

Ph.D Dissertation in Sociology and Social Anthropology

MAKING A MARKET: THE PROBLEM OF POLISH CARBON IN EU CLIMATE
POLICIES

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Introduction

In August 1986, an image of the Cologne Cathedral half-submerged in seawater appeared on the cover of Der Spiegel. The title read: DIE KLIMA-KATASTROPHE (the climate disaster). It was an alarming image with an alarming diagnosis, which galvanized the German and European public and provoked debates on the humans' responsibility for the condition of our planet. The 1990s saw political efforts to install an international regime of emission reductions; however, simultaneously, a growing opposition began to question the humans' impact on the global climate. In the 2000s, another image captured public imagination. It was a polar bear floating on a piece of ice across the Arctic Sea. The bear was lonely, lost and helpless, and remains the symbol of climatic changes even today.

Over the last three decades, with a rise and fall of the feeling of urgency, companies and governments around the world started to reduce greenhouse gas (GHG) emissions. The Kyoto Protocol was the major international step in climate action and an outcome of political and economic negotiation between the rich North and the poor South. After numerous crisis moments, twists and turns, negotiations under the United Nations Framework Convention on Climate Change (UNFCCC) in Kyoto resulted in the establishment of a global cap-and-trade system to reduce GHG emissions. Individual countries committed to reduce their emissions up to certain historical levels. However, today scientists clearly show us that countries need to reduce much more GHG emissions than they have done so far. But the political will is weak. The future of the Earth's condition is again uncertain. Without the U.S. willing to commit to reduce its GHG emissions, and with countries like China and India defending their rights to carbon intensive development, hopes to stop global warming are fading away.

However, while America and Asia still hesitate to act against global warming, Europe is trying to show to the world that it is determined to reduce its GHG emissions. The European Union Emission Trading Scheme (the ETS) was established by the ETS Directive in 2003 and became operational in 2005. Its prime goal was to regulate GHG emissions in the EU Member States and to make sure that the European Community was able to comply with the Kyoto target. The

ETS covers around 11,000 industrial installations in the EU. On the ETS, permits are issued and granted to companies to allow them to emit carbon dioxide. These permits are called the European Allowances (the EUAs) and, between 2005 and 2012, they were granted for free to companies. In that period, the amount of the EUAs issued was cut down each year, and if companies were not able to keep up with lowering their emissions accordingly, they had to buy additional EUAs on ETS. At the beginning of 2007, envisioning a global post-Kyoto deal, the European Heads of States politically declared that they would reduce carbon emissions by 20% by 2020 on the 1990 levels. In January 2008, the European Commission proposed a new ETS Directive, which accounted for this new reduction target. The power sector companies would have to buy the EUAs to cover all of their carbon emissions. Industries would receive some EUAs for free and would have to buy some on ETS.

The system changed to make carbon dioxide emissions more costly for power sector companies and industries operating in the EU. It would also incorporate aircrafts and cars. The new proposal opened a 'Pandora box' of concerns and objectives against this proposal. During a year long negotiation, in 2008, governments, businesses, NGOs, experts and trade unions, discussed the future shape of the ETS. This was an important moment not only for the future of emission reductions in Europe, but it was also an interesting lesson about the nature and aspirations of the European Union as an economic and political organization. By providing a historical analysis of how and why the ETS was established in the EU, and how it was reorganized in 2008, this thesis seeks to contribute to the analysis of socio-political and economic processes of climate action in the European Union.

Changes to the ETS proposed in January 2008 proved to be too radical for governments and companies to be accepted without any objections. This manifested in massive lobbying in the EU institutions: in the European Commission, in the European Parliament and in the European Council. Avril Doyle, the Rapporteur of the ETS Directive in the European Parliament, published a list of lobbyists, who approached her in 2008 with regard to the ETS Directive. Among 168 names, there are industrial, power sector, environmental, financial

and trade union organizations. This shows the extent of fear evoked by the new ETS Directive, which was perceived as deeply interfering in doing business as usual in the EU. This thesis examines heterogeneous networks, within which emission trade was organized, which comprised of officials from the European Parliament, the European Commission, the European Council, lobbyists from business associations, trade union organizations, environmental NGOs lobbyists and national and European experts on the ETS.

Organization of the ETS is here examined as a case of strategic market organization. This thesis studies how various actors strategically engaged in proposing alternative designs of the political-economic space of the ETS. While Callon et al. (2002) point out that market controversies mainly concern “classification of goods offered to consumers” (p.196), I propose to examine a controversy over the method to allocate these goods to market participants. A method to allocate emission allowances (the EUAs) is one of the defining features of the ETS. I examine how this method was negotiated. To organize a calculative space of the ETS also means to make boundaries between the ETS and other fields of action (Callon 2009, Gieryn 1983). According to Callon (2009), an experimental stage of carbon markets’ development provides a remarkable opportunity “for studying this process of joint reconfiguration” (p. 542) of various spheres of action. This involves reconfiguration of the boundaries between politics and economics, markets and States. As Callon (2008) points out, “neither economics nor politics (...) can be considered as realities that have been stabilized for once and for all” (p. 542). We can witness redistribution of the political and the economic by studying how actors negotiated the ETS.

The ETS is a market-based tool for environmental governance, and should be put within a wider context of global market liberalization. To put it more radically, in the late twentieth century, environmental governance seems to have caught up with the economic neoliberal agenda. As Brown (2003) points out, neoliberalism has become a term frequently referred to as “the repudiation of Keynesian welfare state economics and the ascendance of the Chicago School of political economy - von Hayek, Friedman, et al.” (p. 1). And in popular usage, “neoliberalism is equated with a radically free market: maximized competition and

free trade achieved through economic deregulation, elimination of tariffs, and a range of monetary and social policies favorable to business” (Brown 2002, p. 1). And though free markets constitute the core of the neoliberal era of capitalism, according to Brown (2002), neoliberalism should be understood more broadly as a particular political rationality “that both organizes (...) policies and reaches beyond the markets” (Brown 2002, p. 2). Neoliberalism carries, what Brown (2002) calls, “a social analysis which, when deployed as a form of governmentality, reaches from the soul of the citizen-subject to education policy to practices of empire” (p. 2). It therefore extends and disseminates market values to various institutions and social action (Brown 2002).

Climate change seems to be one of those ‘troubling’ or ‘perplexing situations’, which John Dewey (1998) defined as being saturated with a difficulty of knowing what the problem exactly is before resolving it. We can observe today a struggle to come up with solutions to climate change as a phenomenon that is yet to be well-defined. Callon (2009) mentions some of these solutions: “a possible combination of carbon taxes and emission trading; the invention of certificates to enable developing countries to participate in the collective emission-abatement programme; the development of pricing tools; compromise between free allocation of allowances and auctioning; and modalities of treating allowances in firms’ accounting” (p. 545). Policy solutions do not only address and resolve the problem of climate change but they also perform it. What is climate change? Is it a problem of excessive GHG emissions? Or is it a problem of unequal development and colonial past, which structured power relations between the exploitative North and the exploited South? In realistic and pragmatic terms, answers to these questions come together with policy solutions to climate change.

The ETS also seems to epitomize, what Latour (2008) termed, a misconception about the modern arrow of time. Modernity and modern development of science have not caused more separation between Society and Nature, or between facts and values. On the contrary, they brought about more attachments between humans and non-humans, making facts inseparable from values and turning Nature into our environment. This paradox can be observed today when emission trade, i.e. the ETS, becomes the main answer to global warming defined in terms

of quantities of greenhouse gasses in the atmosphere. It seems that the ETS allows us to better manage emission reductions as bounded and calculable objects, while in fact the ETS becomes entangled in local histories, values, interests, which may take the ETS in unexpected directions.

As Lohmann (2011) points out, defining global warming in terms of quantities of GHG emissions means to structure climate action and channel our attention toward emission reductions. GHGs are perceived as singularized molecules of which boundaries can be defined and calculated. On the global emission market, GHGs are transformed into calculable and transferable emission credits, while, as Lohmann (2006, 2009, 2011) argues, they are in fact elements in local assemblages, their cultures and practices. This modern, scienticized and economized vision of GHGs as calculable molecules disembeds them from local contexts and obscures real impacts of carbon trade on these localities.

This way, the ETS economized climate action. Economic rationality becomes an organizing principle rather than a diagnosis of some essential qualities of climate change. It organizes relations between humans and their environment and prescribes some rules of behavior. Climate change is performed by economics and economists. Point Carbon, the number one supplier of market intelligence on energy, gas and carbon dioxide markets, is widely cited in the mainstream media, like Financial Times. Hoping for the U.S. carbon market to be established, Point Carbon expressed excitement about emission markets becoming one of the most important elements in world trade (Harvey and Kitchgaessner 2008). Some economists and professional traders urge us to allow for speculations on emission markets in order to increase their liquidity. They get excited about the prospects of emission credits becoming a new tradable asset class.

The idea to extend the ETS to other regions prompts us to examine how this neoliberal tool for governance functions within particular contexts. As Fourcade (2002) has shown, while economic and financial globalization played a critical role in fostering the transition to neoliberal policies, local institutional conditions were decisive in shaping the nature and meaning of the policy shift. The historical account of gradual implementation of emission trade, through the Kyoto Protocol

and the ETS, provided in this dissertation, gives more evidence to Fourcade's (2002) thesis. Institutions, policy and market fields, cultures and policy networks do matter. The theory of emission trade did not only have to find a legitimate place for itself among other policy instruments of air pollution control, but it was also transformed in contexts of UNFCCC negotiations and in the EU policy-making processes. Moreover, it has not always succeeded to become a real and working solution in some places and periods. For example, emission trade failed to embed in the Polish economy of the early 1990s.

The market logic of environmental governance also poses a challenge to valuation of environment and GHGs. To construct the ETS it involved production of a new commodity - an emission allowance (EUA). This was based on scientific and economic theories which operate with an equivalence: "a better climate = reductions in CO₂ emissions" (Lohmann 2011, p. 91). These theories turn carbon dioxide into a singular, calculable, comparable, commensurable entity, and thus enable coining new equivalences, like: "CO₂ reduction A = CO₂ reduction B", "CO₂ reduction in place A = CO₂ reductions in place B", "CO₂ reductions through technology A = CO₂ reductions through technology B" (Lohmann 2011, p. 93). Carbon dioxide produced in one places becomes mobile and interchangeable with carbon dioxide produced in other places. It is displaced from a company's chimney into an emission registry and as an electronic unit of emission allowances it circulates across electronic registries worldwide. Making allowances' auctions open to various bidders, also to financial actors, results in its further circulation through which its value is produced. From this point of view, markets for pollution may be critically examined not only as a process of colonizing environment within the market logic of commoditization, but also as a way of inscribing environment into global processes of commodities' and money circulation (LiPuma and Lee 2004 on cultures of circulation).

Lohmann (2011) gives an example of how carbon's value is produced: "As early as 2008, Credit Suisse put together a US \$200 million deal that bundled together carbon credit-manufacturing projects in different stages of completion before slicing them up for sale to speculators" (p. 88). He compares such strategies to what has been practiced with the mortgage-backed securities: "such financialized

carbon-commodity packages, with their even longer value chains, conceal the heterogeneous climatic and social impacts and conditions of assemblages of, say, hydroelectric projects in India, cookstove projects in Honduras, or schemes burning off methane from coal mines in China and industrial pig farms in Mexico” (p. 88). In the complex infrastructure of the modern capitalist world, connected by advanced technologies; emissions are displaced, transformed, commensurated, circulated, divided, and because of the complexity of this system, the task of valuing emissions is not a straightforward one.

Production of emission allowances’ price, and thus also of carbon’s value, structures new relations between the ‘old’ industrial actors and the ‘new’ financial actors – those who emit and those who produce emissions’ value. Lohmann (2011) names the largest buyers of UN carbon credits today. They are financial-sector actors such as Barclays Capital, Deutsche Bank, BNP Paribas Fortis, Kommunalkredit, Sumitomo Bank and Goldman Sachs (p. 88). By bringing industries and financial actors into the common sphere of exchange practices, carbon markets re-organize relations between the ‘old’ and ‘new’ economy. At the same time, in the moment of negotiating ETS rules, the divides between the ‘old industrial’ and the ‘new service’ economies become more visible. Sectors seek support from their national governments to fight together for organizing carbon trade in a way conducive to their interests. In 2008, the main line of disagreement between governments ran along the line of a choice between full auctions for companies and benchmark-based emission allocation. While financial, nuclear and renewable energy sectors favored full auctions, industries and coal-based power plants favored benchmark allocation. This shows how much negotiation of new ETS rules was embedded in the existing economic structures in EU Member States.

