland to take the case to the court; however, Poland did take the case to court – and, surprisingly, won the case in the European Court of First Instance. In December 2009, the Commission rejected the proposed Polish NAP for a second time. However, the Commission had changed its initial decision slightly (basing the new decision on new 2008 verified data) to take the court ruling into account (ENDS, 11 December 2009). It upheld that Polish installations would be allowed to emit only 208 million tonnes of CO₂, as against the 284 million proposed by Poland. In April 2010, the Polish government accepted the Commission's initial downsizing proposal. The government did not challenge the Commission this time, fearing an even tighter cap due to the financial crisis and the drop in ETS emissions from 2008.²⁰ Moreover, Poland received a final warning for its failure to transpose the 2008 Directive (2008/101/EC) on inclusion of aviation in the ETS by 2 February 2010. In 2011, the Commission threatened to refer the case to the European Court of Justice and request financial penalties.

Poland did not transpose the revised EU ETS (2009/29/EC) for the third phase (2013–2020) by 31 December 2012, as required. In September 2013, Poland (and Slovenia) received a Reasoned Opinion from the Commission.²¹ Article 10c of the Directive specifies the derogation from auctioning in the electric power sector to protect consumers in the new member states from sudden rises in electricity prices and help with modernizing the power sector. The member state concerned must submit a plan to the Commission, providing for investments in retrofitting, upgrading of energy infrastructure and clean technologies, and provide for diversification of the energy mix for an amount equivalent to the market value of the free allocation. The derogation applies only to instal-

¹⁹ Energy efficiency will be briefly included in the ESD analysis. The 20% energy efficiency target was not binding; and energy efficiency was adopted independently from the core package and according to a different time schedule.

²⁰ http://europa.eu/rapid/press-release_IP-10-442_en.htm. Accessed 17.11.14

²¹ The second stage in EU infringement process. http://europa.eu/rapid/press-release_MEMO-13-820_en.htm. Accessed 04.03.14

lations in which investment had been made (under construction) before December 2008.

A draft list of power installations eligible for free allowances was issued by mid-2011 to meet the two criteria: initiated before the end of 2008, and submission of an investment plan for clean technology equivalent to the market value of the free allowances. The full list submitted in September 2011 included 145 existing installations (405 million EUAs) and 31 planned installations initiated before the end of 2008. The list triggered fierce criticism from environmental lobby groups like ClientEarth and CAN-Europe, who claimed that it included fake 'phantom' power stations that would benefit from free allowances. Investigation apparently revealed that one of the 'installations' was in fact being used by local farmers to grow maize crops.²² In addition, it was charged that planned coal-power stations were listed as installations in the national investment plan for clean technology. In essence, Poland was blamed for using the derogations under the revised ETS to reinforce the dominance of its coal-fired power plants.

In 2012, a ruling by the Commission excluded 30 of the planned plants 'owned' by both Polish and foreign companies like GDF Suez, Stora Enso and Vattenfall. According to the Commission: 'The Commission's decision also stipulates that certain investments proposed by Poland, primarily concerning new coal-based generation capacity, may not be used to justify the allocation of free allowances.'²³ This ruling, which Poland accepted, was described as elegant and linked to the fact that there would not be enough time to construct the plants within the third phase of the ETS, i.e. by 2020.

In spite of the derogations, there would still be some revenues from auctioning, as only 70% of the allowances could be distributed for free from 2013. Article 10 (3) of the revised ETS stipulates that member states are to determine the use of the revenues generated – at least 50% of these revenues should be used to reduce GHG emissions, develop low-carbon technologies, forestry activities, low-emission transport, R&D, energy efficiency and administrative management of the EU ETS. This provision is not legally binding, but some countries such as Germany declared that 100% of the revenues would go to climate and energy projects. In Poland, the Ministry of the Environment and the Ministry of Economy preferred earmarking, and the Ministry of Finance preferred revenues to the general budget (ENDS, 3 June 2013). The Finance Ministry got its way.

Transition to auctioning of allowances required a system to administer the auctioning process. The Commission argued for a centralized auctioning system from 2013, but this was opposed by Poland, the UK and Germany. In 2010, the Commissions backed down and accepted opt-outs from the centralized system (ENDS, 8 April 2010). Germany and the

²² <http://www.federacciai.it/pdf/rassegnastampa/giornale/new/2012/07/12072317.pdf>.

Accessed 17.11.14

²³ http://ec.europa.eu/clima/news/articles/news_2012071301_en.htm. Accessed 05.03.14.

UK appointed their ‘own’ auctioning platforms, but Poland failed to list an auctioning platform.²⁴

Energy-intensive industry exposed to international competition and at risk of ‘carbon leakage’ will continue to receive free allowances until 2020 and beyond. Free allocation is to be carried out on the basis of product benchmarks that reward best practices in low-emissions production. Member states must calculate the number of free allowances to be allocated to each installation in National Implementation Measures (NIMs). Poland was one of the first member states to submit its NIM in 2011. However, it opposed the benchmark rules for energy-intensive industry, arguing that the fuel mix should be taken into account, and threatened to take the case to the European Court of Justice. The Commission was confident it would win, as the ETS Directive makes it clear that benchmarks are to be established for products. All the same, Poland took the case to the court, where it lost in March 2013. The court ‘dismissed in its entirety’ the action brought by Poland against the Commission and argued that a distinction according to the fuel used would encourage installations to use more carbon-intensive fuels and lead to an increase in emission (ENDS, 8 March 2013)²⁵.

The Commission also designed state-aid rules for energy-intensive industries facing rises in indirect electricity costs under the ETS. In general, governments expressed their preference for strict rules, to avoid overcompensating industry. Some even argued that no compensation was necessary: compensation for increases in electricity prices would reduce incentives for investing in abatement measures. However, Poland (and Germany) wanted the proposed list to be expanded, with compensation made available for all indirect costs (ENDS, 10 April 2012). The Commission had proposed 85% compensation in 2013, falling to 75% by 2020. In 2012, the state-aid rules were adopted, allowing 85% compensation – in line with the original proposal.²⁶

In parallel with safeguarding the implementation of the revised ETS directive, DG Climate Action worked to strengthen the ETS system. The surplus of allowances caused by the economic crisis and the high import of external credits led to a significant drop in the carbon price that was expected to last until 2020, unless countermeasures were taken (Skjærseth, 2013). DG Climate Action responded by proposing a regulation to postpone or ‘backload’ auctioning of 900 million allowances from the beginning to the end of the 2013–2020 period. Backloading, while expected to stabilize the carbon price, would not solve the surplus problem in the long term, as it does not permanently remove the allowances from the market. Most energy-intensive industries resisted any measures aimed at fixing the ETS. Poland joined these industries and opposed any interference in the carbon market. What Poland proposed instead was a measure most likely to increase the surplus problem: that countries with surplus credits under the Kyoto

²⁴ Poland has decided to use EEX, which is the official platform, on its behalf.

²⁵ <http://www.bbc.com/news/world-europe-21712295>. Accessed 17.11.14.

²⁶ http://europa.eu/rapid/press-release_IP-12-498_en.htm. Accessed 04.03.14.

Protocol's first commitment period should be allowed to use them in the ETS (ENDS, 18 April 2012). The backloading proposal was adopted in the autumn of 2013.

Thus we see that Poland continued its systematic efforts to make the ETS fit with its coal based electricity production also after the adoption of the revised ETS Directive. Poland did not accept the 2008–2012 NAP; it failed to transpose the extension to aviation or the revised ETS on time; it exploited derogations for free allowances in the power sector to reinforce coal power; it did not decide to use revenues from auction to climate projects; and it opposed benchmark rules based on products, limitations in state aid for energy-intensive industry and backloading to stabilize the carbon price at a low level. This resistance proved generally unsuccessful: Poland lost in most instances, and had to accept the Commission's interpretation or the will of the qualified majority.

Carbon Capture and Storage (CCS)

The CCS Directive (2009/31/EC) establishes a legal framework for safe geological storage of CO₂. Transposition of this Directive determines whether new modernized coal plants will be made CCS-ready. In 2011, the IEA advised Poland to transpose the CCS Directive swiftly, in order to give clarity to investors in the power sector (ENDS, 1 April 2011).

Europe's coal-fired power plants have an average age of 34 years (Ecoprog, 2012). Between 2012 and 2020, approximately 80 power-plant units will be newly constructed or replaced, and others shut down. In Poland, PGE has the youngest fleet, averaging 24 years; Energa's fleet is on average 41 years old.²⁷ Nearly half of Poland's coal plants will be retired by 2030. These will be replaced by new coal plants, since coal is strategically included as the main fuel for electricity generation in the future (Ministry of Economy, 2009). PGE, for example, plans to build two new installations at Opole power plant and replace one installation by 2020. The company has also been granted a permit for developing a new lignite mine that may take up to 20 years to develop. Existing plants in Poland are among the world's oldest, smallest (as units) and generally least suitable for CCS retrofitting (IEA, 2012).

Transposition of the CCS Directive in Poland has been a lengthy and somewhat confusing process. On the one hand, the government has taken CCS seriously and has had a genuine desire to make a workable legal framework (Jendroska, 2014). This is in line with the Energy Policy Plan 2030 adopted in 2009, which stipulates R&D in various low-carbon technologies, including CCS (Ministry of Economy, 2009). Poland has favoured on-shore storage; public opposition has been low compared to, for instance, in Germany and the Netherlands. Poland has ample CO₂ storage capacity – estimated to 6–7 GtCO₂, with deep saline aquifers accounting for the largest share (IEA, 2011). On the other hand, national legislation for transposing the CCS Directive was not agreed until

²⁷ <http://www.gkpge.pl/en/pge-group/who-we-are>. Accessed 28.08.14.

September 2013, more than two years after the deadline.²⁸ As of 2014, two regulations are still being drafted to enable full implementation of the CCS Directive.²⁹ Polish legislation restricts regulation to demonstration projects only – which is not very ambitious, but is in accordance with the European Commission’s interpretation of the CCS Directive.³⁰ Finally, the Polish government has cancelled further work on a roadmap for CCS in Poland. Such a roadmap, identifying the country’s storage potential, is needed to assist decisions on where new low-carbon power plants should be built in the future.