I study the Polish engagement in the negotiation of the new ETS Directive as the main case in this dissertation. It has become one for numerous reasons. The large share of coal in electricity production (93%) and importance of coal mining and coal-based power sector for the Polish economy were crucial for the Polish government and industries to object to the Commission’s proposal. The share of coal in electricity production makes Poland an exceptional economy in the EU. No

other EU Member State has a comparably high share of coal in electricity generation and similarly strong and politically significant mining and electricity sectors. Most power generation companies in Poland are in the State's hands. Kompania Węglowa, the biggest hard coal producer in the European Union, is also owned by the Polish State. Half of the lignite mines are part of the State-owned companies. The power and mining sectors have strong and numerous trade unions, which enjoy extraordinary employment privileges. Power and mining sectors in Poland are not only State-own, they seem to be part of the State. They belong to the most influential interest groups in Polish economy and politics.

Poland is also an interesting case to study with regard to the 2008 negotiation of the ETS Directive because it underwent political-economic transformation in the early 1990s and is among the new EU Member States with a socialist past. Transition to market economy resulted in the collapse of many industries in Poland, which in turn significantly reduced carbon dioxide emissions. Due to this fact, Poland, and countries with a similar past in Central and Eastern Europe, hoped for a 'reduced tariff' with regard to future GHG emissions reduction targets. However, in 2008 it became clear that these countries would have to continue to reduce their emissions at the same pace as the old EU Member States. Proposed reduction targets and changes in the ways in which the ETS would be organized in the future were a clear signal to Poland that past emission reductions were not enough and another transition was imminent - a transition to a low carbon economy. But the prospects of yet another costly transition seemed bleak for Poland. The vision of catching up with the Western European living standards started fading away. During the 2008 negotiation of the ETS, the past, the present and the future of Poland's development met and became re-articulated by actors from various organizational fields: political, economic, civil society.

There is yet another rationale to examine Polish engagement in the negotiation of the ETS has. It allows us to enter debates on processes, which political science literature calls 'Europeanization.' The negotiation of the ETS Directive made it clear that a discourse of 'national interests' practiced by the Polish government and interest groups could not have been sustained. National justifications did not

suffice for political deliberation in the European arena. Political institutions in the EU makes it possible for various domestic actors to confront their positions and thereby persuading each other about mutually proposed solutions. Framing interests in nationalistic terms is efficient only in so far as governments want to exempt their countries from general rules. But it is certainly not enough to change EU policies in a more fundamental way.

It is also difficult to sustain a nationalistic framing of interests and causes because policy-making in the EU is largely based on expertise. In 2008, lack of sufficient expertise on the ETS led Polish government and companies to tighten their relations with European industries. The European branch of the International Federation of Intensive Energy Consumers (IFIIEC) worked out alternative rules according to which the new ETS could be organized. And since the IFIEC project of the ETS would be less costly for Polish power plants and industries, the Polish government and companies decided to support it. At the same time, they tried to adapt it to their local needs. Therefore, expert and political deliberation are intertwined and result in various frames and policy innovations. In the 2008 ETS negotiation, actors across national and organizational fields got together to innovate with the ETS design. Therefore, this dissertation also shows that while being a 'troubling situation', climate change provides actors with a great potential for creating new frames and spaces of practice. It opens opportunities for reorganization of relations between economic actors and political authorities.

The study of negotiation of the ETS also helps us to better understand how this market-based tool for environmental governance is organized. The ETS is a new market for emission allowances and as such it is examined in this dissertation. According to Michel Callon (2009), the idea that markets are designed and later on performed illuminates their constructed character and the existence of multiple rules and ways according to which they may function. Markets are therefore not some kind of 'quasi-natural spheres' (Callon 2009, p.538), but they are spaces actively constructed by actors. They also construct actors and social realities in return (Callon et al. 2002). Callon and Muniesa (2005) define markets as collective, organized devices that calculate compromises on the values of

goods. They ask: who (or what) actually calculates; and develop a concept of 'distributed calculative agencies' (p. 1236). Calculation is neither an exclusively human activity, nor can it be solely attributed to models and machines. Calculative capacities of agencies are linked to their equipment, which is distributed (Callon and Muniesa 2005 p. 1236). An arrangement of elements among which calculation is distributed makes up a calculative space. Such spaces may vary and result in different cognitive capacities of actors and in different results of their valuation of products.

Negotiation of the ETS also asks for a more politically sensitive analysis. In his critical conversation on climate change, Larry Lohmann (2006) examines carbon trade as an emerging global power structure. His attention is drawn to potential inequalities between the rich North and the poor South. While the Northern elites are concerned with how they are "going to defend power and privilege over a global good they never had to compete for before" (Lohmann 2006:31), the Southern elites ask how the climate crises can be "prevented from being used as yet another excuse for pushing aside the long-thwarted claims of Southern countries to industrialization and the world's wealth" (p. 31). Lohmann is convinced that different kinds of political action on climate change will have different effects on patterns of accumulating global wealth and on interregional economic relations. According to him, actors involved in climate politics "are eyeing each other cautiously, uncertain how the new conditions will affect their respective standings" (p. 31).

Among players on a global arena, the European Union has been most vocal about the need to act against climate change. After the Bush administration had withdrawn from the Kyoto negotiations in 2001, the European Community took up a role of a norm (Hechter and Opp 2001, Lightfoot and Burchell 2005, Manners 2002) and political entrepreneur (Tiberghien 2007) with regard to climate change. At the same time, as a regional club of 27 Member States, it had and still has to deal with its internal political, economic and social inequalities. Debates on the ETS have similar undertones to those outlined by Lohmann in his analysis of the global South-North politics. Poorer Member States, usually the ones which joined the EU in 2004 and later, are concerned with their standing in the future

'low carbon Europe'. Economically more developed Member States, and those who participated in designing of the ETS when the Kyoto Protocol was negotiated, are gauging climate policies' potential as a factor for their faster economic development.

The European Commission itself perceives the ETS as a trigger of Europe's economic growth and a potential tool for generating Europe's competitive advantage globally (Barroso's Speech during the Green Week in Brussels in 2009). The negotiation of the new ETS Directive presented by the European Commission in January 2008 was an important moment in the way of establishing a strong climate change regime in Europe and globally. It revealed diverse hopes and fears in different Member States. It showed that certain visions of progress and development are neither clear to all Member States nor shared by all of them. Many questions were asked concerning the future of the EU as an economic and political actor. It should be understood that the ETS is not only about reductions of carbon dioxide emissions but is also an integration strategy of the European Union to become a global economic and political leader. A better understanding of the diverse voices coming from various Member States in the 2008 debate, in particular the new and the less developed Member States, may help to predict whether the EU will succeed in its goals.

Facts and Figures on the European Union Emission Trading Scheme

Carbon markets come in two main forms: 'cap-and-trade' and 'project based'. MacKenzie (2008) describes the first type as involving "a government or other authority setting a 'cap' - a maximum allowable aggregate total quantity of emission - and selling or giving the corresponding number of allowances to emitters" (p. 5). An authority monitors and fines those who emit without allowances. It is also responsible for lowering the cap and thus prompting companies to emit less. The trade aspect of the system enables companies to choose between emission reductions or buying emission allowances to cover their emissions. Companies can therefore adopt the more cost-efficient strategy: emission reductions or a purchase of emission allowances on the emission-market.

The first cap-and-trade system was introduced in the USA in 1995 to reduce sulfur-dioxide emissions (MacKenzie 2008, Lohmann 2006, Pooley 2011). The greenhouse gas cap-and-trade systems were set up by the Kyoto Protocol and the 2003 European Union Directive establishing the EU Emission Trading Scheme (EU ETS). The EU ETS is the world's biggest cap-and-trade carbon market. It works by allocating permits to companies that create greenhouse gas emissions – typically power generators and heavy industries – a quota of permits to produce a certain quantity of carbon dioxide. If they want to emit more, they have to buy more permits in the market; if they have too many permits because they have cut their emission, they can sell the surplus on the market (Harvey and Crooks 2009).

There are currently two project based emission markets: the Joint Implementation and the Clean Development Mechanism. MacKenzie (2008) explains that “the CDM allows the creation of Kyoto units from projects in developing countries approved by the Executive Board of CDM¹ (MacKenzie 2008, p. 8). In order to be approved, a project has to prove its ‘additionality’ – which means that emission reductions achieved through the project could not have been achieved outside of the CDM scheme – and that the project “will reduce emissions below the ‘baseline’ level they would have been at without the project” (MacKenzie 2008, p. 8). An entity from a developing country can then earn the difference between emissions with and without the project in the form of units called ‘Certified Emission Reductions’ (CERs) (MacKenzie 2008). As MacKenzie (2008) explains:

a CER is a credit, not a permit or allowance: it doesn't directly convey any right to emit. However, some governments are purchasing CERs as a way of meeting their Kyoto caps, and crucially CERs also have monetary value because the European Union permits its member states to issue allowances in the most important cap and trade market, the European Union Emission Trading Scheme (ETS), in exchange for the surrender of CERs (European Parliament, Council 2004). A credit earned in, for example China or India can thus be transformed into a permit to emit in Europe. (p. 7)

¹ A body established under the United Nations Framework Convention on Climate Change.

The European Union Emission Trading Scheme is legally grounded in several acts: the United Nations Framework Convention on Climate Change (UNFCCC), The Kyoto Protocol, the Marakesh Agreement, the EC Directive regulating EU's obligations with regard to the Kyoto Protocol (2003/87/EC) and the Linking Directive (2004/101/EC). The EU ETS was established by the ETS Directive (2003/87/EC) in 13 October 2003. The EU ETS has covered the following industrial sectors: power sector (installations with capacity over 20 WM), oil sector, glass and ceramic sector, coke sector, chemical and paper sectors. The ETS Directive² (2003/87/EC) aimed at contributing to fulfilling the commitments of the European Community and its Member States to the Kyoto targets with the least possible diminution of economic development and employment. The 2004 Directive (2004/101/EC) extended the EU ETS to include other Kyoto Mechanisms, like the Clean Development Mechanism (CDM) and the Joint Implementation mechanism (JI). Thanks to this Directive, called the Linking Directive, companies in the EU could earn European Union Allowances (EUAs) through carrying out CDM projects in the developing countries under the Kyoto Protocol.

ETS is the largest emission market in the world covering around 11, 000 installations. Each installation receives permits to pollute, which are called

² The 2003 ETS Directive also defined what is to be traded within ETS. A European emission 'allowance' means an allowance to emit one tonne of carbon dioxide equivalent during a specified period, which shall be valid only for the purposes of meeting the requirements of this Directive and shall be transferable in accordance with the provisions of this Directive. 'Emissions' means the release of greenhouse gases into the atmosphere from sources in an installation. And a 'tonne of carbon dioxide equivalent' means one metric tonne of carbon dioxide (CO₂) or an amount of any other greenhouse gas with an equivalent global-warming potential.

For each trading period each Member State had to develop a national plan stating the total quantity of allowances that it intends to allocate for that period and how it proposes to allocate them. The plan should have been based on objective and transparent criteria. The plan had to be published and notified to the Commission and to the other Member States at least 18 months before the beginning of the relevant period. Within three months of notification of a national allocation plan by a Member State, the Commission may have rejected that plan, or any aspect thereof. Member States shall ensure that allowances can be transferred between persons within the Community, persons within the Community and persons in third countries, where such allowances are recognised. According to the 2003 ETS Directive, Member States should have ensured that, by 30 April each year at the latest, the operator of each installation surrenders a number of allowances equal to the total emissions from that installation during the preceding calendar year, and that these are subsequently cancelled. Each year the Member States shall submit to the Commission a report on the application of this Directive. This report shall pay particular attention to the arrangements for the allocation of allowances, the operation of registries, the application of the monitoring and reporting guidelines, verification and issues relating to compliance with the Directive and on the fiscal treatment of allowances, if any. The first report shall be sent to the Commission by 30 June 2005.

European Allowances (EUAs). In theory, a scarcity of these permits should increase their price, making it more expensive to pollute and thus also encouraging companies to pollute less. ETS was launched in 2005 and trading activities within it have come in three periods: 2005-2007, 2008-2012 and 2013-2020. For each of these periods different emission caps were established. The Sixth Community Environment Action Programme established by Decision No 1600/2002/EC of the European Parliament and of the Council recognized that the Community was committed to achieving an 8 % reduction in emissions of greenhouse gases by 2008 to 2012 compared to 1990 levels, and that, in the long term, global emissions of greenhouse gases would need to be reduced by approximately 70 % compared to 1990 levels. Carbon trade within ETS is open to all kind of actors within the EU. Any person – natural or legal – may hold allowances and the registries shall be accessible to the public and shall contain separate accounts to record the allowances held by each person to whom and from whom allowances are issued or transferred. Standardization and security of registries and electronic databases was one of the priorities set by the ETS Directive.

The size of the cap and procedures of establishing it differed each time and raised various controversies (e.g. Carbon Trade Watch 2011). During the first two phases of ETS, Member States were responsible for issuing and allocating emission allowances (EUAs) to domestic installations of companies covered by ETS. As for emission allocations, 95% and 90% of emission allowances were allocated for free and in the first (2005-2007) and second phases (2008-2012) respectively. The rest were to be bought by companies within the ETS. Companies could also buy allowances to cover their excessive emissions on ETS. In the first trading period, national governments, endowed with wide authority to determine how many allowances were given out to polluting industries, were largely blamed for an over-allocation of allowances – with an overall surplus of 267 MtCO₂e³. As a result, the EUAs' price collapsed in 2005/2006. This was an initial, experimental phase of emission trading in the EU. Actual reductions through emission trade were supposed to take place in the second trading period 2008-2012. At the same

³ Megatonnes Carbon Dioxide Equivalent, the internationally recognised measure of greenhouse gas emissions.

time, Member States could trade Kyoto units among themselves and with other Kyoto countries. Revenues from Kyoto transactions went to national budgets. Thanks to the 2004 Linking Directive companies from Member States have been able to use the Kyoto flexibility mechanisms (CDM and JI) and exchange credits gained there for EU ETS credits.

The EU ETS was established as a regional market and most of the administrative work has been organized at the national level. Member States established national registries of greenhouse gasses (i.e. carbon emissions) to ensure the accurate accounting of the issueing, holding, transferring and cancelling emission allowances. Bodies monitoring allocation of emission allocation to companies and their compliance with emission limits were set up as well. Member States also had to establish a system of penalties for excessive emissions not covered by a purchase of emission allowances. An overall control of emission trade in the EU was granted to the European Commission, which designated a Central Administrator to maintain an independent transaction log recording the issue, transfer and cancellation of allowances. The Central Administrator conducts an automated check on each transaction in registries through the independent transaction log to ensure there are no irregularities in the issue, transfer and cancellation of allowances. In case of any irregularities, through the automated check, the Central Administrator shall inform the Member State and shall not register transactions in question or any further transactions relating to the allowances concerned until the irregularities have been resolved.

When in the first and second trading periods (2005-2007 and 2008-2012), the European Commission decided to grant companies with free EUAs to cover part of their emissions, and thus making them reduce the uncovered rest of emissions or buy EUAs to cover them, companies tended to report higher emissions than their actual ones. Since in these two trading periods companies negotiated their EUAs' quotas with national governments and the Commission's control over data they provided was rather poor, many companies managed to get more allowances than they needed (Pearson 2010). A 2010 Sandbag report authored by Anna Pearson compiles data about companies' emissions and EUAs' allocations to reveal the names of the Carbon Fat Cats – European companies, which received

surplus allowances for the trading period 2008-2012. The top ten Carbon Fat Cats, according to the report, shared 35 million surplus EUAs in 2008. These EUAs were worth an estimated 500 million Euro at the carbon prices of about 14 Euros per EUA at the beginning of 2010. Moreover, since the EU ETS rules allow banking of EUAs for the future use, these companies may not have to undertake any emission reductions also after 2012. The fattest Carbon Cat is ArcelorMittal with 14.4 million surplus EUAs in 2008. Lafarge, Corus, SSAB - Svenskt Stal, Cemex and Salzgitter had between 4.2 and 2 million surplus EUAs in 2008 and HeidelbergCement, CEZ, U.S. Steel (USS) and Slovenské elektrárne from 1.7 to 1.4 million surplus EUAs. Among mostly Western European and global steel and cement companies, there are two state owned power sector companies (CEZ and Slovenské elektrárne) from Central-Eastern European countries (Czech Republic and Slovakia).

Emissions from installations covered by the scheme fell by 11.6 per cent in 2009 (a drop of 246 MtCO₂e), having fallen by around 5 per cent in 2008. But Carbon Trade Watch (2011) notes that “this needs to be set against falls in production of electricity and industrial goods of 13.85 per cent in 2009 as a result of the recession”. Less production results in fewer emissions – which can hardly be claimed as the results of a successful policy” (2011, p.2). Carbon Trade Watch (2011) has also commented on the 2010 results: “Figures for 2010 show that emissions rose by over 3.5 per cent in 2010, compared to 2009 levels. The allocation of permits under the scheme was 3.2 per cent (57.4 MtCO₂e) higher than the actual emissions measured from installations covered by it” (p. 2).

The ETS operating between 2005 and 2012 has generated other flaws, like windfall profits by power sector companies. Despite the fact that they received emission allowances for free, power producers passed the market cost of emission allowances to the electricity price. This could be explained by the fact that producing electricity, and thus emitting carbon dioxide, meant losing an opportunity to sell emission allowances on the market and to earn some money this way. Therefore, companies passed the opportunity cost into the price of electricity. This caused huge scandals in many member states, especially on the de-regulated electricity markets where the electricity price is not regulated. The

governments, NGOs and consumers were outraged that free allocation of emission allowances to the polluting companies earned them additional revenues at the expense of the consumers.

Windfall profits earned by power producers, over-allocation of emission allowances in the first phase of the EU ETS (2005-2007) and a difficult process of assessing National Allocation Plans in the second phase (2008-2012) inclined the European Commission to revise the European Union Emission Trading Scheme in a substantial way (European Commission 2008). In January 28th, the European Commission proposed a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading system of the Community. The main change introduced was the rule of full auctions for the power sector.

The European Commission was driven by three main objectives when proposing amendments: (1) to fully exploit the potential of the EU ETS to contribute to the EU's overall greenhouse gas reduction commitments in an economically efficient manner, (2) to refine and improve the EU ETS in the light of experience gathered, (3) to contribute to transforming Europe into a low greenhouse-gas-emitting economy and create the right incentives for forward looking low carbon investment decisions by reinforcing a clear, undistorted and long-term carbon price signal (European Commission 2008:3).

For the first time in the history of ETS, from 2013 onwards there would be one cap for the whole EU ensuring that a 20% reduction target was achieved by 2020. One cap based on historic emissions, according to the Commission would provide a long-term perspective and increased predictability, which would be required for long-term investments in efficient abatement (2008:7). The cap would decrease linearly by a yearly factor of 1,74% giving a clear message to investors about further emission reduction costs (p.7).

However, some already foresee a surplus of around 970 million of allowances within the post-2012 ETS coming from the second phase of the scheme (2008-2012). This might mean that polluters would not have to take action domestically until 2017. Besides, companies would be allowed to use 1.6 billion offset credits in

phases II and III, mostly derived from the UN's Clean Development Mechanism. Over 80 per cent of the offsets used to date come from industrial gas projects, which EU Climate Action Commissioner Connie Hedegaard admits have a "total lack of environmental integrity." The Commission delayed a ban on the use of these industrial gas offsets to April 2013 in response to lobbying from the International Emissions Trading Association (IETA) and others (Carbon Trade Watch 2011).

Auctions, proposed by the Commission, were acclaimed by the Commission as "best ensuring efficiency of the ETS, transparency and simplicity of the system" (p.7). Auctions, due to the Commission, would allow avoiding undesirable distributional effects. They complied best with the polluters pay principle and rewarded early action to reduce emissions (p.7). The Commission stated that "allocation for free would constitute state aid which must be justified under Article 87 and 88 of the EC Treaty" (2008:11). After 2012, allocation of emission allowances through auctions would become a rule for power producers. No free allocations should also be made to new entrants and carbon capture and storage installations (p.15-16).

Also, keeping in mind the approaching end date of the Kyoto Protocol and the need to negotiate a new global agreement, the Commission wanted to amend the European scheme so that it was easy to link it to the future global emission market or to other regional emission markets. The simple rule of auctioning emission allowances seemed to provide a good linking potential (Commission 2008, p.10-11). However, since in 2008 emission reduction targets comparable to those in the European Union were still absent in other regions and countries, the Commission found it necessary to protect European industries from losing competitiveness in global markets. It perceived carbon leakage as viable threat of "relocation of greenhouse gas emitting activities from the EU to third countries and thereby increasing global emissions" (p. 7). The Commission proposed a gradual transition for installations in sectors exposed to global competition from 80% of free allowances in 2013 to full auctions in 2020 (p.8). Transnational allocation to industrial installations would be harmonized and based on "benchmarks" which "should take account of the most greenhouse gas and energy

efficient techniques, substitutes, alternative production processes, use of biomass, renewables and greenhouse gas capture and storage” (p. 16). Benchmarks would be established within a separate set of negotiations before the 2013 trading period.

The Commission estimated that at least two thirds of the total quantity of allowances would be auctioned (p.8). The proposal foresaw that 90% of the total quantity of allowances to be auctioned would be distributed according to the relative share of 2005 emissions in the EU ETS. For reasons of fairness and solidarity, and taking into account national circumstances, 10% of the total quantity of allowances to be auctioned would be redistributed from Member States with an average level of income per head, that is, more than 20% above the EU average to the Member States with lowest GDP per capita and highest growth prospects. However, the Commission found it “inappropriate to treat economic sectors differently under the Community scheme in individual Member States” (p.15). It reiterated it by stating that there should be “no distortion of competition in the internal market due to differences in Member State implementation” (p.43).

This was perceived by the new EU Member States as a step back from the principle of burden sharing which accompanied emission reduction efforts in the European Community since 1990s. The redistribution of 10% of the total quantity of allowances to poorer Member States seemed like a moderate gesture of solidarity compared to the burden sharing approach adopted at the time of negotiating the Kyoto Protocol (Schreus and Tiberghien 2007). In the past, the burden sharing approach guaranteed a success when the European Commission pushed for an ambitious community-wide target while recognizing the need for differentiation in national targets. As a result, “only seven MS were expected to reduce their emissions: Austria, Belgium, Denmark, Germany, Italy, Luxemburg, the Netherlands, and the United Kingdom. Other EU Member States either pledged to stabilize their emissions (Finland, France) or to work to reduce the rate at which they were growing (Spain, Greece, Portugal, Sweden, and Ireland)” (p.33).

The Commission's proposal also led to a greater centralization of the system and established the Commission as the main governing body of the system. In the proposal of the ETS Directive we read: "The measures necessary for the implementation of this Directive should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission. In particular power should be conferred on the Commission to adopt measures for the auctioning of allowances, for transitional Community-wide allocation of allowances, for the monitoring, reporting and verification of emissions, for the accreditation of verifiers and for implementing harmonised rules for projects" (p. 19).

The debate that took place in 2008, after the Commission proposal was issued, challenged many of the Commission's proposals. At the same time, European industries proposed their alternative method for allocation emission allowances not only to the industries but also to the power sector companies. This alternative proposal has also been supported by the Polish government and industry-power sector which were lobbying for free allocation of emission allowances to the Polish power sector companies.

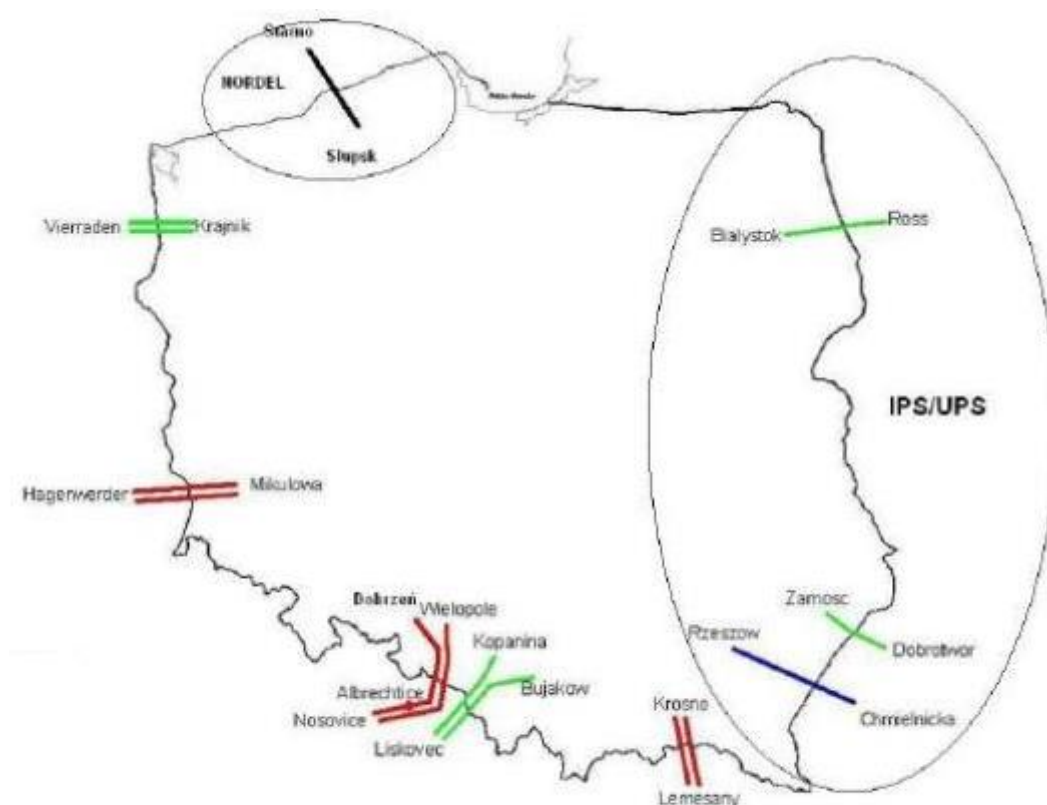
Power Sector and the Electricity Market in Poland

The Commission's proposal of 'full auctions' for the power sector companies raised concerns in EU Member States with carbon-intensive power sectors. One of them is Poland, which almost exclusively uses coal to generate electricity. Similar to Estonia, Poland generates electricity mainly from coal (in around 93 percent). These are the only two countries in the EU with such a high share of coal in electricity production. According to the World Bank's (2011) calculation, in 2007 the share of coal in electricity production in the EU27 was 29 percent; for

EU10⁴ was 59 percent and in Poland it was 91 percent. Poland also has vast coal reserves and a working, though costly, mining sector.