The Polish government (the Ministry of the Environment and the Ministry of Economy) aimed to build two large demonstration projects by 2015 as part of the wider EU CCS programme.³¹ The first was the PGE-owned Belchatow power plant, the largest coal plant in Europe, where post-combustion was initiated in 2009 on an 858 MW lignite-fired unit under construction.³² The captured CO₂ would be transported to a saline aquifer storage site. Total investment was estimated at €600 million, to be provided from the EU Economic Programme for Recovery (€180 million), NER-300, corporate investment and various other grants, including Norway EEA grants. The second project was the hard-coal Kedzierzyn SA plant where pre-combustion CCS was planned by ZAK and PKE, assuming 90% capture. Total investment was estimated to € 1.4 billion, which could be justified by significant benefits: replacement of old and inefficient units at Blachownia power plant, provision of heat for the town of Kedzierzyn, and greater energy security by reducing imports of oil and gas.

Both projects have now been cancelled. Belchatow was called off in April 2013 – mainly due to lack of funding, but also because of legal barriers.³³ According to the company, the legal barriers stemmed from the late transposition of the CCS Directive in Polish legislation (ClientEarth, 2013: 42). That has also contributed to problems with assessing the CCS-readiness of new coal-powered plants.³⁴ The reason can be found in Article 33 of the CCS Directive, which introduces amendments to Article 9a of the Large Combustion Plants (LCP) Directive (2001/80/EC).³⁵ For all new combustion plants with an output of 300 megawatts or more, this amendment obliges the relevant authorities of member states to assess whether storage sites and transport facilities are available and whether it is technically and economically feasible to retrofit CO₂ capture.

²⁸ Poland was well ahead of several other member states as regards transposition; see http://ec.europa.eu/clima/news/articles/news_2013112102_en.htm. Accessed 10.03.14.

²⁹ E-mail from the Ministry of Environment, Geology Department. On file with author.

³⁰ According to several green groups, among them Client Earth, Greenpeace and Bellona, this restriction is not in accordance with the Directive.

³¹ Data in this section are taken from IEA, 2011.

³² <http://www.pgegiel.pl/index.php/ccs/ccs-demonstration-plant/>. Accessed 12.03.14

³³ <http://sequestration.mit.edu/tools/projects/belchatow.html>. Accessed 12.03.14

³⁴ This is referred to in Article 9a of the Large Combustion Plants Directive.

³⁵ Replaced by the Industrial Emissions Directive, 2010/75/EU.

According to Client Earth, the authorities failed to force investors to assess CCS readiness in the construction of the new Polnoc plant, but assessment was nevertheless undertaken on the initiative of the investors. In the case of the extension of the Opole power plant, ClientEarth appealed against the government decision for failure to require assessment of CCS readiness. ClientEarth lost the case: according to the court, the argument that Article 9a of the LCP Directive had been violated could not be taken into account in the absence of relevant provisions for assessment of CCS-readiness in Polish legislation (ClientEarth, 2013:43). As noted above, two CCS regulations are still not implemented.

Thus, late transposition of the CCS Directive has been a factor contributing to the cancellation of CCS demonstration projects, although lack of funding is the main reason. This lack of funding is due in part to the low carbon price, which has weakened NER-300 and generally provided scant incentives for CCS investments. Late transposition has also led to failure of CCS-readiness assessment for new plants. And so, this low-carbon opportunity particularly tailored for coal plants and for countries like Poland is dead for the time being.

RES Directive

Polish renewable energy policy is increasingly guided by EU directives. The RES Directive (2009/28/EC) includes a binding target for Poland to increase the share of RES from 7.2% in 2005 to 15% in 2020 (of gross final energy consumption) along a trajectory of interim targets. For transport, the Directive requires that 10% of energy use must come from biofuels or other renewables by 2020.³⁶

The EU RES target is reflected in various policy strategies. The Energy Policy Plan 2030 was prepared by the Ministry of Economy and adopted in November 2009. It sets the same targets as in the RES Directive. Existing support measures (green certificates, biofuels obligation, excise duty exceptions) in transport and electricity will be retained, whereas additional instruments are envisaged for renewables in heating and cooling. The plan aims to stimulate a range of technologies, including offshore wind farms, but pays particular attention to biomass as well as biogas. In 2010, the same ministry published Poland's National Renewable Energy Action Plan (NREAP) for implementing the RES Directive.³⁷ It outlines existing policies and measures for electricity, heating and cooling and transport, and foresees subsidies to renewables and co-generation projects. Biomass is expected to remain the country's principal source of renewable energy, but the greatest growth is expected in solar and wind. The plan was promptly criticized by the Polish Wind Power Association (PSEW) for underestimating the potential of windpower by not giving it a more prominent role (ENDS, 9 June 2010).

³⁶ The RES target transport will not be analysed here. The transport sector will be analysed as part of the ESD.

³⁷ http://ec.europa.eu/energy/renewables/action_plan_en.htm

In the electricity sector, the main policy instrument is green certificates.³⁸ The green certificate system is technology-neutral: for instance, wind and solar energy must compete on equal terms with co-combustion of biomass and coal. Poland also has various other RES measures, including subsidies for grid connection, loans and grants.

However, legal transposition of the RES Directive has had a bumpy ride in Poland. All member states were to have transposed the Directive by 5 December 2010. In January 2011, Poland received a letter of formal notification, and in March 2012 came a reasoned opinion. In March 2013, the European Commission referred Poland (and Cyprus) to the Court of Justice for failure to transpose the RES Directive. The Commission proposed daily penalties of € 13,3228.80 based on the duration and gravity of the infringement.³⁹ Poland responded by adopting the ‘Small Tri-Pack’ Act of 26 July 2013 that amends the Energy Act, which entered into force in September that year.⁴⁰ The Act does not concern renewables specifically, but introduces amendments to the green certificate system. It is seen as a ‘minimum’ solution, and legal experts disagree as to whether it will prove sufficient for the Commission.⁴¹

Three main issues have delayed transposition and reduced renewables as new and viable energy source in Poland. First, a recurrent issue has been whether the RES Directive should be implemented by a new renewable energy law or by amendments to existing energy legislation. The former option has been favoured; various drafts have been proposed, and a new department to oversee implementation was established in the Ministry of Economy in 2012. A second recurrent issue has been whether new legislation should reduce support for co-firing biomass and coal and increase support for less mature technologies by means of feed-in tariffs. Nearly half of the financial support for renewable energy has been going to co-firing biomass with coal. The green certificate system is planned to continue until 2017, or 2020 at the latest. That means that a significant part of Poland’s renewable energy increase may prove short-lived if coal becomes cheaper than biomass.⁴² Co-firing has contributed to oversupply of green certificates, low demand from energy retailers and a low value of the certificates (ENDS, 4 March 2013). In addition, co-firing does not contribute to development in renewable industries, and may possibly lead to deforestation. Finally, should a new system stimulate large energy companies – or smaller local ones (as in Denmark and Germany)?

³⁸ Electricity suppliers must buy a certain percentage of electricity from renewable sources (green certificates) or pay a fee. The obligatory share was set at 5.1% in 2007, increasing to 12.9% by 2017 (IEA, 2011).

³⁹ http://europa.eu/rapid/press-release_IP-13-259_en.htm. Accessed 13.03.14.

⁴⁰ <http://www.lexology.com/library/detail.aspx?g=6c994a3d-1f4e-4419-b452-7b4ba832be01> and <http://www.clientearth.org/reports/130816-climate-and-energy-clientearth-small-tripack-legal-analysis-eng-final.pdf>. Accessed 13.03.14

⁴¹ The penalty case is still pending in the Court.

⁴² Co-combustion is conducted mainly in outdated old boilers. These installations are covered by the Transitional National Plan for upgrading large combustion plants, which will remain in force until 2020, when biomass co-combustion is to be disconnected from the national energy system.

As a result of these issues, the implementation process in Poland has been characterized by draft proposals, consultations, amendments and new draft proposals. In July 2012, the Ministry of Economy proposed revising the green certificate system, with the aim of scrapping subsidies for co-firing, and providing stronger support to decentralized wind and solar in particular (ENDS, 30 July 2012). The large coal-based energy companies were opposed: indeed, the French utility GDF Suez in Poland responded by threatening to take legal action, as the company had invested in a power plant for co-firing biomass with coal. In September 2013, the draft of a quite different proposal was proposed by the Second Cabinet of Donald Tusk, based on an auctioning system where producers must bid for new capacity and the state would guarantee sales to the lowest bidders. Existing installations could then choose to join the auctions or stay with the certificate system. The latest draft is aimed exclusively at the 2020 target; designed for large companies, it represents a continuation of 'dedicated' co-firing. As a result of the legal uncertainty, investments in windpower have slowed down.⁴³

On the whole, Poland has faced significant challenges in transposing and applying the RES Directive.⁴⁴ Various policies and measures are in place to stimulate renewables, and the country is currently on track towards its 15% 2020 target. However, implementation of the RES Directive is likely to stimulate mainly short-lived co-combustion of coal and biomass as well as some windpower by the big energy companies. That will provide limited opportunities for new business development and new low-carbon energy for the future.

The ESD

The Effort Sharing Decision (ESD) establishes differentiated annual GHG emission targets for the member states, 2013–2020. These targets are based on economic wealth, measured by GDP per capita.⁴⁵ Targets comprise emissions from most sectors not included in the ETS, such as buildings, transport agriculture and waste. The ESD sets national emissions targets for 2020 as a percentage change from 2005 levels. As a relatively poor EU country, Poland is allowed to increase its emission by 14%.

As noted, Poland is on track to meet its ESD target. As it plans to meet the 14% target by 2020 based on the current set of existing measures (EEA, 2013:108), implementation of policies and measures is apparently not needed beyond other coordinated EU policies covering the non-ETS sectors, such as EU policies on energy efficiency. However, challenges may arise in the transport sector.

⁴³ <http://www.ft.com/intl/cms/s/0/1fc54398-b703-11e2-a249-00144feabdc0.html#axzz35f0s8s7s>, accessed 25.06.14.

⁴⁴ The old and weak transmission grid is also a key barrier to renewables in Poland (IEA, 2011).

⁴⁵ The ESD also stipulates how annual emission allocation in tonnes for each year is to be calculated.