The Polish electricity market is fairly isolated as it is lacking grid connectors with other countries. Almost the total amount of electricity consumption is covered by domestic production⁵. The Polish power sector is also fairly old and inefficient – 40% of power blocks are around 30 years old – and this necessitates large investments in new block in the near future. According to the national power grid company, PSE Operator, in 2009 55.84% of electricity was produced from hard coal and 33.66% from lignite and the share of coal in Poland's energy mix is constantly falling (“Udział węgla w energetyce będzie malał,” 2010).

1. Transnational Grid Connections in the Polish Electricity Market



⁴ EU10 comprises of: Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia.

⁵ Poland imports 140 MW from Belarus, 220 MW from Ukraine and 600 MW from Sweden. Yearly production of energy in Poland is about 160 TWh (source: GTE “Import energii, połączenia transgraniczne, Market Coupling” Konferencja “Power Ring” December 2008).

Source: GTE "Import energii, połączenia transgraniczne, Market Coupling" Conference "Power Ring" December 2008.

The renewable sector is small and accounts for around 7 percent of energy production in Poland. Due to a rather flat landscape the potential for hydropower is limited. However, the share of renewables in electricity production is growing. In March 2011 the installed capacity of renewable energy sources was 2780.079 MW: biogas - 87.773 MW, biomass - 399.05 MW, solar - 0.104 MW, wind - 1344.317 MW and hydro - 948.835 MW ("Przybyło ponad 223 MW zielonych mocy" 2011).

2. Structure of Poland's Energy Mix (2006)

2006	Solid fuels	Oil	Gas	Renewables
Poland's gross inland consumption	57.04	24.23	12.37	4,99
(Energy Mix in Mtoe, %)	57%	25%	13%	5%
Primary production and recovered products (in Mtoe, %)	67.58	1,47	3.88	5.05
	86%	2%	5%	6%
Electricity mix (in TWh, %)	148.61	2,44	5.02	4.31
	91%	2%	3%	3%

Source: Source: Second Strategic Energy Review, 2008

Power sector in Poland, as in every country, is of strategic importance for the economy. The Polish electricity market is currently dominated by four state-owned energy groups: PGE, Tauron, Energa and Enea. There is only one distribution company owned by foreign capital - RWE STOEN - which distributes electricity in Warsaw and its surroundings. The four energy groups share the rest of the distribution market in Poland - they are the owners of the distribution grid. They were created in a process of vertical consolidation of various state-owned

power sector companies, which started in 2006. Vertical consolidation meant that each group would own electricity production, distribution and sales. Some of them also own coalmines.

3. Structure of Electricity Distribution in Poland

Operatorzy Systemów Dystrybucyjnych



Source: CIRE 2011

<http://www.rynek-energii-elektrycznej.cire.pl/st,33,201,tr,69,0,0,0,0,0,osd.html>

PGE owns four coal-based power plants and in 2010 it produced 53 TWh netto. It is the biggest electricity producer in Poland – its total production capacity is 12,2 GW, which covers 40 percent of Poland’s consumption. It will soon take over another power plant. PGE owns two brown coal mines, which in 2010 extracted 43,2 ml tones of lignite. It also owns six combined heat and power plants⁶. PGE also manages twenty-nine hydro power plants and one windmill farm and its production accounts for 11 percent of renewable energy generated in Poland⁷. Since 2009, PGE is also the leading investor into two first Polish nuclear power

⁶ <http://www.pgesa.pl/pl/PGE/ObszaryDzialalnosci/Strony/Energiakonwencjonalna.aspx>

⁷ <http://www.pgesa.pl/pl/PGE/Podstawoweinformacje/Strony/default.aspx>

plants, each of which would have capacity of 3 thousand MW⁸. PGE was formed to become country's power sector leader and a leading power company in Central and Eastern Europe.

Tauron owns seven coal-based power plants (5 282,7 MWe) and two combined heat and power plants (2 443,7 MWt)⁹. It also produces electricity from renewable energy sources. Its structure of fuels is more diverse than the one of PGE. It also owns two hard coal mines and supplies 20 percent of Poland's consumption for hard coal. It produces most of its energy from hard coal – 54,72 percent; lignite – 30,22 percent; renewable energy sources (biomass, geothermal, wind energy, solar energy, large-scale hydropower, small-scale hydropower) – 8,19 percent; natural gas – 3.09 percent. On average Tauron emits 0,79 Mg of carbon dioxide per MWh¹⁰.

Energa owns one coal-based power plant, one hydro power plant and many small-scale hydro power plants. It owns, in all, fifty-four power plants. Total capacity of Energa is 1200 MW. It produces most of its energy from hard coal – 53 percent; lignite – 24,83 percent; biomass – 5,93 percent; wind – 5,79 percent; large-scale hydro – 4,12 percent; natural gas – 2,92 percent and small-scale hydro – 0,55 percent¹¹.

Enea owns one coal-based power plant of 2 880 MW installed capacity. The total production capacity of Enea is 3 189,27 MW and apart from the coal-based power plant electricity is generated by twenty-one hydro power plants, one biogas power plant, one combined heat and power plant and two wind farms. Apart from coal-based power plants owned by the Polish energy groups, Electrabel SUEZ owns one power plant, CEZ owns one power plant and EDF owns one power plant as well. There are also many power plants, which are independent companies. In Poland the highest voltage grid is owned and managed by PSE Operator.

The Vertical consolidation of the Polish power sector was also meant to contribute to a more sustainable energy production in Poland. Strong power groups would

⁸ <http://www.pgesa.pl/pl/PGE/ObszaryDzialalnosci/Strony/Energetykajadrowa.aspx>

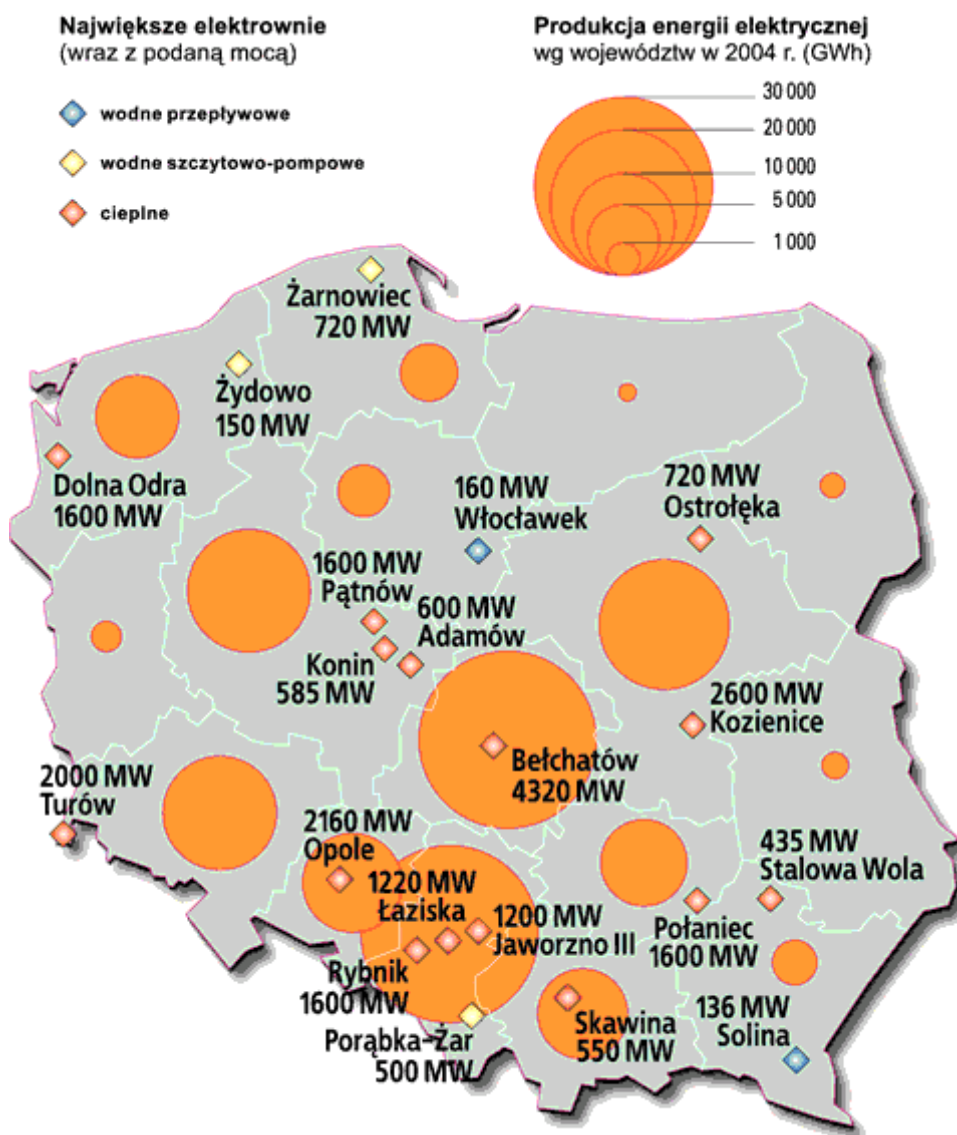
⁹ <http://www.tauron-wytwarzanie.pl/o-firmie/Pages/default.aspx>

¹⁰ <http://www.tauron-pe.pl/tauron/Pages/struktura-paliw.aspx>

¹¹ <http://www.energa.pl/dla-domu/grupa-energa/grupaenerga>

dispose with more capital to carry out investments into environmental protection measures to comply with the EU regulation (Jakubiak 2009). However, this process has often been criticized by experts that it brought less competition and generated higher electricity prices, especially for the industrial consumers.

4. The Biggest Power Plants in Poland



Source: http://www.wiking.edu.pl/upload/geografia/images/Polska_energetyka.gif

Data on the four state-owned power plant companies presented above show that two of them also own coalmines. This makes the interests of power and mining sector closely related. Hard coal is also produced in Kampania Węglowa, Jastrzębska Spółka Węglowa, Katowicki Holding Węglowy, and Lubelski Węgiel

„Bogdanka”. Lignite mines is also produced in two other open pit mines: KWB Adamów and KWB Konin.

Market for electricity has undergone significant transition since the beginning of 1990s. A market for electricity was re-organized since during socialism there was no free competition between companies and electricity prices were set in an administrative process. The major challenge in organizing a market for free trade of electricity resided in the institution of long-term contracts (KDT) for electricity between the producers and PSE – the power grid operator. The purpose of those contracts was to provide capital to power plants so that they could take loans for investments. The long-term contracts were made between 1994 and 1998 and they varied as to their duration. It was decided that last contracts would expire in March 2008 and producers would be granted compensation from the State for market prices which were lower than the contracted ones.

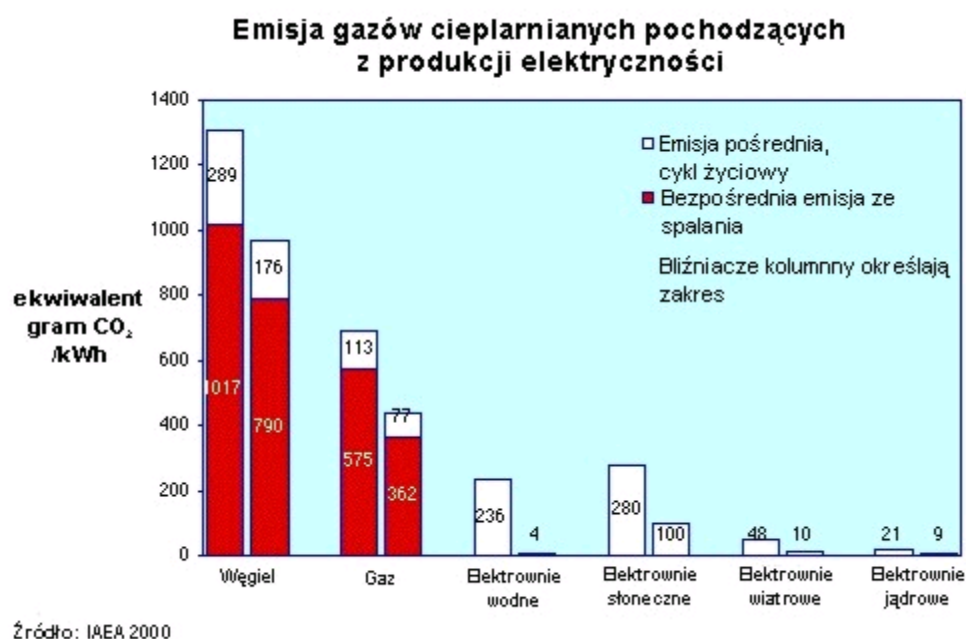
Since 1997, the role of the electricity market regulator was granted to a separate agency – the Office of Energy Regulation (URE). URE regulates price tariffs for various energy consumers (A for heavy industries, B for big companies, C for commercial companies, G for households and R for temporary constructions). In 2007 household consumers were granted a choice of the energy supplier. And thanks for the Third Party Access rule, various suppliers of electricity can use the grid owned by other companies. According to Ruszkowski (2009), regulation of electricity prices is still politicized and actors of the power sector compete to gain leverage over the regulator’s decisions. In 2013 electricity prices for households will be freed and regulated by competition between companies.

From the beginning of Poland’s transformation, there was no agreement whether the power sector should be privatized or stay in State hands (Ruszkowski 2009). In the early 1990s, the power sector was commercialized but it was excluded from the privatization plan (Ruszkowski 2009). Today, some companies are in private hands of the Polish or foreign investors and two of the power sector capital groups: Enea and Tauron are on the stock exchange. Since the EU accession, transformation of the Polish power sector has attracted the biggest international investors, like EDF, RWE, Vattenfal and Electrabel (Ruszkowski

2009). However, in 2011 Vattenfal withdrew from the Polish market selling all its companies. Transformation and management of the Polish power sector has been greatly politicized and depended on strategies of the changing governments (Ruszkowski 2009).

The high share of coal – hard coal and lignite – makes the power sector dependant on coal mining. Ruszkowski (2009) writes about some level of competition between the hard coal mines and the lignite mines. However, as Ruszkowski (2009) points out, the real competition to coal comes from gas. Gas-fired power plants are cheaper and easier to build and in the aging Polish power sector fast and affordable investments into new power blocks are necessary. In an alternative scenario for development of the Polish power sector, Jan Popczyk (2006) proposes to build a big capital group of PGE and PGNiG and invest into small-scale gas-fired power plants or in gas-fired heat and electricity plants. PGE is the biggest power sector group in Poland today and it is still owned by the State. PGNiG is the biggest gas company in Poland having monopoly over the Polish gas market. Gas is also a more climate-friendly fuel because it emits less carbon dioxide. Gas emits two times less carbon dioxide equivalent than coal.

5. Comparison of GHGs Emissions from Various Energy Sources



Starting from the left: coal, gas, hydro power plants, solar power plants, windmills, nuclear power plants. Source: IAEA 2000

However, gas has always been a troublesome fuel for Poland. According to the IEA (2011, p.5, p.13), in 2009 Russian supplies of natural gas covered 57 percent of Poland's natural gas consumption. Russian gas accounts for 82 percent of Poland's natural gas imports (with a further 11 percent from Germany). Poland is also heavily dependant on Russian gas for crude oil imports - accounting for 94 percent of Poland's crude oil imports (the remainder being imported from Algeria, the UK and Norway). Therefore, in terms of consumed crude oil and natural gas, in 2009 Russia provided 91% of Poland's crude oil consumption. Balmaceda (2008) defines 'energy dependency' as a situation when state meets one of the conditions:

"a) more than one-third of a country's total energy supply comes from foreign sources; b) more than 50% of a country's annual consumption of a single major energy source (in most of the Central and Eastern European states, oil or gas) comes from foreign sources, or c) a country depends on a single external provider for more than 60% of its imports of a major energy source for that country or more than 45% of its consumption of that energy source". (Balmaceda, 2008, p. 16)

Poland meets the second and the third condition. It imports more than 50% of its consumption of oil and gas and more than 60% of crude oil and natural gas, and more than 45% of its crude oil and natural gas consumption comes from one source - Russia (Sharpley 2012). Therefore, all debates about natural gas in Poland inevitably hint toward real or alleged Russian interests and influence in the region.

Poland is not among the most emitting economies in the world. According to Wikipedia¹², it annually emits 316,066 thousands tones of carbon dioxide. Its share in global emissions equals 1 percent and emissions per capital in Poland are at the average EU level - 10 tCO₂e (World Bank 2009). Average world emissions

¹² Source: http://en.wikipedia.org/wiki/List_of_countries_by_carbon_dioxide_emissions

of GHGs per capital equal 7 tCO₂e and, in order to achieve the 2°C increase in average global temperatures, the average emissions per capital should go down to 2 tCO₂e per capita.

The whole EU emits 13 percent of the global emissions. The old EU Member States – the old EU15 – emits 11 percent. The new EU Member States – the EU10 – emits 2,4 percent. This shows a significant difference in how the old EU15 and the new EU10 contribute to global emissions. However, compared to other EU Member States, Polish economy is inefficient in terms of carbon dioxide emissions per GDP. It emits twice as much carbon dioxide per GDP compared to the average emissions per GDP in the EU27. The two main sources of carbon emissions in Poland are: the power sector and transport. At the same time, energy efficiency of Polish economy, although improved over the last twenty years, is twice as low as on average in EU27 (Word Bank 2011).

European climate policies divide economic sectors into those covered by ETS and those not covered by the scheme. ETS comprises of the electricity sector, heavy industries and the oil sector. These sectors account for 60 percent of Polish emissions, compared to around 40% in EU27. According to the new set of directives proposed by the Commission in 2008, Poland would be allowed to increase its emissions in the non-ETS sectors by 14 percent but it would have to reduce carbon dioxide emissions by 21 percent in the ETS sectors, compared to 2005.

During the 2008 negotiation of the ETS Directive, the main point of objection of the Polish government, power sector, and industries as well, was the rule of full auctions of emission allowances for the power sector between 2013 and 2020. This would make participation in ETS very costly for the Polish power sector and significantly increase cost of electricity generation in Poland. This in turn would result in a high increase in electricity prices and additional production costs for industries operating in Poland. Their products would become more expensive and less competitive on global markets. And this in turn could result in closing factories down or moving production to countries outside of Poland. For the Polish government, this seemed like a simple recipe for lower economic growth

and an increasing unemployment. Also, the Polish government objected 'full auctions' justified by the European Commission by the fact that free allocation resulted in 'windfall profits' in power companies, because 'windfall profits' did not occur in Poland (Jankowski 2008). However, due to the prospects of market liberalization 'windfall profits' could occur in the future.

Polish industry is mostly in foreign hands, although there are still several state owned big companies, like the copper producer KGHM or the chemical producer and distributor CIECH. But for example, cement industry is all in foreign hands. Polish cement industry emits yearly 11,4 mln tons of carbon dioxide, and 62 percent of those emissions inevitably result from the basic technological processes in cement production. Polish industries are modern, highly efficient and they compete for consumers on Polish, European and global markets. Unlike the Polish power producers, they are not limited to the national market but they compete globally. Industrial factories are also more mobile than power plants, and thus, in case of deteriorating conditions for doing business in one country, they can change place of production in a relative short time.

In the debate on new ETS, European industries lobbied in a well organized manner. They have argued that due to severe emission reduction measures and costly auctions of emission allowances on ETS, industries may decide to move away from the EU - this was called 'carbon leakage'. Therefore, already in the new ETS Directive proposal, the European Commission proposed benchmark-based allocation to European industries. This meant that industries would still be partially granted free emission allowances. Details of the benchmarking system of allocation would be negotiated within a separate procedure called commitology. However, the European Commission did not take into account an indirect cost of full auctions for the power sectors, which would be also incurred by industrial producers. An increase in electricity prices due the rule of full auctions for the power sector, would burden industries with additional cost. Moreover, this cost would be different in different EU Member States, since national power sectors are fairly isolated, competition on those markets is regulated differently and national power sectors have various energy mixes. Therefore an analysis of the

implications of new ETS rules would be different for industries operating in different EU Member States.

The Commission's proposal of making carbon emissions very costly to the power sector implied the policy of phasing out coal from the EU and replacing it with less emitting fuels like gas, nuclear and different kinds of renewable technologies. This meant that the good times for extracting coal, and the use this domestic, therefore quite reliable source of electricity would soon be over. This also meant closing some coalmines or power plants in the future and thus letting thousands of workers off. This could also in the future direct Poland into an even greater dependency on the imports of natural gas. However, today, with the discovery of shale gas reserves in Poland, there is a hope for domestic supply of gas.

In 2008, although already making plans about constructing nuclear power plants, Poland still did not have this source of electricity installed. Therefore, the Commission's proposal raised a lot of fears in Poland – both in the government, as well as in the power and mining sectors. France, which took over the EU Presidency in the second half of 2008 during most intensive negotiations of the new ETS Directive, did not find the rule of 'full auctions' threatening. Therefore, it was not a good ally for Poland in its battle to save its domestic coal. Nuclear power plants do not emit carbon dioxide. The French power sector is almost completely 'carbon neutral'. And in fact 'full auctioning' of emission allowances could bring profit to nuclear power plants. As the EU electricity market would become more and more connected, the price of electricity in the EU would become similar in across the EU. And due to full auctions for the power sector, the cost of producing nuclear energy would stay not impacted by emission allowances auctions.

To give an overview of the situation in other major EU Member States, Germany was sitting on a fence because it still has quite a few coal-fueled power plants. On the other hand, Germany has already made huge investments in renewable technologies during the last decades. In 2008, Germany also had good prospects for gas imports from Russia due to the almost completed Nord Stream Baltic pipeline. The UK also relies on coal in electricity production but emission trade

has also constituted a business opportunity for another vital sector of the British economy – the financial sector. Therefore, having more allowances traded on ETS since 2013 opened new prospects for the London City.

The French and German power sector companies are the most affluent in the EU and they are interested in investing in Poland. They have a lot of capital and are actively taking part in privatization processes in the Central and Eastern Europe. The Polish power sector needs capital and the cost of emission auctions could drain it from capital for investment. The government feared that this would make Polish power sector companies ‘cheap targets’ of privatization by the European giants. The Ministry of Treasury is the manager of the property of the state-owned power sector companies and is responsible for privatization processes. However, privatization progresses very slowly in Poland and no government wants to take responsibility for that (Jakubiak 2009). There are four governmental bodies regulating the power sector in Poland: the Ministry of Treasury, the Ministry of Economy, the Ministry of Environment and the Office for Energy Regulation (URE). There is also one Polish research and consulting company, which provides services of business modeling for the power sector called EnergSys. Apart from that there are also foreign consulting companies like Ernst&Young, which also provide expertise on problems of the power sector of the electricity market.

Polish power sector is therefore centralized, old and under-invested. Subsequent governments did not manage to carry out investments, which today seem necessary if Poland’s energy consumption is to be satisfied in the coming future. Changes in the structure of the State-owned power sector companies, first their horizontal and then its vertical consolidation, did not result in greater investments. The negotiation of the new ETS Directive was an important moment for the government and power sector leaders to realize the scale and length of the power sector’s ‘to do list’. This dissertation focuses on the ETS negotiation process itself but policy decisions made in Poland after the negotiation may become an even more exciting topic for future research.

Polish Trade Unions in the EU

In the last two decades, Polish trade unions have occupied a prominent place in social science debates mainly due to their contribution to the political, social and economic transition from Communism to capitalism. However, explanations of the “phenomenon of Solidarity”, its impact and power to mobilize people against the Communist regime, were soon followed by debates on a gradually discovered weakness of labor in the new economic reality. Scholars in political science and sociology have reiterated theses about collapse of the unions’ fortress in the course of privatisation processes (Gardawski 1996, 2001; Gąciarz, Pańków 2001; Gardawski, Gąciarz, Mokrzyszewski, Pańków 1999), erosion of labour power in Central and Eastern Europe (Vanhuysse 2007), and “defeat of Solidarity” due to its inability to respond to workers’ anger (Ost 2006). Institutional and ideological legacies of the Communist past were one of the few factors to be blamed for the poor condition of labour in this part of Europe (Crowley 2004).

When the EU accession brought new socio-economic concerns, Polish unions as well as unions in other post-Communist societies remained on the sidelines of the pre-accession and post-accession debates (Casale 2000, Due and Mailand 2004, Reutter 1996). As pointed out by Bohle (2006), the inability of Polish labour to formulate a counter-position to the European integration and market restructuring projects left it out of influential circles shaping political discourse in these areas. In general, within national political arenas unions in the post-Communist countries play a minimal role (Ost 2006, Pleines 2003, Sil and Candland 2001) and despite scarce examples of a successful political influence (Avdagic 2005, Matthes and Terletzki 2005) they are widely considered much weaker than their Western counterparts.