Between 1990 and 2009, the number of passenger cars per capita rose threefold and GHG emissions from the transport sector almost doubled in Poland (OECD 2012: 112). In 2008, the transport sector (mainly road transportation) was the second largest cause of Polish CO₂ emissions. Energy demand from the transport sector is expected to increase by more than 60% by 2030 compared to the 2008 level (IEA, 2011:42). The Polish transport sector is affected by the EU Regulation (443/2009) on CO₂ emissions from new cars, but the country's climate policies to meet the transport challenge are considered limited, general or too weak. Recommendations for improving climate policies include annual car taxes with a CO₂ component and more balanced investments in railroads and motorways (OECD 2012; IEA, 2011). The Energy Policy Plan 2030 does not include measures for the transport sector beyond biofuels as part of the RES Directive (Ministry of Economy, 2009). Poland's reluctance to implement climate policies in the transport sector spills over into its opposition to more ambitious coordinated EU policies. In 2010, Poland opposed a proposed 2020 target to cut CO₂ emissions from vans (ENDS, 16 March 2010). In May 2011, it joined other member states in showing little enthusiasm for the Commission's transport White Paper that aimed for a 60% reduction by 2050 compared with 1990 levels. Poland argued that the target would reduce mobility and economic activity (ENDS, 30 May 2011). Finally, in 2013, Poland sided with Germany in calling for a revised draft on car emissions with less stringent targets, to ease the pressure on European car manufacturers.⁴⁶

Energy-efficiency measures in the residential and service sectors will also deliver contributions towards the EU target of 10% reduction in the non-ETS sectors by 2020 (EEA, 2013:93). Targets set in Poland's 2030 EPP reflect the EU's goal of 20% improvement in energy efficiency. Poland aims to offset increase in primary energy demand from economic growth and to bring energy intensity to the current EU-15 level (Ministry of Economy, 2009). Furthermore, Poland has introduced a system of 'white certificates' to attract energy efficiency investments. White certificates can be seen as an alternative to a carbon tax for diffuse energy consumption of households and small companies that are not part of the ETS. Nevertheless, the OECD recommends that the scheme be directly aimed at CO₂ reduction rather than energy savings (OECD, 2012:117). Due to high use of coal for heating and hot water, and poor thermal insulation, residential and commercial buildings are responsible for 11% of Poland's GHG emissions (OECD, 2012). In 2008, Poland transposed the EU Directive on the Energy Performance of Buildings.⁴⁷ The Directive includes minimum energy-performance standards for new and renovated buildings, and a system of energy performance certificates. The Polish government also provides financial support to energy-efficiency improvements in the building sector, through a Thermo-Modernization Fund. According to the OECD (2012:117), the energy-performance certificate system should be extended to cover CO₂ emissions as well.

⁴⁶ <http://thebricspost.com/eu-warns-poland-over-emissions-quotas/#.Ux2DSf15NvA>. Accessed 10.03.14.

⁴⁷ The Directive was revised in 2010 (2010/31/EU); in 2013, Poland was formally requested by the Commission to ensure full compliance.

In summary, Poland expects to meet the target of 14% increase in emissions by 2020 in sectors not covered by the ETS, without any new climate policies and measures. This optimism is not shared by all, however: concerns have been raised particularly concerning rising emissions in the transport sector.

Towards 2050 decarbonization

Implementation of the EU climate and energy package has not proved to be a ‘game changer’ for Polish climate and energy policy. For sectors not covered by the EU ETS, the ESD has not led to any new climate policies, and emissions are expected to grow in line with the generous target that allows a 14% increase in emissions by 2020 compared to 2005. Emissions from the transport sector in particular are expected to grow dramatically by 2030 in the absence of new policies. Although Poland’s energy-efficiency measures have been criticized by the OECD, they seem likely to have an impact on the building sector at least.

Coal is the main challenge in the ETS sectors. According to the Energy Strategy for 2030 adopted in 2009 – after the climate and energy package – Poland is determined to continue with indigenous coal for electricity production as long as possible. Old plants will be replaced by new and more efficient plants. The coal strategy is widely supported by among the Polish public. In a Eurobarometer survey, Poland emerged as the country among 12 countries surveyed where the use of coal was most strongly endorsed as an energy source, with 68% in favour (Eurobarometer, 2011). Implementation of the RES Directive as a mean to stimulate co-firing of coal and biomass is tailored to absorb, not transform, the Polish coal strategy. Coal is also the main reason why Poland dislikes the EU ETS and is concerned about a high carbon price that will ‘punish’ coal. CCS could have brought emissions down without compromising the coal strategy, but this solution is not in the cards.

According to the IEA (2011), the prospects for Poland’s coal industry are mixed. Thanks to ongoing productivity improvements, several hard-coal mines can have a profitable future. Vertically integrated companies in the lignite sector are considered very competitive for base-load power production. However, the whole industry faces significant environmental challenges. Extraction of both hard coal and lignite will decrease significantly by 2030 unless new mines are opened. New lignite mines were opened recently (ENDS, 25 October, 2013).

Poland foresees a significant increase, especially in electricity and gas demand, by 2030. Such increases in demand are to be met by energy-efficiency improvements and by diversifying the energy mix. Poland plans to invest €25 billion in eight new coal plants, nuclear and LNG (ENDS, 22 November 2012). By the end of 2014, Poland will have the first LNG terminal built in Swinoujscie.⁴⁸ Poland has remained determined to build nuclear power plants by 2025 even after the Fukushima

⁴⁸ http://ec.europa.eu/energy/cepr/projects/files/gas-interconnections-and-reverse-flow/poland-swinoujscie_en.pdf. Accessed 14.03.14

accident in Japan in 2011. However, realization hinges on localization and financing. Poland has also been active in exploring shale gas, but only about 80 of 300 drillings needed to estimate the potential have been conducted to date.

Conclusions

Poland has encountered significant transposition problems concerning the EU's ETS, RES and the CCS Directives. It systematically opposed most aspects of the revised ETS and took the Commission to court on various occasions, although with little success. The RES Directive was to have been transposed by 2010, but the final ruling on daily penalties is still pending (2014). The CCS Directive has still not been fully transposed in Polish legislation. As for the ESD, it is a binding decision and does not require legal transposition.

Polish application has not been encouraging. All CCS pilot projects have been cancelled concurrent with the process of transposing the CCS Directive. Late transposition has created legal uncertainties for investors, in turn affecting cancellations. The RES Directive has mainly stimulated co-firing of biomass and coal, and transposition problems have created uncertainties for investors in windpower. Poland has tried to apply the ETS to make it fit coal. It has also opposed EU measures to deal with over-allocation of allowances and the low carbon price. Poland has not applied any new policies and measures under the ESD.

Assessed against the 2020 targets, Poland's implementation of the climate and energy package may very well prove a 'success' in the short term. The 15% RES target is within reach, and so is the 14% ESD target. The CCS Directive does not require new plants to be constructed, and there are no national targets for the ETS sectors. However, assessed with a view to 2050 decarbonization, the picture looks quite different. The main purpose of the EU climate and energy package and the 20-20-(20) targets has been to set the member states on a pathway towards a low-emissions economy, in line with the IPCC target of preventing global average temperature increase above 2° C. Poland intends to continue with coal as its primary energy source in the foreseeable future. Diversification by renewables may be short-lived, due to implementation of the RES Directive mainly by means of technology-neutral green certificates that favour co-combustion of coal and biomass. There are no plans for continuing with this system after 2020, and the share of renewables may decline if coal becomes cheaper than biomass. Late transposition of the CCS Directive and problems with financing have contributed to cancellation of all CCS pilots and the failure to make new plants CCS-ready. Finally, Poland lacks a specific climate policy, and that makes it difficult to curb rising emissions in the non-ETS sectors, transport in particular.

In essence, Poland has mainly opposed and reluctantly accepted the climate and energy package and then absorbed it, to make it fit with existing policies and the country's energy mix. Transposition and application of the various policies have not yet led to any significant changes in policies and behaviour, however.

6 Explaining implementation

6.1 Fit and adaptation pressure

The fit between EU requirements and the Polish situation – assessed in terms of the ‘distance’ between pre-existing policies, energy-economic situation, negotiating positions and the final negotiated EU outcome – has varied significantly with the specific EU climate and energy policies. A nearly unified Poland has opposed the EU ETS ever since joining the EU, and unsuccessfully challenged the Commission over the first and second NAPs. In the negotiations and implementation of the revised ETS, Poland demanded that 30% of the revenues from auctioning should be allocated to a solidarity fund, but ended up with the proposed 10% plus a 2% bonus, together with other CEECs. Poland preferred free allowances to the power sector; it got 70% from 2013, declining to zero in 2020, with strings attached aimed at diversifying the energy mix. Poland also demanded benchmarks for energy-intensive industry based on the energy mix rather than on products. Further specification of the revised ETS Directive by the Commission and in comitology failed to reduce this pressure. Poland opposed various issues, but lost in most instances.

It is reasonable to conclude that the fit concerning the ETS was low, as the revised ETS deviated significantly from Polish policies and positions. Also the fit with the energy mix was low. The EU average share of coal in gross inland consumption is 17%, as against over 50% in Poland in 2012.⁴⁹ In the EU, about 30% of electricity is produced from coal, compared to nearly 90% in Poland.⁵⁰ Polish electricity production is based mainly on indigenous coal, responsible for about 50% of total CO₂ emissions. Carbon pricing is most costly for coal: different fuels emit different amounts of CO₂ in relation to the energy they produce, and hard coal (anthracite) emits almost twice as much as natural gas.⁵¹

The economic crisis has, however, eased the pressure from carbon pricing. The crisis contributed to a drop in emissions in the ETS sectors. By early 2012, a surplus of 955 million allowances had accumulated, rising to 2.1 billion by the end of 2013. Increasing supply of allowances combined with low demand is partially reflected in the evolution of the carbon price since 2008 (Commission, 2012). The carbon price plunged from nearly €30 in spring 2008 to just above €5 in spring 2014, with a significant reduction in the second half of 2011 coinciding with an accelerated build-up of allowances and international credits. The amount of surplus allowances by 2020 and beyond will depend on ETS reform, the speed of economic recovery in Europe and various energy factors,

⁴⁹ http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Energy_trends (accessed 14.11.14).