The weakness of Central and Eastern European unions and their inability to channel workers’ anger into a class conflict have been deemed triggers of antagonism in the West (Meardi 2000). Their accession to EU structures was accompanied by fears about the future shape of the European industrial relations (Crowley 2004, Meardi 2002). Extension of the European social model to the new EU member states was questioned (Crowley 2004) and Poland’s EU accession was

thought to contribute to an American-style fragmentation of the European industrial relations (Meardi 2002). However, a recent study by Jane Hardy (2009) provides a more optimistic view on the strength of trade unions in Poland. In her rigorous analysis of the impact of neo-liberal policies on everyday lives and Poland's position in the European economy, she points to the revival of trade unions and new social movements as potential sources of challenge to Poland's new capitalism.

Along with concerns about the impact of union organizations from newly accessed countries on relations within the EU, the European integration in 2004 brought questions about post-Communist labor's capacity to represent its interests in the EU. Will trade unions from the new EU member states be capable of successful interest representation within the EU arena? Will they cooperate with their Western colleagues or formulate counter positions? Will they find European policy models relevant for national arenas? Will they contribute to building a European labour movement or will they stay weak, passive and focused on national socio-economic interests? In other words, will Polish trade unions be able to "do things in a European way" as well as to "do things in Europe", and how will they do it?

There has been a growing concern about the capacity of European labor to effectively represent its interests in the European Union. Although these institutions for representation of labor interest at the EU level do exist, transnational collective action is often perceived as crucial for an efficient interest representation in the integrated Europe (Tilly 1995, Rucht 2001, Tarrow 2001, Turner 1996, Hyman 1994). However, incorporation of social movement characteristics into labor representation at the EU level, although argued for by some authors (Hyman 2005), seems not to be an easy task. One of the main obstacles for the emergence of a European labor movement is perceived to be a fragmentation of labour interest representation along national lines (Bohle 2006). This fragmentation is reinforced by a national level organization of the corporatist interest representation and a division between grassroots labor movement fighting against neo-liberalism and the European Trade Union Confederation (ETUC) accommodation strategy to the neo-liberal agenda (Taylor and Mathers 2002). Recent studies by Gajewska (2008, 2008a) try to overcome this pessimism by

providing evidence for successful transnational labor protest actions. Gajewska (2008, 2008a) refers to a study by Taylor and Mathers (2002a) who point out that the ETUC went beyond a mere accommodation strategy when fighting for the incorporation of the Charter of Fundamental Rights and organized a mass demonstration during the negotiations in Nice in 2000. Gajewska (2008, 2008a) outlined necessary conditions for the emergence of the European labor movement: common action, not common identity, might be a better measure for the prospects of the labour movement development. She concludes that a robust institutionalization of the European labor, especially the institutionalised communication networks, might become a solid base for a further mass mobilization (Gajewska 2008). The social movement approach, in Gajewska's (2008) account, enables us to study trade unions as learning organizations where interest formulation is flexible.

This thesis builds upon latest studies of movement-like mobilization of the European labor. It does it by examining the case of the 2008 ETS negotiation, which proved controversial for the European trade union organizations. European climate policies and, in particular, organization of its main tool - the ETS - are challenging for the European labor movement because they entail job losses in carbon-intensive sectors, like industries or coal-based power sectors. On the other hand, climate policies are perceived by some leaders of the European labor organizations as an opportunity for promotion of global justice and a greater participation of trade unions in European debates. The analysis presented in the last chapter of this dissertation point to a risk of greater fragmentation of the European labor movement over climate policy issues. It also shows us that labor unions from the new Member States, especially from those with energy intensive and carbon intensive economies, may play a significant role in this process. The last chapter of this dissertation examines labor's response to the Commission's proposal of the ETS Directive and the role of Polish trade unions in the ETS debate.

The Polish power sector employs around 100 thousand people. The electric energy and mining sectors are strong bastions of trade unions, which constitute a strong political power having a considerable impact on restructurization and

privatization processes (Gardawski, Gąciarz, Mokrzyński, Pańków 1999). There are tens of trade union organizations in the Polish power sector. Most of them are company-specific or specific of one profession. The most active ones are NSZZ Solidarność with its Secretariat of Mining and Energy (SGiE), the Trade Union Forum (FZZ) and the Free Trade Union "Sierpień 80." It is estimated that around 50 percent of the 100 thousand employed in the electric energy sector belong to a trade union organization. This makes it the second bastion of Polish trade unionism, after the mining sector (Matuszewski 2009).

There is a certain level of cooperation between the mining and electricity energy sectors. The latter can always count on the former when fighting for more privilege. Matuszewski (2009) gives an example of the Solidarność Secretariat of Mining and Energy (SGiE), which covers union sections from both sectors. This way, within the same union structure, around 30 thousand of workers from the electric energy sector can count on the support of around 60 thousand unionists from the mining sector. Such a strong social force resulted in many privileges for the power sector employees. In May 1993 a Multi-establishment Collective Agreement for the Power Sector Employees was reached. In March 1998, a Tripartite Commission for the Energy Sector was established.

The 2008 ETS negotiation showed that close cooperation among power and mining workers' trade unions was a fact. The reactions that have come from those unions' leaders are strong and clear: the ETS poses threat to people employed in the Polish power and mining sectors. And while the national organizational structures of Solidarność did not share this view, trade union organizations in the energy and mining from Solidarność and outside of it united to ask the Polish government to fight against the Commission's ETS proposal. Interestingly, the Polish unions did not limit themselves to the national policy arena, but they also began to actively mobilize support in Brussels and Strasbourg. This mobilization will be analyzed with respect to Polish unions' position within a wider EU arena and their contribution to a growing fragmentation of the European labor movement.

Roadmap of the Dissertation

The first chapter presents the theoretical framework of the thesis, which allows me to examine the ETS negotiation in 2008 as a strategic moment of market organization. I point to the fact that the ETS is both a market and a governance tool and because of this double role it does not only generate profit for actors participating in the ETS but it also has an impact on profits companies make on other markets. Therefore, companies engaged in the ETS negotiation need to lower the cost of their participation in the ETS in order to gain competitive advantage on other markets. The framework also accounts for a technical character of the ETS and this makes it necessary for companies and governments, which represented companies' interests, to equip themselves with expertise. Therefore, in order to study organization of the ETS one has to account for its complex embedding in expertise, and in various fields of action: electricity markets, markets for industrial goods, national and EU policy fields.

The second chapter of the thesis introduces the negotiation of the ETS and examines early reactions of the Polish government, power sector companies and industries to the European Commission's proposal of the new ETS Directive. This chapter examines media discourses of Polish actors who questioned economic framing of carbon emissions in the EU and the impact of the new ETS rules on European economies. Carbon dioxide emissions in Poland and in the Central and Eastern European countries was framed by Polish actors as incommensurable with carbon dioxide emitted in Western economies of the EU. Carbon dioxide became a historically and locally specific thing and the economic frame of the ETS was challenged.

The third chapter examines discursive strategies of framing carbon dioxide as a commodity in the European Union. First, it is analyzed how an economic model called PRIMES served to justify and at the same time construct the European scale of the ETS reform. Second, it is examined how, by embedding local carbon dioxide into Poland's development history, the Polish experts tried to present Polish carbon dioxide as incommensurable with the Western carbon dioxide.

The fourth chapter provides an account of the process through which Polish government officials, power sector and industries' representatives established a lobbying network. The network structure is analyzed to identify actors that occupied central positions in this network and events that were central in the lobbying campaign. This chapter also examines the similarity between actors and events. This way the core of the lobbying network is identified and it is shown that power sector companies did not invite Polish environmental NGOs to work out a common position in the ETS negotiation.

The fifth chapter examines negotiation of a specific calculation device, which organizes the supply of emission allowances to companies – the method for allocation of emission allowances. Two proposals are examined – one of the European Commission and one of the European branch of the Industrial Federation of Intensive Energy Consumers (IFIIEC). The analysis has two goals. One, to show how the IFIIEC engaged in a debate on the allocation methods with the European Commission and how both sides justified their own proposals by pointing to their 'market purity' and economic efficiency. The second goal is to show how the Polish lobbying network became more international because Polish actors had to search for expertise on the ETS abroad. However, the IFIIEC proposal, though attractive for Poland, was not adopted by the Polish actors without changes but it was adapted to the interests of the Polish power sector and industries. This points to the fact that expertise was a crucial resource during the ETS negotiation but it was not something everything else was embedded in, as the performative approach in market studies would suggest.

The sixth chapter examines the reaction of Polish and European trade unions to the proposal of the European Commission. The analysis shows various concerns of the European labor organizations and differences in how they defined the role of union organizations in the ETS debate. The ETS debate showed that the European labor movement is one that is at the crossroads with regard to climate policies. They lack expertise on emission trade and look for allies either with environmental NGOs or with industries. This only contributes to a greater divide between the European Industrial Federations and the main European umbrella organization – the European Trade Union Confederation.

In the conclusion is it pointed out that negotiation of the ETS involved multiple processes of boundary making: boundaries of the ETS, boundaries between economics and politics, boundaries between markets and States, between national and European policy-arenas. Negotiation of the ETS can therefore be examined as a process of joint reconfiguration on many fields of action and a moment when opportunities are perceived, constructed, and grasped. It is also a moment when the field of power becomes more open for changes and reconstruction.

Chapter 1. Embedding or Performing Emission Trade?

Introduction

Emission trade is a relatively new instrument for pollution control, which has posed practical and theoretical challenges to policy-makers and economists. In this chapter, I focus on how emission trade has been approached in social sciences and I present a framework for studying organization of emission trade with account for its double role of a governance tool and a new market structure. Through this framework I examine re-organization of the European Union Emission Trading Scheme (ETS) in 2008, which was seen as important for improving its environmental and economic efficiency. The examined case shows that the development of the ETS is not only propelled by governance objectives but it is also structured by concerns about profit-making on the ETS and on the markets for goods, which are produced by companies participating in the ETS. This way, the ETS becomes embedded in a complex way in various realities, relations and practices. The 2008 negotiation of the ETS was the moment when this complexity manifested through actors' discourses, projects and strategies. Innovative solutions for the ETS were devised within heterogeneous policy networks, which involved actors coming from various organizational fields. This dissertation project aims at contributing to sociological studies of market organization as a specific moment in their lives (White 1891, Fligstein 2001, Callon 2009, Callon and Muniesa 2005), but it also makes a claim for granting emission markets a special place among other markets due to its double role of markets and governance tools.

Organization of emission trade has primarily occupied economists, environmental economists, as well as scholars in political science and international relations. Emission trade has been discussed in relation to its economic and environmental efficiency, institutional architecture, legal framing and attempts to reach an international agreement on its implementation. Economists and environmental economists have focused on costs and benefits of emission trade to companies and on their compliance with emission reduction targets (Crocker 1966; Ellerman,

Joskow, Schmalensee, Montero, Bailey 2000; Betsill and Hoffmann 2009; Convery 2009). They have also examined organization of particular schemes, e.g. in the British Petroleum (Akhurst Morgheim and Lewis 2003; Victor and House 2006), in the UK (Nye and Owens 2008), in Chile (Convery and Katz 2001), in the European Union (Zapfel and Vainio 2002; Ellerman, Buchner, Carraro 2006; Kruger, Oates, Pizer 2007; Convery, Ellerman, De Perthuis 2008; Rusche 2010), or in Poland (Żylicz 2000).

Studies in international relations and political science have examined relations between actors, like states, businesses, NGOs toward emission trade. They have focused on the impact of NGOs on emission trading schemes (Dreger 2008), strategies of businesses toward emission trade (Levy 2005), and emission trade in EU politics (Skjaerseth 1994; Yamin 2000; Damro and Mendez 2003; Cass 2005; Vogler 2005; Wettestad 2005; Skjaerseth and Wettestad 2008; Skjaerseth and Wettestad 2010; van Asselt 2010).

Development and functioning of emission markets have also engaged social scientists from various theoretical backgrounds. It has attracted critical, anti-capitalist analysis focusing on consequences of privatization and financialization of atmosphere (Lohmann 2006, 2008, 2008a, Smith 2007, Bond 2007; Bond and Dada 2007, Gilbertson and Reyes 2009), gramscian analysis of emission trade as a hegemonic structure (Stephan 2010), studies of politics of carbon offsetting (Bond 2007, Smith 2008, MacKenzie 2008, Lovell et al. 2008, Boehm and Dabhi 2009) and of climate action in general (Newell and Paterson 1998, 2009, Paterson 2010). Also policy networks mobilized around the issue of emission trade were analyzed (Braun 2009) and institutionalization and organizational structures of emission trade were studied (Knox-Hayes 2009, Engels 2009). There has also been a significant interest in technologies of emission trade and their performative role in society (Callon 2009; MacKenzie 2008, 2009; Hopwood 2009; Lovell and Liverman in press).