⁵⁰ http://www.energy.eu/publications/KOAE09001_002.pdf (accessed 14.11.14).

⁵¹ <http://www.eia.gov/tools/faqs/faq.cfm?id=73&t=11> (accessed 14.11.14).

such as the development of renewable energy, and energy efficiency in the ETS sectors.⁵²

As expected, low fit and high adaptation pressure has corresponded with strong opposition and efforts to absorb changes by implementing the ETS to make it suit coal-based electricity production. Indeed, the combination of low fit and high adaptation pressure resulting from the negotiations is a reasonable explanation of Poland's opposition and implementation challenges. The ETS was originally adopted before Poland entered the EU, and Poland has opposed the system ever since. Moreover, in January 2009, the EU sought to consolidate the EU ETS by facilitating an agreement, intended for the upcoming Copenhagen Summit, on an OECD-wide carbon market by 2015. This ambition seemed quite realistic, given the signals from President Obama that a federal cap-and-trade system would be created in the USA as well. Then those plans stalled in the US Congress, and an OECD-wide carbon market became totally unrealistic for the foreseeable future – also threatening future support of the unilateral EU ETS. An OECD-wide ETS could have eased the adaptation pressure for energy-intensive industries exposed to international competition.⁵³ However, relatively few industrial sectors are electro-intensive in Poland. The most exposed sectors are non-ferrous metals, iron and steel, and chemicals (Sartor and Spencer, 2013).

The RES Directive was not particularly favoured by Poland, which argued for a somewhat lower RES share than proposed by the Commission. Poland expressed particular concern for increase in electricity prices resulting from RES subsidies, which would add to the carbon price. Still, it did not insist on a lower share, and accepted the 15% target. As Poland strongly opposed revision of the EU ETS, it had to prioritize its resources terms of time, energy and political 'capital' in the 2008 negotiations.⁵⁴ Concessions to Poland on the ETS would make it more difficult get concession on RES, as 27 member states had to agree on the package in one round. Combined with an ongoing RES policy based on technology-neutral certificates stimulating co-combustion of coal and biomass, existing Polish RES policy was tailored to fit the interests of the large coal plants. As a result, the relationship between EU requirements and Poland's implementation of the RES Directive is only partly in line with expectations. Despite only moderate misfit, Poland has experienced significant transposition and application problems.

Regarding CCS, the fit was high and the adaptation pressure low. Poland saw in CCS a new low-carbon opportunity in its 2009 energy policy plan that fit well with plans for replacing old coal burners with new ones that could be linked to CCS. Poland supported the CCS Directive and NER-300. There was a genuine willingness to develop CCS pilot projects based on a workable legislation, and public opposition was low. Thus, we

⁵² Increasing diffusion of renewable energy and energy efficiency in the EU ETS sectors can reduce the demand for allowances, further fuelling increases in the imbalance between supply and demand.

⁵³ Due to limited transmission capacity, the electric power industry is not exposed to international competition beyond Europe.

⁵⁴ This interpretation is also supported by Acygier, 2013.

see that the relationship between adaptation pressure and Poland's implementation of the CCS Directive is not in line with expectations. Despite high fit, Poland has experienced significant transposition and application problems regarding CCS.

The ESD target fit well with the lack of an ambitious climate policy. Poland has not adopted a new climate policy since 2003. The ESD did not place any pressure on Poland, as new policies and measures were not needed to achieve the target of 14% increase in emissions. This shows how low pressure, no implementation and goal attainment to date go hand in hand.

Tab 1: Relationship between 'fit' and implementation response: Expected vs actual

EU legislation	'Fit'	Expected response	Actual response
ETS	Low	Opposition/ implementation 'failure'	Opposition/ implementation challenges ¹
RES	Medium	Acceptance/some implementation challenges	Acceptance/significant implementation challenges
CCS	High	Support/ implementation	Support/implementation 'failure'
ESD	High	Support/implementation	Support/ no need for implementation ²

¹The ETS is an EU-level instrument where companies/installations can buy and sell allowances in a common European market. This makes it impossible to measure implementation and national goal attainment.

² No need, according to Polish authorities. Whether existing policies will prove sufficient to achieve the 2020 target for 2020 remains to be seen.

Taken together, the proposition outlined in section two has proved difficult to assess due to the differing nature of the EU instruments and the time that remains until 2020. Still, observations indicate that there is no systematic relationship between fit and adaptation pressure and implementation challenges – observations are in line with expectations for two out of four cases. However, it is evident that a package of policies negotiated at the same time has led to varying fit and adaptation pressure. In the case of RES and ETS, we have seen a trade-off in concessions whereby a more ambitious RES target was accepted to increase the possibilities for concessions on the ETS. This shows that package policies are likely to affect adaptation pressure for single pieces of legislation.

Concerning the climate and energy package as a whole, fit and adaptation pressure can be described as mixed with regard to energy-economic interests, policy content and framing. We should first note that Poland

was the only EU member to experience economic growth throughout the economic crisis. As the crisis also lowered the carbon price, changes in the economic situation can hardly explain the implementation problems witnessed.

With regard to policy framing, that idea was for the EU to demonstrate leadership by example prior to the climate talks in Copenhagen in December 2009. Poland has never shared this idea. Quite the contrary: it has consistently insisted that the EU should take into account the contributions from other major emitters before developing its own policy. The general argument is that an international climate agreement will lead to harmonization of climate ambitions and policies, thus minimizing carbon leakage and any adverse effects on competitiveness. Poland's opposition to the EU leadership ambitions is apparently linked to ideas rather than interests. The main GHG emission source in Poland is the coal-based electric power industry. This industry is, as noted, not exposed to international competition due to limited transmission between the EU and the rest of the world.⁵⁵

Policy content concerns the overall policy instruments and goals. Poland was reluctant to the EU climate and energy package and challenged the key architecture proposed by the Commission. It preferred a 1990 (not 2005) baseline for the package, which would benefit economies in transition. The package aimed to promote competitiveness, energy security (physical and affordable prices) and sustainability, with energy security and climate change the most important concerns. Energy security is a key priority, since Poland imports 95% of its crude oil demand and two-thirds of its gas demand. Over 94% of its oil imports and over 80% of its gas imports come from Russia, the latter representing about 8% of Poland's total primary energy production (IEA, 2011). Recurrent Russia–Ukraine disputes and crises in 2006, 2009 and 2014 have made Poland increasingly concerned about its energy dependency on Russia. Energy dependency on Russia has been important to Poland independent of shifts in government, but it will not necessarily mean more renewables for Poland. Poland deals with energy security in a completely different way than, for instance, Germany, which sees renewables as a way to cope with import dependency. Poland has been using the energy security argument to stick to indigenous coal, develop shale gas and build a nuclear industry. In 2010, the government planned the operation of the first nuclear unit by the end of 2022 (IEA, 2013:66). Poland supports an active policy on energy efficiency, but not necessarily at EU level. Climate change is not an important concern underlying energy security policy – as reflected in the lack of any new comprehensive climate policy since 2003. From a Polish perspective, an ambitious climate policy could undermine coal and physical energy security and lead to less affordable energy.

⁵⁵ The electric power industry in Europe (except for Polish companies), represented by the business association EURELECTRIC, actually supports a stronger ETS and the long-term vision of decarbonizing Europe (Skjærseth and Eikeland, 2013).

An uneasy relationship between the EU and Poland concerning policy content and framing is roughly in line with actual responses and implementation overall. Poland would most likely have shown greater political willingness to implement EU climate and energy policies more vigorously if EU requirements had been more in line with Polish energy interests, goals and policies. Still, additional explanations are needed, particularly for RES and CCS, as these have encountered implementation problems that are difficult to explain from the perspective of fit and adaptation pressure.

6.2 Domestic Politics

According to this perspective, the key sources of variation in state behaviour can be found at the domestic political level rather than in the link between the EU and its member states. Variation in state responses to common EU legislation, or state responses to different EU legislation, can be traced back to the government itself, the society and the relationship between state and society. Administrative organization is also included here as a factor that may affect state responses.

Governmental veto players

Poland is a democracy, with a head of state (president) and a government led by the prime minister. The voters elect a parliament consisting of a 460-member Lower House (*Sejm*) and a 100-member Senate. The Polish president – currently Bronislaw Komorowski – has veto power in the legislative process, ensured by the right to send legislative proposals back to the Parliament. In practice, however, the chief executive has limited power under majority rule, and veto is employed mainly in cases of principled national significance. Komorowski has not been directly engaged in implementation of EU climate and energy policy.

Further, according to our proposition, continuity in government was expected to promote support for EU policies and implementation. Conversely, change in government might explain the implementation challenges encountered. The Polish government has changed since the adoption of the 20-20-(20) targets in the European Council in March 2007. When these targets were adopted, the government was led by Lech Kaczynski, chairman of the Law and Justice Party (PiS). Kaczynski is a conservative climate sceptic and his party has been characterized as ‘climate deniers’.⁵⁶ The PiS position on climate changes has been that if Poland has to reduce CO₂ emissions, this should be done by clean-coal technologies. Why, then, did the Kaczynski government agree to the EU goals in the first place? One likely reason is that the EU goals were perceived as largely symbolic. Poland was at the time an inexperienced newcomer to the EU, and the government did not foresee the detailed climate and energy legislation that would follow a year later. This interpretation is supported by the fact that the PiS environmental minister in 2007, Jan Szyszko, in March 2012 presented a resolution in the

⁵⁶ <http://www.theguardian.com/politics/2009/jun/02/david-cameron-alliance-polish-nationalists>. Accessed 18.09.14

parliament calling for renegotiation the EU climate and energy package (Ancygier, 2013:210). The resolution was supported by all members of PiS, but vetoed by the new government.⁵⁷ Another reason is that the 20% GHG reduction goal was seen as unproblematic due to the significant reductions achieved in Poland, resulting from modernization. Finally, the goals had been adopted before the economic crisis hit Europe.⁵⁸

In November 2007, Kaczynski was replaced by the first government of the centre-right politician Donald Tusk, chairman of the Civic Platform. Tusk also secured a second government from 2011, and was in charge over the negotiation and implementation of the climate and energy package until autumn 2014. Tusk has been characterized as a strong leader who grants little autonomy to his ministers. Disagreement with Tusk can lead to a quick removal of a particular minister from the government (Ancygier, 2013:192). For example, the environment minister, Marcin Korolec, was removed from his position in November 2013 when leading the international climate negotiations, apparently for being active on climate policy and passive on the issue of shale gas in Poland.⁵⁹

The majority government is based on the support of the agrarian Polish People's Party (PSL). In times of majority rule, only legislative proposals from the government get through the Parliament. This means that Tusk's government has had full authority over the transposition process since the package negotiations within the limits set by EU law. Tusk has repeatedly engaged in Polish energy policy, viewing nuclear, coal and shale gas as the answer to the problems of energy dependency and expected increase in demand for electricity, gas and oil. He has apparently told Polish media: 'The future of Polish energy is in brown and black coal, as well as shale gas.'⁶⁰ As a response to the Russia-Ukrainian crisis in 2014, Tusk proposed a new EU energy union⁶¹ – with full exploitation of coal and shale gas resources in Europe as one of its pillars. The crisis has reinforced Poland's belief in indigenous coal as the key for long-term energy security. Tusk accepts Poland's commitments from the climate and energy package to the extent that coal is taken into consideration. By implication, this position means that Tusk is opposed to a strong ETS and a high carbon price; is positive to CCS and not necessarily negative to the ESD.

In essence, then, we see that *continuity* in majority government, which holds veto power over transposition of laws, since November 2007 (i.e. before the EU package negotiations) has not promoted implementation.

⁵⁷ It is almost impossible to renegotiate adopted EU legislation at the initiative of one member state.

⁵⁸ My thanks to Lidia Puka for these points.

⁵⁹ <http://www.bloomberg.com/news/2013-11-20/korolec-keeps-un-climate-role-in-polish-cabinet-reshuffle.html>; <http://uk.reuters.com/article/2013/11/20/uk-poland-environment-government-idUKBRE9AJ0UF20131120>. Both accessed 12.05.14

⁶⁰ <http://www.greenpeace.org.uk/newsdesk/energy/analysis/polish-publics-views-renewables-poles-apart-government-policies>. Accessed 09.04.14

⁶¹ <http://www.euractiv.com/sections/energy/poland-calls-eu-energy-union-301303>. Accessed 09.04.14

Poland's change to a less climate-sceptical government after the adoption of the 20-20-(20) targets can hardly explain the observed opposition and implementation challenges.

The political context, can however, contribute to explain Polish resistance. There are virtually no political parties represented in the current parliament that support the EU's long-term decarbonization vision (Bukowski, 2013). The Polish Green Party is not represented, and, as noted, the major opposition party, PiS, is more negative to EU climate and energy policy package than is the government. This means that the political costs of supporting EU climate policy may be high, particularly in times of elections. And it is difficult to replace a Polish government between elections.⁶²

Continuity may also be challenged by sector ministers. The most important ministries concerning climate and energy policies are the Minister of Economy, with responsibility for energy policy and the RES Directive; and the Minister of Environment, with responsibility for climate policy and the ETS. The former Minister of Economy, Waldemar Pawlak, promoted coal and gas, energy efficiency and nuclear power, and was opposed to 'artificial' increase in energy prices (the EU ETS and RES subsidies).⁶³ His environmental minister colleague (2011–2013), Marcin Korolec, appears to have shared roughly the same view: 'I don't have to explain that after the introduction of the ETS, basically overnight, coal-based Poland lost its competitive edge to countries with limited exposure to carbon emissions. I will not shy away from stating that we did not like it.'⁶⁴ Other important ministries include the Minister of Treasury, with responsibility for managing the four state-owned energy groups; and the Minister of Agriculture, which is seen as most open to renewable (biomass) energy. With some exceptions, the interests and positions expressed by these ministers have shown a high level of continuity in supporting conventional coal and later nuclear energy (Ancygier, 2013).

One of the exceptions: between 2007 and 2009, Poland had an environmental minister – Maciej Nowicki – who was critical to nuclear energy and co-firing, and positive to 'new' renewables. In the foreword to a report arguing that Poland could halve its demand for coal by 2030 and create new 'green' jobs, Nowicki has held that switching from coal toward cleaner energy sources is a feasible and realistic scenario in Poland.⁶⁵ During the wrangling over the Polish National Allocation Plan in 2007, he proposed that allowances from electric power companies be transferred to energy-intensive industry, to give electric power companies greater incentives to 'modernize'. This met with heavy opposition from

⁶² A vote of confidence motion must state the name of a new prime minister and have the backing of over 50% of the parliament.

⁶³ <file:///C:/Users/jbs/Downloads/CEEP%20REPORT%20-%20OCTOBER%202012.pdf>. Accessed 09.04.14

⁶⁴ http://www.mos.gov.pl/g2/big/2012_11/ccd741c93488f6911221fac4b94059a7.pdf. Accessed 09.04.14

⁶⁵ <http://thinkprogress.org/climate/2013/10/25/2837081/poland-halve-demand-coal-2030-create-jobs-according-report/>. Accessed 13.05.14

electric power companies and the Ministry of Economy, which amended the proposal without a formal mandate to do so (Ancygier, 2013:199). The incident hints at the relative balance of power between these ministers. Later environmental ministers have been more in line with the position of the minister of economy. This means that the Polish government has almost unified in its positions on EU climate and energy policy.

Thus we see how unity and ‘veto power’ in the form of majority rule within the limits of EU law can help to explain why Poland vigorously challenged the Commission when implementing parts of the climate and energy package.

Affected societal actors

The climate and energy package prepared by the European Commission was based on GDP per capita as the main criterion for calculating different targets and policies. In principle, no member state was expected to undertake investments that diverged too sharply from 0.5% of GDP by 2020. The package was based on through assessment of how the ETS, ESD and RES proposals would work together to level the costs (Skjærseth, 2013). However, these EU-level calculations did not include the distribution of costs within the member states.

The main affected sectors in Poland are electric power and energy-intensive industry. At EU level, electric power producers and energy-intensive consumers express different interests, as the latter are exposed to international competition beyond Europe (Skjærseth and Eikeland, 2013).⁶⁶ In Poland, electric power producers and energy-intensive industry have apparently remained unified in their opposition to the climate and energy package since the 2008 negotiations. The Polish Chamber of Commerce – representing over 150 business organizations – prepared an assessment of the EU’s Energy 2050 roadmap, together with the largest power producers (EnergSys, 2014). For the energy sector, electricity prices are expected to increase with implementation of the current 2020 package, and decarbonization policy will lead to significantly higher wholesale electricity prices beyond 2020. The annual costs for Poland will rise sharply, weakening the competitiveness of its industry, which will in turn lead to lower economic activity and higher unemployment. The impact on energy-intensive industry will also be negative as a result of the increase in electricity prices and carbon costs. The industry sectors are expected to experience negative profitability.

Also households will be negatively affected as a result of the increase in electricity and heat prices combined with decrease in income due to lower

⁶⁶ The electric power industry, represented by EURELECTRIC, supports (except the Polish member-companies) the revised ETS and the EU vision of decarbonizing Europe. The energy-intensive industry, represented by the Alliance of Energy Intensive Industries, supports the same, on the (unrealistic) condition that competitors in other parts of the world be made subject to the same standards. Except for the renewable energy industry, few companies in these sectors prefer technology-specific instruments like the RES Directive.

GDP growth. Nominally, electricity prices are rather low in Poland compared to the EU average.⁶⁷ However, since Polish GDP per capita is below the EU average, the lower average incomes in Poland make electricity more expensive there than in 22 other member states. As EU climate and energy policies are blamed for increase in electricity prices, these policies are unpopular among the voting public. This must be understood in a context where the people have high expectations of improving their standards of living after the socialist years – and to be re-elected, lawmakers must respond to and promote constituency interests. Studies prepared by the government also tend to focus on the negative effects for high-carbon economies leading to a significantly greater slump in household consumption than the EU average (see Boratyński et al., 2014).⁶⁸

The benefits identified are related to the development of low-emission technologies, but most of these (windpower stations, nuclear power stations, biogas-fired combined heat and power plants) are and will remain based on imports. The renewables industry (other than co-firing) is dominated by foreign companies and depends on technology import.⁶⁹ Innovation and first mover advantages in wind or solar are not considered a viable option. The only case in which Polish companies can create added value on a bigger scale is in biomass technologies. In essence, costs will be concentrated to the major economic sectors, whereas the benefits to the same sectors and to society are deemed negligible. Perceptions of negligible benefits are reinforced by relatively low societal demand for climate policy in Poland. Since 2011, systematic surveys on environmental awareness and behaviour have been conducted. These indicate that climate change has a low priority (Ministry of Environment, 2013).⁷⁰ The environmental movement is active on climate change, but has limited political influence (Ancygier, 2013).⁷¹

The four state-owned electric power groups form a ‘social bloc’ particularly in their opposition to a new RES law intended to stimulate decentralized renewables. These groups guard their position, and fear what they see in Germany, where large German utilities have been outperformed by a RES policy based on feed-in tariffs, a surge of new decentralized renewable power production followed by the shut-down of

⁶⁷ [http://epp.eurostat.ec.europa.eu/statistics_explained/index.php?title=File:Half-yearly_electricity_and_gas_prices,_second_half_of_year,_2009-2011_\(EUR_per_kWh\).png&filetimestamp=20130116115243](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php?title=File:Half-yearly_electricity_and_gas_prices,_second_half_of_year,_2009-2011_(EUR_per_kWh).png&filetimestamp=20130116115243). Accessed 18.03.14

⁶⁸ This study was prepared by the Centre for Climate Policy Analysis, established by the Ministry of Environment, the Ministry of Finance and the Ministry of Economy.

⁶⁹ The most active foreign investors are Vortex, EDP, RWE, E.ON, CEZ, GDF Suez, Mitsui & J.Power, Acciona (wind farms), Dalkia (biomass combustion), Poldanor, AXZON Group (biogas plants). Also some Polish actors are investing in renewables, e.g. Enea, Energa, Tauron, PGE. See: http://www.paiz.gov.pl/sectors/renewable_energy. Accessed 09.04.14.