In the literature that focuses on emission trade as a tool for environmental governance, there is a polarity between policy analyses of economic and environmental efficiency of emission trade and sociological critique of the fundamental premises of this tool. Environmental economists tend to discuss

design of emission trading schemes with respect to providing additional incentives for green investments, e.g. by scaling it up to new sectors or regions (Commission 2000, 2008). Supporters of environmental markets underline the importance of economic accounting for environment. For example, Porter (1995) states that “we must calculate the value of environment” (p. 86) and markets should help us to reveal the intrinsic value of Nature (Barnes 2001).

Critics of environmental markets, such as e.g. Larry Lohmann (2009), challenge the approach according to which environmental accounting is supposed to help us to “transform environmental objects into commercial ‘goods and services’ whose value can be ‘discovered’ in markets themselves” (p. 500). Lohmann (2009) points out that “trade itself becomes comparative valuation and environmentalist action” (p. 500), generating new externalities for societies and natural environment. This kind of critique is usually a totalizing one of emission trade as such. Accordingly, emission trade cannot be improved or civilized and it will never work well for the environment because it is based on false assumptions that one can combat global warming by assigning property rights to emissions and by giving them to the owners of the capital. For those critics, global warming is a result of global structural inequalities and only a structural change can reverse climate change. For example, Mike Hulme (2009) in his book “Why We Disagree about Climate Change: Understanding Controversy, Inaction and Opportunity” urges us to treat climate change as an imaginative idea and an intellectual resource that “opens out for us new ways of understanding the willful and structural causes of inequality and injustice in the world” (p. 662).

Larry Lohmann (2006, 2008, 2008a, 2009, 2011) points to the failure and inadequacy of emission trade as a tool for environmental governance. He illuminates contradictions inherent to market approaches to global warming and their affinity to neoliberal responses to the post-1970s crises. He criticizes carbon markets as “creating and stabilizing new areas for capitalist activities” and “securing those background conditions for accumulation that are most dependent on fossil fuels and most threatened by calls for emission cuts” (p. 90). Lohmann (2011) concludes: “carbon markets have taken the climate issue and decontextualized, reengineered, and mathematicized it until little of relevance to global warming is left” (p.98). For Lohmann (2011), the story of carbon markets

sadly resembles the evolution of complex derivatives markets, which have lost touch with what they were made to be 'about' - the provision of certainty. This alarming diagnosis of the consequences of emission trade leaves little space for studying how emission trade may also re-organize global or regional relations. In this approach everything - interests, knowledge production, politics, science - seems to be embedded in processes of capital reproduction. Therefore, critical approaches leave us with no hope about improvement of emission trade - its 'civilization' - the hope expressed by Michel Callon (2009).

This perspective is absent in Nicholas Stern's 2009 book "The Global Deal: Climate Change and the Creation of a new Era of Progress and Prosperity" or Peter Newell's and Matthew Paterson's 2010 book "Climate Capitalism: Global Warming and the Transformation of the Global Economy". All three authors show enthusiasm about emission trade as the right solution to global warming. Newell and Paterson (2009) perceive the EU ETS as stimulating a "genuine economic-technological transformation within Europe" (p. 105). More skepticism about the effects of emission trade on mitigating climate change has been expressed by Anthony Giddens in his 2009 book "The Politics of Climate Change". There, he states that the EU ETS "has been ineffective for the purpose for which it was set up" (p. 199) and calls for returning to more state intervention.

One important sociological question concerning emission trade as a market and governance structure is: how to account for carbon dioxide and other GHGs? Accounting practices have been examined in order to better understand modalities of markets, their potential and actual failures (Cook 2009, Hopwood 2009, MacKenzie 2009, Lohmann 2009). Since markets proliferate to regulate humans' relations to the environment, it has become common to speak about environmental accounting, thus shifting attention from problems of political economy to technicalities of accounting practices. Some perceive it as a dangerous depoliticization of debates on emission trade (Lohmann 2009, 2011). However, others would say that, irrespective of academic debates, emission trade has become a part of our reality spreading mechanisms and norms of market exchanges (O'Neill 2007, p. 21), and this fact should be studied in itself.

The approach that influenced this dissertation the most was proposed by scholars

coming from the STS tradition. Michal Callon's (2009) proposal to study the socio-technical organization of emission markets is welcome here. Callon (2009) draws our attention to processes of boundary-making over these new markets, urges us to examine the scope of market participants and processes transforming GHGs into products. He opens emission markets' organization to empirical investigation and asks questions about the ways emission markets work, the kind of externalities they produce and the kind of matters of concern become articulated in moments of their organization. At the same time, he emphasizes materiality of those markets. Emission markets are socio-technical assemblages and they generate various effects, which are mediated by technical devices.

Donald MacKenzie (2008, 2009, 2009a), also studies emission markets with great attention paid to technical innovations organizing exchange of emission allowances. For example, he examines construction and black-boxing of the measure of the Global Warming Potential and its role in making GHGs the same, thus enabling us to compare emissions reduction efforts across space and time. Science, scientists, scientific facts and technologies are important mediators putting emission markets together and making them work. MacKenzie is interested in emission trade's governance function with respect to the unintended consequences and lock-ins it may produce and with respect to the role of science in climate policy-making. In his studies, MacKenzie (2008, 2009, 2009a) draws attention to power relations and to the embedding of emission trade in powerful black-boxes of technical innovation and science. Emission trade is not organized in a social vacuum but it is organized in more or less black-boxed socio-technical realities, which impact its organization.

Though the analysis carried out in this dissertation is largely inspired by the STS approach, I argue for bringing the category of interest into the studies of emission trade organization. I claim that interests of actors who trade on the ETS, who administer it, who are interested in developing this system, and of those who are effected by its working, should be taken seriously into account. However, I do not perceive actors' interests as being static or as being the ultimate determinants of the result of the ETS negotiation. On the contrary, I argue that interests become articulated during the negotiation and they may transform in the course of assembling the ETS. Interests are to be studied in action and through actors'

actions, through various projects of ETS that are proposed by them. To develop this approach to interests and their role in the ETS negotiation I go back to the ANT repertoire developed by Michel Callon and John Law in the 1980s.

But though Callon's and Law's approach to interests may further our understanding of why actors want the ETS to be designed in this and not in the other way – the answer is: because this is according to their interests, which they articulate as X or Y – this approach leaves us with little clue for finding out how come their interests have been defined in this particular way. And even if we resort to Callon's and Law's repertoire for an answer: their interests result from previous enrollments of those actors and from their position in other networks; we are still left with an open question about the composition and structure of these networks. Because of this problem, I decided to 'betray' the ANT and resort to the concept of a field. I did it for three main reasons.

First, the concept of a field furthers my understanding of stakes, which companies covered by the ETS have in relation to markets for goods they produce; and not for GHGs they emit. This way I can account for the double function of the ETS as a market and a governance tool, which aims at transforming existing markets for industrial goods and for electricity. The concept of a field also allows me to differentiate competition within various organizational fields – also within bureaucratic fields, fields of NGOs or trade unions – and to understand various ways in which actors participating in those fields may calculate gains and losses with respect to the ETS. It becomes visible that the ETS is a factor of change in various organizational fields as it makes actors reorient their strategies, look for new allies and define new lines of conflict and competition.

The second reason is that, while following actors in their attempts to re-negotiate the ETS rules, I was constantly faced with their own framing of their interests resulting from relations on their organizational fields. Actors said that as NGOs they could do this, as trade unions they were able to do that and in this or other sector companies functioned within particular technical and organizational constraints. Actors themselves conceptualized their organizational fields to explain their positions, interests and justify their objections toward the ETS.

The third reason is that the concept of a field allows me to distinguish between

various moments in market lives: the moment of its stabilization as a field and the moment of its organization when the structure is assembled and composed in a social movement like process. This accords with Callon's (1998) distinction between 'hot' and 'cold' situations. Fields are 'cold' and translation networks are 'hot'. My distinction between 'cold' fields and 'hot' networks is also inspired by Eyal's (2009) proposal to 'marry' Bourdieu with Latour by leaving the concept of fields to the former and the boundaries between fields to 'the prince of networks'. Eyal's (2009) approach helps me to articulate the double role of emission trade even better and to further the understanding of its organization. Organization of the ETS takes place within networks, which span various fields (markets and other organizational fields). In these networks the ETS is negotiated with the means of various devices, and one of the main challenges is to successfully translate between interests of actors coming from different fields. This way I leave examination of history, movement and change on markets to ANT, and stability and structure of markets to the field approach.

I claim that a sociological reflection on complex ways in which emission trade is assembled and composed in structured realities of various organizational fields may shed more light on why particular emission trading schemes exist and what kind of externalities they may produce. Emission trade is not a *terra nova* - a terrain, which had to be organized from scratch in a social vacuum. It is an innovation - a new assemblage - organized by experts, scientists and technologies, which is also embedded in the existing structures. Having in mind that emission trade is both a new market and a governance tool allows us to identify multiple stakes of various actors: those related to competition and profits on this new market, and those related to competition and profits in their organizational fields (markets and policy fields).

As Fligstein (2001) points out, "market rules are not created innocently or without taking into account 'interests'" (p. 28). It is, therefore, important to account for relations between emission markets and organizational fields when studying the ETS organization. At the same time, organization of emission trade cannot be directly derived from today's or yesterday's 'capitalist relations'. Emission trade is an innovation and it brings about change by mediating interests, practices and by becoming an opportunity structure or a constraint. When emission trade is

organized these opportunities and constraints are defined, articulated and constructed within networks of actors organizing emission trade.

Defining Markets and their Embeddedness

What markets are and how to study markets has been one of key questions of economic sociology. According to Fligstein and Dauter (2006), markets are “social structures characterized by extensive social relationships between firms, workers, suppliers, customers, and governments” (p. 2). While political economy focuses on macro-societal and institutional contexts of production, distribution and consumption (the variety of capitalism literature, e.g. Albert 1991, Berger and Dore 1996, Boeyer and Drache 1996, Hall and Soskice 2001), economic sociology has positioned itself mainly in opposition to neoclassical theories of economics, which have depicted markets in terms of abstract laws of competition.

Market sociologists have always been interested in why and how real markets differ in the way they are organized and how these multiple social structures produce successful economic outputs for societies (Hamilton and Biggart 1988; Lincoln, Gerlach, and Takahashi 1992; Whitley 1992; Aoki 1998). In doing so, sociologists challenge the abstract concept of ‘competition’ as the main driving force of economic markets. For economic sociologists, ‘competition’ is an actual practice of relating things and actors to each other (Fligstein 2001, White 1981; Useem 1984; Mizuchi 1989; Mintz and Schwartz 1985). Market relations are historically specific and shaped by social relations (Fligstein 2001). As Fligstein (2001) points out, economic sociologists share the same interest in (1) social rules, which have to exist for markets to function and types of social structures necessary to produce stable markets; (2) the relation between states and firms in the production of markets; (3) the “social view” of what actors seek to do in markets, as opposed to an “economic view”; (4) the dynamics by which markets are created, attain stability, and are transformed, and how we can characterize the relations among markets; and (5) the implications of market dynamics for the internal structuring of firms and labor markets more generally.

Sociologists are, therefore, interested in the relation between economic activities and its social context. This has been posed as a problem of “embeddedness of

economic action” and has influenced both political economy and economic sociology. Karl Polanyi (1957), the father of institutional approaches to social embeddedness of economic action, distinguished a market economy from other forms of economic organization primarily in terms of the former lack of social embedding. In the pre-market economic systems, according to Polanyi, the process of production was embedded in a variety of institutions such as the family, neighborhood, community, etc. (Polanyi 1957:46-53; 1957:30). According to Polanyi, market economies are lacking this embedding and any attempts to regulate markets may be read as a process of embedding markets in societies.

Polanyi as a representative of a substantivist approach to economy (Callon and Caliskan 2009) places the notion of society and institutions derived from it in the center of the analysis. He (1957) claims that the creation of markets required states’ action and he “suggested that governments would have to intervene into markets to stabilize them and to provide social protection for workers and rules to guide that interactions between groups and capitalists” (Fligstein and Dauter 2006, p. 12). The ways in which governments intervened and stabilized markets depended on historical institutional arrangements, which organized relations between governments and economic actors.

Polanyi’s reflection on embeddedness is present in economic sociology; however, the new economic sociology has defined the concept of ‘embeddedness’ differently (Swedberg 1991). The argument of ‘embeddedness’ says in general that individual behavior and institutions are constrained by ongoing social relations (Granovetter 1985). The ‘new economic sociology’ has set out to investigate the social structural (Granovetter 1985, White 1981), cultural (Zelizer 1985, Abolafia 1996) and political (Fligstein 1996) embeddedness of market behavior. Social structures may be defined in terms of networks of relations between actors, such as producers, consumers, suppliers, and governments in a given market (Fligstein 2001). Zukin and DiMaggio (1990) proposed a broader concept of embeddedness as cultural, cognitive, structural and political. Markets need definition of property rights, governance structures, rules of exchange and conceptions of control (Fligstein 1996; Campbell and Lindberg 1990; North 1990). Network analysts have, on the other hand, been interested in how content of relations between actors impacts on what happens in a particular market. They

have tried to explain these results by studying resource dependence (Burt 1983), power and ownership (Mizruchi, Stearns, and Brewster 1988; Lincoln, Gerlach, and Takahashi 1992; Palmer et al. 1995), access to information (David and Stout 1992), impacts of trust (Uzzi 1996) and actors' statuses (Podolny 1993).