⁷⁰ Only 7% of the respondents mention environmental protection when asked about the most important problems Poland has to solve. When asked about the greatest environmental problems, climate change is ranked after waste, water and air pollution and natural disasters. However, a majority see the need to reduce greenhouse gas emissions.

⁷¹ However, green groups have become more active and better coordinated in the Climate Coalition, representing over 20 international and national organizations.

conventional power plants. The energy groups are partly owned by the Ministry of Treasury, and their key resource – coal – is supported by virtually all political parties. No party has taken a clear position on limiting the role of coal in the economy (Bukowski, 2013:197). Coal is also, as noted above, supported by a majority of the population. Hard coal is concentrated to Upper Silesia, the most densely populated region with most miners and an autonomy movement. It is hardly tempting for Polish politicians to go there and tell the miners to find other jobs. In a visit to the coal ‘capital’ Katowice late 2013, Donald Tusk declared: ‘Poland’s economy and Poland’s energy has stood on coal and will continue to stand on coal.’⁷²

Comprehensive and independent studies argue that transition to a low-carbon economy in Poland will benefit investors and economic growth, reduce energy consumption, develop technology, create jobs, raise the level of energy security and improve health (see e.g. Bukowski 2013). It could also be argued that the package has not yet significantly affected Polish industry due to the economic crisis, low carbon prices, free allowances for energy-intensive industry and auctioning derogations for electric power industry using co-firing of biomass and coal as their main RES strategy. However, Polish societal actors view 2020 policies as part of the EU’s long-term low-carbon effort. This makes their *perceptions* of affectedness in the long term the most important concern.

The EU package approach has not contributed to levelling out (perceived) costs between affected sectors in Poland. Carbon pricing and RES subsidies have negative affects especially on the coal-based electric power sector. The attempt to transfer allowances from electric power companies to energy-intensive industry failed. From a Polish perspective, the coal-based electric power industry faces carbon pricing, renewable energy sources in which they have limited interest beyond co-firing, and an EU vision in which they will have no future in the absence of CCS. Energy-intensive industries fear that carbon pricing will raise their production costs and reduce their competitiveness. Finally, the public is concerned about higher electricity prices and higher fuel expenses. This broad-based societal resistance clearly contributes to explaining Polish opposition to the EU ETS and RES implementation challenges.

Policy style and access

Opposition from negatively affected societal actors does not necessarily mean influence. Instead of asking who are affected, to what extent and in what way, we can ask who are *included* in decisionmaking, to what extent and in what way. And did societal groups with responsibility for implementation participate in the shaping of national positions in the EU negotiations on the package?

Most legislative proposals in Poland involve consultations with interest organizations. Lobbying is a formalized process, partly inspired by US

⁷² <http://www.ft.com/intl/cms/s/0/d5b4d2bc-47aa-11e3-9398-00144feabdc0.html#>. Accessed 10.10.14.

rules. Most environmental issues are regulated by the 2008 Act on Access to Environmental Information, Public Participation in Environmental Protection and on Environmental Impact Assessments (EIA). For instance, the draft Polish Energy Policy until 2030 underwent extensive public consultation, and the results from the consultation were published in a separate report.⁷³ Draft EU laws are also made subject to routine consultation before transposition.

While the formal consultation system grants broad access for all affected actors, some actors have privileged informal access to decisionmaking. As regards the RES Directive, the dominant conventional energy groups are ‘core insiders’ and have a decisive role in shaping energy policy. As noted, these groups also represent ‘segments’ of society. In addition, they are protected by keeping other competing interests at arm’s length. The first draft law on implementing the RES Directive was prepared in secret, to avoid lobbying from groups that wanted subsidies to decentralized RES technologies other than co-firing coal and biomass (Ancygier, 2013). Organizations representing various types of renewable industry had limited access to decisionmaking. Until the establishment of the Polish Coordination Board of Renewable Energy Sources in 2008, their influence was also weakened by the differing interests and positions linked to different renewable technologies. Organizations representing interests in ‘new’ renewables⁷⁴ have been supported by the green groups – which, as noted, have only limited political influence.

With the establishment of the Renewable Energy Department in the Ministry of Economy in 2012, these ‘new’ interests gained a new channel. This department was established specifically to oversee Poland’s implementation of the RES Directive. Now renewable industries were systematically consulted before the second draft of the law was published. This draft also came to include feed-in tariffs for photovoltaic power plants and a significant reduction in support to co-firing biomass and coal. However, the draft law was as noted altered to better fit the interests of conventional energy groups – so we should not overestimate the relative clout of the new Renewable Energy Department. It employs around 15 officials, as against about 1000 in the Ministry of Economy who deal with other energy sources.

Has lack of participation by domestic societal actors responsible for implementation in the EU negotiations impeded implementation? The most important societal target groups were active during the negotiations on the package in 2008. The Polish electricity association PKEE, representing almost 90% of electricity production, had argued for a 12.5% RES ambitions for Poland (see section 4). That was not an integral part of the Polish position, and the PKEE to some extent bypassed the national level. Direct lobbying at EU level was even clearer when the Green Effort Group – composed of the four major energy companies – had direct meetings with the Commission on the ETS during the

⁷³ <http://www.psew.pl/en/law-and-politicsa/strategic-documents-poland/energy-policy>. Accessed 09.04.14.

⁷⁴ e.g. photovoltaics, wind offshore and onshore.

negotiations (see section 4). As the government largely shared the positions of these interest groups, restricted access at the national level can hardly be invoked to explain later opposition. However, these observations are largely in line with the multi-level governance (MLG) assumption that non-state actors influence policymaking both through the formation of national preferences and directly at EU level. The separation of domestic and international politics is thus blurred by the MLG approach.

Differentiated access for different affected societal actors is also visible in the consultation processes on the CCS directive. Observations from the transposition process shows that selected stakeholders were prioritized (Jendroska, 2014). Trade unions and business organizations got privileged rights and were specifically invited to submit comments, whereas statements by environmental NGOs were not acknowledged. In the case of the PGE's Belchatow CCS pilot project, the company had to establish its own 'public participation group' as a precautionary measure to promote public acceptance.

Poland's distinct approach to regulation in climate and energy policy can be placed somewhere between a conflictual and consensual approach, with privileged access for the conventional energy industry in particular. Other interests, like the new RES industry, have partly been excluded from decisionmaking, which has strengthened the influence of the conventional energy industry. Lack of participation in the making of EU legislation can hardly explain the opposition of the conventional energy industry to implementing the RES and ETS directives. Our main observation is that the societal actors most negatively affected have also been granted 'privileged' access and have had most influence on decision-making. Thus far, then, the package has basically served to cement old alliances opposed to implementation of the EU climate and energy package.

Administrative organization

We have seen that the principal ministers involved in implementation have been aligned as to the main direction of Polish climate and energy policy. Politicians in Poland tend to operate more independently from public officials than in most other EU countries.⁷⁵ Accordingly, administrative organizations involved in executing policy may have wide room for manoeuvre when policies are to be implemented.

Poland's administrative energy system can be characterized as fragmented, as there are 10 agencies, with different responsibilities, involved in implementation (IEA, 2011). Organizational fragmentation is made worse by law fragmentation: the energy law has been amended some 50 times now (Ancygier, 2013). Relevant environmental legislation is also complex, consisting of 20 legal acts adopted by the parliament as well as about 100 executive regulations (Jendroska, 2014). Polish decisionmakers have recognized administrative fragmentation in climate and energy

⁷⁵ <http://www.polenguide.pl/Infrastrukturen/index.htm>. Accessed 25.11.14.

policy as a problem, and there have been many plans for improving co-ordination (IEA, 2011:23).

In 2009, the Ministry of Environment and the Ministry of Economy signed a new integrated strategy – the first time that representatives from these ministries sat around the same table to develop a joint strategy. The ministries spent over one year seeking to understand each other's different strategies, approaches and culture. The result was a common strategy for 'Energy Security and the Environment', which formed one out of nine parts of a larger national strategy towards 2020. The 2020 strategy was in turn a part of a general Long-Term National Development Strategy for 2030 (Ministry of Environment, 2013). The energy/environment strategy was partly related to the EU climate and energy package; the broader national strategy also formed part of the Europe 2020 Strategy.⁷⁶

The main headings under the energy/environment strategy are air pollution and water management. Under air pollution, there is a National Programme for the Development of a low-Emission Economy, adopted in 2011. This programme is also linked to other parts of the national strategy covering all sectors of the economy. However, the low-emission economy plan is extremely vague: 'It is assumed that the final effect of the National Programme will be a set of activities designed to directly or indirectly reduce greenhouse gas emissions...' (Ministry of Environment, 2013:59). Somewhat paradoxically, increased coordination has mainly led to more unified opposition (below). Efforts to transpose the RES, ETS and CCS directives were undertaken by different administrative organizations at different points in time.

Another challenge is repetitive legislative change, said to be a norm in Poland. That politicians are largely independent of public officials frequently leads to hasty proposals of poorly prepared legislation. The wrangling on new RES law is a clear example. After the 2012 proposal to revise the green certificate system with the aim of scrapping subsidies for co-firing, in 2013 a draft on a completely different proposal was suddenly proposed, now based on an auctioning system where producers must bid for new capacity and the state would guarantee sales to the lowest bidders (ENDS, 30 July 2012; ENDS, 6 January 2014). Existing installations could then choose to join the auctions, or stay with the certificate system. Repetitive legal change has improved somewhat the last years under the country's centralistic majority government. Still, legislative and administrative fragmentation, weak coordination, and repetitive legal change serve to protract the transposition of EU law in Poland. In 2012 and 2013, Poland was cited for the most EU environmental infringements, after Spain, Italy and Greece.⁷⁷

The late transposition of the CCS Directive is mainly a result of administrative and legal fragmentation (Jendroska, 2014). There was a genuine willingness to develop workable legislation, the 'fit' with coal

⁷⁶ See: http://ec.europa.eu/europe2020/index_en.htm. Accessed 07.10.14

⁷⁷ See: <http://ec.europa.eu/environment/legal/law/statistics.htm>. Accessed 03.11.14

was high, and public opposition was low. The principal ministries in charge of implementation were the Ministry of Environment and the Ministry of Economy and their subordinated agencies, all of which produced a number of ideas and dealt with a range of issues. The difficulties were multiplied by the decision to reform existing and fragmented legislation (rather than by adoption a separate legal act) and by differing opinions as to whether transposition should be limited to demonstration plants only. The Ministry of Environment held that this would not be possible under the CCS Directive – whereas the Ministry of Economy, supported by the Ministry of Foreign Affairs, claimed that it would be in compliance with the Directive. This latter interpretation was later supported by the Commission.

EU-level policies will partly be implemented at local level. This creates a vertical link which can lead to disintegration of policies. The countries of Central and Eastern Europe are relatively centralized, but Poland has since 1989 become increasingly decentralized, with key functions served by municipalities (*gmina*), counties (*powiat*) and regions (*województwo*).⁷⁸ Over 2000 municipalities enjoy wide powers in areas like infrastructure and local area planning. The 16 regions promote long-term development.

The local level is particularly important concerning RES, where administrative barriers in the form of fragmented laws are a key problem, particularly those related to land development plans, environmental impact assessment, and the license requirement for businesses dealing with electricity generation (ClientEarth, 2013). The current and planned RES law does not significantly stimulate local decentralized renewables compared to the case of, for instance, Denmark.⁷⁹ However, Poland has fewer wind resources.

Local authorities are responsible for issuing location permits for wind farms based on land-use master plans. Local wind farms can sell surplus electricity for 80% of the market price, to cover grid investments. These wind farms bring in local tax revenues, in some areas up to 10% of the income. A survey on RES among municipality authorities indicated that municipalities are in direct opposition to the government's priority of large-scale centralized power (Ancygier and Szulecki, 2014).⁸⁰ Although there is a significant difference between eastern and western Poland, local administrations generally express enthusiasm for decentralized solar and wind, and little support for centralized coal and nuclear. Much of the support is linked to opposition to the construction of new lignite power plants. One challenge is that local RES income goes exclusively to local administrations and landowners, resulting in relatively low public support. What the public sees are the wind turbines, not the benefits.

⁷⁸ There are also state-governed counties (*województwo*).

⁷⁹ Danish wind power has been heavily subsidized and developed by encouraging wind turbine cooperatives. This has secured high public acceptance for wind turbines, based on tax exemption for own family electricity generation and for purchasing shares in wind turbine cooperatives, which invest in community wind power.

⁸⁰ The survey is based on 262 online survey answers out of 2126 municipalities contacted.

A proposed law by the PiS Party may further protract local RES development by shifting the responsibility for building permits to the regional level. The Polish wind sector fears that this may bring wind-power into conflict with landscape protection banning large structures like turbines (ENDS, 4 July 2014). According to the proposal, wind turbines cannot be built closer than 4 km from the nearest house – challenging in a densely populated country.

Concerning CCS, local authorities (*gmina* level) will be involved in permitting activities and in transfer of responsibility. If such projects become economically interesting in the future, local authorities will have limited authority to ban such activities (Jendroska, 2014). Local authorities have also limited authority in EU ETS implementation, which is administered by the National Centre for Emissions Management in Poland (KOBiZE), under the Ministry of the Environment.⁸¹

Although the situation has improved somewhat since 2009, horizontal administrative fragmentation remains a challenge for transposition. This helps to explain CCS implementation challenges in particular. Vertically, local authorities are most relevant for implementation of RES other than co-firing. Local administrative pressure in favour of more decentralized RES strengthens the observation that the large conventional energy groups are the main actors obstructing a more offensive RES policy. The significance of the package concerning horizontal fragmentation is that it has stimulated greater strategic coordination between the Ministry of Economy and the Ministry of Environment. Somewhat paradoxically, improved coordination is more visible in the coordination of opposition than in implementation. Attempts to transpose the RES, ETS and CCS Directives have been made largely in isolation.

⁸¹ KOBiZE has main responsibility for auctions, EU registry, reporting, monitoring and verification and NAPs/NIMs. It also reports to the UNFCCC and supervises the CDM/JI registry.

7 Consequences of implementation

How has experience with, and learning from, the implementation of current climate and energy policies towards 2020 affected Poland's position and new long-term EU policies? This will be explored by analysing Polish reproduction of EU-level value-sharing, synergies and side payments.

The combination of climate and energy as differently valued issues has apparently not promoted agreement on implementation or long-term decarbonization policies in Poland. The reason lies in the asymmetrical interests and values attached to energy security and climate change. Climate-change policies have few supporters in Poland – among the public, in industry, government and parliament. Conversely, energy security is seen as important for society and policymakers. Policymakers view an ambitious climate policy as a potential threat to energy security to the extent it may threaten coal, shale gas exploration or affordable electricity prices.

Concerning synergies, subsidies to promote RES has only to a limited extent spurred 'green' growth in terms of new jobs as a result of co-firing biomass and coal as the preferred option. Massive inflow of other RES technologies can be threatening for the coal industry. The industry has been dramatically restructured since 1989, when it employed more than 400,000 people, but it still employs about 130,000. Energy technological innovation beyond clean coal technologies has, as noted, not been seen as generating significant benefits. The renewable industry is dominated by foreign companies and depends on technology imports. CCS might have become a new area for technological innovation and first-mover advantages, but all pilot projects have been cancelled, partly as a result of the low carbon price and limited NER-300 funding.

Concerns about air pollution can raise willingness to develop climate policy, particularly in coal-dependent countries. Poland faces significant challenges in reducing SO₂, NO_x and fine particulate matters in accordance with the EU Large Combustion Plants and CAFE Directives. The *National Environmental Policy Plan for 2009–2012* identifies energy saving and renewable energy sources as the two approaches that are both cost-effective and socially acceptable for radically reducing emissions of all pollutants (Council of Ministers, Poland, 2008: 35). The Plan was adopted by the government in 2008 and has not been revised since then. Air pollution is dealt with by end-of-pipe technologies, like application of flue-gas desulphurization facilities. Such policies will have limited impact on CO₂ emissions as long as coal is not replaced by low-carbon technologies.

Side payments by linking revenues from auctioning of emission allowances to compensation for low-income member states were effectively used to promote EU-level agreement (Skjærseth, 2014). In Poland, the low carbon price, exception from auctioning in the electric power sector (70% from 2013) and the decision not to earmark revenues from auctioning have prevented any effective impact from this

mechanism.⁸² Poland has also opposed measures that could increase the carbon price. Opposition from energy-intensive industry has, however, been modified by the opportunity to compensate for indirect costs from the EU ETS. And so, issue-linkage mechanisms that promote EU-level agreement have only to a very limited extent been transformed into new low-carbon opportunities in Poland.

In addition to poor experience from implementation, Poland was pressured to accept the package. This is evident from the relatively low 'fit' between the EU requirements and Poland's pre-existing policies, its energy-economic situation and negotiating positions. The climate 'hype' in 2007 placed pressure on all member states; the Polish government agreed, as noted, to the 20-20-(20) targets for various reasons. The targets for GHG reduction and increase in renewable energy were binding and placed significant pressure on the member states to succeed in the 2008 negotiations on the climate and energy package. Later resistance to the package and implementation of the EU ETS underscores that Poland was not happy with the outcome. Ironically, improved administrative coordination as a result of the package also made Poland more unified in its opposition. The Ministry of Environment, the Ministry of Economy and the Ministry of Finance joined forces in a *Centre for Climate Policy Analysis* to assess the (negative) implications of EU climate and energy policy for Poland. The work started with a 2011 World Bank report on the transition to a low-emission economy in Poland; more recently there has come an impact assessment of the proposal for the 2030 climate and energy package (World Bank, 2011; Boratyński et al, 2014). Moreover, the fact that Poland lost most of its battles with the European Commission led to a bad atmosphere between Brussels and Warsaw as regards climate policy.

To this we can add that the EU targets and policies had all been adopted before the Copenhagen Climate Summit in 2009, where there were high expectations that a new binding and ambitious climate treaty would be agreed. However, the 'Copenhagen Accord' adopted failed to set global reduction targets; it did not add up to what scientific advice holds is necessary to remain within the 2C° objective, and it was not legally binding. Slow progress on a new international climate treaty has contributed to Polish opposition towards new long-term EU climate policies. Poland's position is, once again, that the EU should wait with the adoption of new 2030 policies until after the climate negotiations in 2015.

The combination of poor experience from implementation and pressure to accept unwanted policies has made Poland increasingly resist new EU climate and energy policies. In March 2011, the Commission published a roadmap prepared by DG Climate Action for moving towards a competitive low-carbon economy by 2050 (Commission, 2011a). The analysis showed that GHG emissions would have to be reduced by 25% in 2020, 40% in 2030 and 60% in 2040 below 1990 levels to reach 80%

⁸² However, Poland has established a Green Investment Scheme funded from the sales of surplus assigned amount units (AAU) as part of the Kyoto Protocol.

by 2050. The roadmap also encouraged decisionmakers to strengthen the EU ETS by revising the 1.74% linear reduction factor. In the short term, allowances for 2013–2020 should be set aside (backloaded) to provide scarcity in the market and raise or at least stabilize the carbon price. In June 2011, 26 of the 27 EU member states agreed with the presidency conclusions based on the roadmap. In March 2012, 26 member states again supported a watered-down presidency conclusion on the roadmap. The blocking state on both occasions was Poland (Skjærseth, 2013). Poland's veto was welcomed by representatives of all parties represented in the Polish Parliament. In an online survey just after the veto, 91% of the public respondents approved the veto decision (Ancygier, 2013:127; 182).

In December 2011, the Commission published an Energy Roadmap 2050 prepared by DG Energy (Commission, 2011b). Here the key message is that greater energy efficiency and more use of renewables to achieve 80–95% reduction by 2050 will cost about the same as would continued heavy reliance on nuclear power and fossil fuels. This roadmap proposes increasing the share of renewables to around 30% by 2030. Further, it stresses that decarbonization of Europe should not develop in isolation, but should take into account international developments, to minimize carbon leakage and adverse effects on competitiveness. In June 2012, Poland vetoed a compromise proposal on the Energy Roadmap as well, arguing that EU efforts should be matched internationally and that the references to 'decarbonization' should be deleted (Council, 2012).

In January 2014, the European Commission proposed a revised framework on climate and energy policies for 2030. It included a new target of reducing GHGs by 40% below 1990 levels (Commission, 2014), to be achieved by increasing the annual ETS cap from the current 1.74% to 2.2% after 2020, and by a market stability reserve for dealing with the accumulating surplus of emission allowances.⁸³ Targets and policies on renewables were weakened. An EU-wide target of at least 27% renewable energy by 2030 was proposed. This is only slightly above expected developments and will not be translated into new binding national targets. There were no new proposals on CCS or the transport sector as part of the package.

The Commission's proposal was preceded by a public consultation showing that it partly reflected the position of Poland and other member states, based on experiences with the package for 2020 (Ibec, 2013). Still, Poland, supported by other CEECs, coordinated the opposition during the first negotiations in the Council of Ministers and the European Council in March 2014. In May, Poland teamed up with the V-4 + Romania and Bulgaria, which agreed on a common list of demands.⁸⁴ The major points are full national sovereignty over the energy mix, more EU subsidies to

⁸³ Emissions from sectors outside the ETS would be cut by 30% below 2005 level, through effort-sharing among the member states. This is a significantly larger share than existing policies, whereby 10% should be cut in the non-ETS sectors and 21% in the ETS sectors by 2020.

⁸⁴ The Visegrad Group Countries, Romania and Bulgaria Joint Paper on the EU climate and energy framework 2020–2030. May 2014. On file with author.

modernize energy systems, and a heavier burden on the ‘rich’ EU countries arguing for a more ambitious climate policy. Basically: those who demand a more ambitious climate policy should deliver the reductions themselves.

In October 2014, the European Council adopted a framework for new EU climate and energy policies for 2030.⁸⁵ The new goals are domestic reductions of at least 40% GHG emissions, 27% increase in renewable energy consumption at EU level, and an indicative target of 27% increase in energy efficiency – all by 2030 compared to 1990 levels. Part of the agreement is to strengthen the EU ETS by increasing the annual cap as proposed from 2021. This means that Poland has accepted new long-term EU policies based on the ETS as a principal climate policy instrument *before* the climate negotiations in Paris, 2015. In this sense, then, the EU is about to ‘Europeanize’ Polish climate and energy policy.

The framework also includes various concessions to Poland and other low-income member states from Central and Eastern Europe. First, burden-sharing will continue for sectors not covered by the ETS based on GDP/cap as today. There will be more flexibility in how national targets can be achieved, but the details are not clear. Second, free allocation will continue for energy-intensive industry to prevent the risk of carbon leakage, and future allocation should ensure affordable energy prices and better alignment with changing production levels in different sectors. This could mean that allocation will take increases in production into account. Third, low-income member states can allocate up to 40% of the allowances for free to the electric power sector. This represents a weakening of current policies aimed at gradually reducing free allowances to zero by 2020. Fourth, the ‘solidarity funds’ of 2% and 10% to modernizing energy systems will continue. Upgrading of coal power is not ruled out by the specifications. It is also recognized that energy security can be increased by having recourse to indigenous resources, such as coal and shale gas. Full respect for the member-states’ freedom to determine their energy mix is also explicitly included in the framework. Added to this: A non-binding energy efficiency goal and a new RES goal that will not be transformed into binding national goals.

The substantial concessions given to Poland and other CEECs can be said to represent a ‘Polonization’ of EU climate and energy policy. However, the 2030 framework will need to be filled with detailed legislation that has to be implemented. The final verdict on the relative influence between the EU and Poland lies in the future.

Thus, increasing Polish opposition to new EU climate and energy policies can be explained at least partly by a combination of two factors. The first is lack of will, ability and opportunities to transform EU-level synergies, value-sharing and side-payments to the national level. The second is pressure from the EU to adopt unwanted policies. Nevertheless, Poland has accepted a new climate and energy policy framework for 2030. This represents partly an effort at Europeanization of Polish climate and

⁸⁵ http://ec.europa.eu/clima/policies/2030/documentation_en.htm. Accessed 03.11.14.

energy policy and partly an effort to Polonize EU climate and energy policy. The relative balance between these forces will be determined in the future when the framework is specified.

8 Conclusions

To what extent and how has Poland implemented the EU climate and energy package to date? There have been significant transposition problems concerning the ETS, RES and the CCS Directives, and Poland's application record is not encouraging. All CCS pilot projects have been cancelled. Late transposition of the CCS Directive has created legal uncertainties for investors, which has affected cancellations. The RES Directive has mainly stimulated co-firing of biomass and coal, and transposition problems have created uncertainties for investors in windpower. Poland has tried to absorb the ETS to make it fit coal, and has not applied new policies and measures under the ESD.

Poland intends to continue with coal as its primary energy source in the foreseeable future. Diversification by renewables may be short-lived due to implementation of the RES Directive by mainly technology-neutral green certificates favouring co-combustion of coal and biomass. Poland lacks a specific climate policy, making it difficult to curb rising emissions in non-ETS sectors, transport in particular. In essence, Poland has opposed and absorbed the EU climate and energy package to make it fit with existing policies and the energy mix in which coal accounts for 90% of electricity production. The EU climate and energy package cannot be said to have been a 'game changer' in transforming the energy system.

Misfit and adaptation pressure from the EU can explain Polish resistance to the revised EU ETS. The ETS was adopted before Poland entered the EU; moreover, carbon pricing is most costly for coal-dependent states. Poland has consistently opposed the system and implemented EU requirements in line with the energy-economic situation. Adaptation pressures can also partly explain RES implementation challenges, as RES (other than co-combustion) has never been particularly favoured by Polish governments. However, domestic political variables are also needed to explain opposition to the ETS and RES implementation challenges. The consistency in governmental priorities of coal, negatively affected societal actors and privileged access to decisionmaking for these actors are important. Poland's four state-owned energy groups have represented the main pressure, further reinforced by low public demand for climate policy. Horizontal administrative fragmentation and lack of coordination has been a general challenge, CCS in particular. Vertical distribution of competence to local levels is relevant mainly for RES, where fragmentation of legislation represents a challenge to implementation.

The significance of a package approach has been systematically explored in this report. Our first observation is that negotiating a package of EU policies adopted by unanimity tends to lead to varying fit and adaptation pressure, partly as a result of the give-and-take entailed in the various components of the package. This has affected the relative fit and pressure on the ETS and RES in Poland. Second, we have seen how implementation of a package affecting a broad scope of sectors may increase the opportunities for sharing costs, include new alliances in policymaking and improve coordination between administrative organizations. These

opportunities have only to a very limited extent been exploited in the implementation of the EU climate and energy package in Poland.

What are the consequences for Poland's position on long-term EU policies? Poland has increasingly resisted long-term EU policies by vetoing roadmaps for 2050. The reasons are a combination of poor experience with implementation to date and pressure to accept unwanted EU policies. Poor experience can be traced back to lack of willingness, ability and opportunities to transform the linking of various policies and issues that promoted EU level agreement to the national level: the EU package has not been instrumental in combining different values and interests on energy security and climate mitigation. In fact, an ambitious climate policy is seen as potentially threatening for energy security to the extent it threatens Polish coal. The package has not spurred new 'green' jobs or energy technological innovation on a larger scale or led to any significant synergies between air pollution and climate change.

Poland serves an informal leader for other CEECs, and the EU member states have been deeply divided over new climate and energy policies. The 2030 climate and energy policy framework adopted by the European Council in October 2014 reflects this situation. On the one hand, Poland has had to accept a new EU 40% GHG emissions-reduction target before the 2015 Paris climate talks. On the other hand, the framework includes a range of concessions to Poland and other low-income member-states, comprising full national sovereignty over the energy mix, more subsidies to modernize energy systems (including coal) and a heavier burden on the 'rich' EU countries. Europeanization or Polonization? Somewhere in-between, but further details will have to be settled before we can say where the EU is heading in practice.

In the meantime, we can point to some conditions from the analytical framework to speculate as to what may drive Poland towards a 'greener' pathway in the future. Adaptation pressure from the EU is likely to grow for the ETS sectors. Expectations of a higher carbon price towards 2030 will make new investments in domestic coal increasingly risky. The low international price for hard coal makes domestic mines increasingly unprofitable. The EU pressure in favour of RES will probably recede, but RES – particularly solar – is getting cheaper and may become competitive without state subsidies. Domestic politics may also change. The new Prime Minister – Ewa Kopacz – actually accepted the new EU domestic 40% GHG reduction target by 2030, probably signalling a somewhat more 'climate friendly' position than Donald Tusk. Social demands and organizations pushing for climate policies may increase and become stronger. Public support for hard coal may decrease and local opposition to new lignite mines is on the rise. Opposition to lignite is linked to local support for more decentralized RES other than co-firing coal and biomass. This pressure from 'below' may affect the priorities of (some) political parties on future climate and energy policies. Finally, lower political support and a stronger decentralized RES industry may gradually reduce the political influence of the major coal based electric power companies.

Interviews in Warsaw, June, 2014

- **Dominik Smyrgala**, expert. Collegium Civitas, PKiN
- **Artur Wiczorek**, Green Party Secretary
- **Maciej Burny**, Head of Regulations, PGE Capital Group
- **Lidia Puka**, expert, PISM
- **Andrzej Kassenberg**. Head of Institute for Sustainable Development
- **Agnieszka Sosnowska**, Ministry of Environment: Deputy Director, Department for Air Protection
- **Jan Mizak**, Ministry of Environment: Director, Department of Sustainable Development
- **Marcin Ścigan**, Expert, Ministry of Economy, RES Department
- **Tomasz Dąbrowski** Director, Ministry of Economy, Energy Department (phone, 9/7-2014)
- **Maciej Bukowski**, Director of Warsaw Institute for Economic Studies (WISE)
- **Marta Babicz**, Head of European and Regional Energy Policy Unit, Ministry of Foreign Affairs
- **Ewa Florkiewicz**. EU Economic Department, Ministry of Foreign Affairs
- **Stanisław Cios**, Energy Policy Unit, Ministry of Foreign Affairs

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**Fridtjof Nansens vei 17, P.O. Box 326, NO-1326 Lysaker, Norway
Phone: (47) 67 11 19 00 – Fax: (47) 67 11 19 10 – E-mail: post@fni.no
Website: www.fni.no**