The question of social embeddedness of economic action has also been posed in relation to the problem of "over- and undersocialized" conception of human action in sociology and economics (Granovetter 1985). The former perceives human action as highly influenced by culture, social norms or other actors. The latter perceives human action as propelled by an internal urge for individual gains. Granovetter (1985) points out that both assume actions and decisions carried out by atomized actors. He gives an example of avoiding and discouraging malfeasance. He argues that the embeddedness argument stresses the role of concrete personal relations and structures of such relations in generating trust and discouraging malfeasant behavior. According to Granovetter (1985), most behavior is closely embedded in networks of interpersonal relations. Policy networks and their structure are also examined in this dissertation. The rationale behind it is to find out what kind of actors managed to position themselves on the bridging positions – in the position between various organizational fields – and propose translations of interests and objectives between those fields.

In order to approach the problem of emission trade being organized to govern practices and relations on existing markets and to enhance development of markets for 'green goods', I focus on the theory of markets as organizational fields (Bourdieu 1977; Bourdieu and Wacquant 1992; Scott 1995; DiMaggio 1985; Fligstein 1996, 1997, 2001; Fligstein and McAdam 1993). The concept of a field is generic to modern social organization (Fligstein 2001). It has been systematically developed by Bourdieu (1977, 1988, 1998) alone and together with Wacquant (1992) who defined a field as a social space of positions, within which collective actors competed for various gains and capitals, and within which various compositions of capitals were effective. Fields have their own rules of competition and cooperation, local cultures and a structure of domination within which various games for profit and domination take place. Machado-da-Silva, Guarido Filho and Rossoni (2006) provide an overview of theoretical approaches to organizational fields. Fields have been studied as a totality of actors sharing

systems of common meanings constituting a recognized area of institutional life (e.g. DiMaggio and Powell 1983). Fields have also been examined as functionally specific arenas (e.g. Scott 1995, as centers of dialogue and discussion (Hoffman 1999, 2001; Zietsma 2005) and as power and cognitive structures (Fligstein 1996, 2001; Swedberg 1991; Jepperson 1991). Last but not least, fields are structured networks of relationships (Powell et al. 2005, White 2004).

DiMaggio and Power (1983) define an organizational field as “sets of organizations that, in the aggregate, constitute a recognized area of institutional life; key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products” (p. 148-149). According to Fligstein (2001), markets are “social arenas that exist for the production and sale of some good or service, and they are characterized by structured exchange” (p. 30). An organizational field may, therefore, be defined by its product-specificity. The concept of a field gives me a point of departure for examining in what sense the ETS policy networks were heterogeneous and in what respect the ETS changed relations within and between those fields. For example, it furthers the understanding of the impact of the ETS on the existing markets and the relation between emission allowances and other goods.

The concept of a field also helps me to realize that industrial goods and electricity are fairly stabilized – their measurement, legal framing and the range of consumers are fairly uncontroversial – and the emission allowance is still a ‘hot’ product and its commodity form, although more and more accepted, is still fairly open to negotiation and framing. Moreover, emission allowances – a new commodity – mediate between economic interests of companies and environmental objectives of governments. Its circulation becomes embedded in markets for other goods and in practices of national and European administrations. By referring to fields, I am able to examine relations of conflict and competition between producers, consumers, workers and governments and their influence on the ETS organization. This helps me to understand difficulties posed to policy makers by the need to translate various organizational logics of different fields into the rules of the ETS.

Organization of the ETS is also a complex enterprise of creating a new field of

action that would be economic and environmental in character. Emission trade is different from an emission tax in so far as it creates a new market structure within which economic exchanges between actors take place. An interest in processes of making things and actions economic has been shown by the performative approach in economic sociology (MacKenzie 2003, 2006, 2007, MacKenzie et al. 2007, Holm 2007). And although the performativity approach has sometimes been put into the same box with studies of “social embeddedness of economies” (Jessop 2001), the framework developed by Michel Callon, Donald MacKenzie, Koray Caliskan, Daniel Beunza, Yuval Millo and Fabian Muniesa goes into a new direction.

The main argument of the performativity approach is that economies and markets are “embedded in economics”. Economies are performed by economic theories and by technologies of calculation. Callon has elaborated his program of “economization” together with Caliskan (2009), where they argue for shifting attention from ‘the economy’ as a thing toward ‘economic’ as an adjective – a quality of various things and actions. The research program of “economization” sets out to identify how things and actions become economic.

Caliskan and Callon (2009) are interested in processes of market construction – not in their purely social aspects, but in their material, technical aspects as well. According to Callon and Muniesa (2005), markets are socio-technical devices. They are assemblages of actors and technologies of calculation. Their composition, the way they are brought together into networks, makes them economic in nature. Markets are “socio-technical arrangements” of people, “procedures and devices which are clearly not outside of them but, on the contrary, become essential components of them” (Callon 2009, p.541).

According to this approach there is nothing economic out there to be embedded in the social, because the opposition between social and economic does not exist. ‘The social’ stands for ‘the associated’ – not for something immanently different from the economic, the natural, etc. (Latour 2005). The economic is one way of being associated – a socio-technical relation. There is therefore no abstract economic mode of operation, which would not be socio-technical in itself. One may therefore not speak of embedding and disembedding, but rather of re-

composing or assembling socio-technical market networks. Insertions of a new actor into a network or a new algorithm into a network, recomposes it and changes ontologies of its elements.

I argue that organization of the ETS involves this kind of assembling work. Expertise on emission trade such as methods for determining the emission cap, or for distributing emission allowances to companies, recompose relations between companies, governments, emissions, technologies, electricity and industrial goods. The ETS calculation devices establish new patterns of relations and many aspects of making business and policy in the EU is reconfigured. One can also observe a growing importance of expertise and experts in processes of governance and in organization of new fields of action in the modern world (Rose and Miller 1992). The following sections will show how to account for these complex ways of embedding/assembling emission trade and for the role of expertise and experts in the ETS negotiation.

There is also a more culturalist approach to embeddedness which partly inspired this project and which points to the intertwining of economies with meanings, feelings and moralities (Zelizer 1985, 1994, 2005, 2010). In a macro-culturalist study of the value of money, Carruthers and Babb (1996) point out that economic exchanges mediated with money work best when the value of money is taken for granted. Economic practice and market exchanges are embedded in cultures, in norms and shared meanings, and as such do not have to be negotiated each time a transaction is made. Taken-for-grantedness and norms shared about the nature of things to be traded, actors engaged in exchanges and the character of exchange, help reproduction of markets in an almost automatic way (DiMaggio and Powell 1991). This observation will be important for the case of emission trade organization examined in this dissertation. The new and innovative character of emission trade made it difficult to stabilize the meaning of emission trade itself. The 2008 ETS negotiation revealed disagreement on fundamental issues such as commensuration of national carbons across Europe.

Embedding Emission Trade in Organizational Fields

Shifting focus toward networks of actors negotiating the ETS provokes further

questions about them. Who are the actors involved? Where do they come from? What stakes do they have with regard to emission trade? In the literature, we can find policy network analyses, which examine communication within narrow circles of experts, business and political actors when particular emission trading schemes were designed (Braun 2009, Pooley 2010). The most active propagator of emission trade, the U.S. based think-tank EDF lobbied the Bush administration, Polish environmental economists and Ministry officials, the European Commission and British Petroleum (Braun 2009, Żylicz 2000). Here, I would like to draw attention to the fact that networks for emission trade spanned different organizational fields: policy and market fields. And since emission trade comes as a governance market structure to regulate the already existing markets, it generates interest in companies to make sure that emission trade is not an obstacle for profit making on those markets.

Emission trade, as a governance tool touches upon structures of various markets and interests of actors participating in those markets. Methods of emission allowances' allocation do not only determine the cost companies will incur by purchasing emission allowances, but they indirectly influence position of companies on markets for goods they produce. Depending on whether allocation of emission allowances is free of charge, whether it is based on historical emissions, or on current levels of emissions, whether emission allowances are allocated through purchase on open auctions, or are partially allocated for free, companies will calculate the cost of emitting differently. They will also plan their economic actions accordingly. Therefore, the moment of organizing emission trade triggers actors' strategies to defend their positions on their markets, and ensure stability for their businesses.

I approach this problem from the perspective of the theory of organizational fields. In economic sociology, the concept of fields further theorized by Neil Fligstein. According to Fligstein (2001) "fields contain collective actors who try to produce a system of domination in that space" (p. 15). Fields are regulated by rules of competition, coordination, conflict and cooperation. Fligstein (2001) distinguishes between market fields and policy fields, which differ as to their structures of domination and mechanisms of competition. These structures and mechanisms should be empirically discovered. Formal and informal rules create

and limit possible arenas for collective domination. Fields are local cultures, which contain interpretative frameworks and conceptions of control. They render actions of other actors in the field meaningful and inscribe domination of some actors over others. They also define who gets to be the player and how rules are made in the domain (Fligstein 2001). In this dissertation, market fields are as important as policy fields and the relations between them becomes an object of studies. For actors negotiating the ETS, the main challenge resides in their capacity to translate between different logics of these fields, between economic objectives of companies and environmental objectives of policy-makers.

The field is primarily organized according to the interests of actors who benefit the most from current arrangements. They are called 'incumbents'. Those who benefit less try to challenge rules of the game in a given field. They are called 'challengers' (Fligstein 2001, p. 15). Therefore, fields are arenas where power is distributed and where power struggles take place. On market fields "incumbent (dominant) firms use tactics and strategies to stabilize themselves and reproduce their position over challenger (dominated) firms" (p. 69). Actors in the dominant position, usually have more resources (also language) to pursue their goals in a legitimate way (Bourdieu 1984, 1991). Within a policy field, actors also compete over ideas, influence and control. There are also stakes to be won, like high-level positions, grants, or allocation of budget resources. The greatest achievement on a policy field may be to transform a policy solution into a paradigm for a given set of problems. This is not to say that policy-makers treat policy solutions in an instrumental way as pure means for advancing their organizational positions. They may be driven by the most sincere motivation to solve a given problem and to follow the latest scientific discoveries. But this means that actors invest in education, they establish relations around particular policy solution, they engage in debates where they have to defend their position, and this way, they gradually build their organizational identities around a given problem or a solution. To keep a policy debate going may mean for some actors to maintain their existence. To implement a policy solution makes some actors influential, important, powerful and resourceful. The U.S.-based think tank EDF is a good example of an organization for which emission trade constitutes its identity. One could say: the EDF is emission trade. The DG Environment has also advanced its position within

various directorates in the European Commission when a small group of its officials became experts in emission trade. Not once have I heard from my interviewees that the ETS was 'Jos Delbeke's child' and he would never give up on it. This also shows that there is a market for policy solutions and the theory of field may help us understand organizational factors that make some solutions successful and implemented and other condemned to disappearing.

To look at markets as fields also furthers our understanding of stakes various companies were fighting for during the ETS negotiation. Companies dominant within their 'paternal markets' fought for maintaining their dominant positions on steel, cement, glass, paper, aluminum, and electricity markets. To lower their cost of emission trade, they eagerly supported the allocation method based on benchmarks. Challengers on those markets supported the ETS organization, which would allow them to advance their position against the incumbents. Producers of green energy supported full auctions for the power sector, which would make 'black energy' more expensive, and thus less competitive against renewable energy. The allocation rules were also perceived as an opportunity for expanding companies' domination on given markets. For example, the German RWE supported derogation from full auctions for the Polish power producers after 2008, having in mind a possibility to invest in coal-based power generation in Poland in the future. Another exemplary case was the Polish resistance toward full auctions for the power companies justified by the fear that the Russian Gazprom would dominate the Polish electricity market, as such method would favor gas-fueled power plants. The ETS was a source of uncertainty and potential change, and in order to reduce uncertainty and prevent change actors from various markets engaged in negotiating how emission allowances would be allocated to them.

The debate between the European Commission, which proposed allocation through full auctions to power producers, and the Industrial Federation of Intensive Energy Consumers (the IFIEC), which proposed benchmark allocation, is a good example of how challenging it is to translate between environmental and economic objectives. Industries fought against full auctions with an argument that a sharp increase in electricity prices would increase their production costs and make their products more expensive. Since European industries compete on

global markets, they have feared losing competitive advantages against producers in China, India and companies in other countries without emission trading schemes. Therefore, the phrase ‘carbon leakage’ was coined to express the threat of industries moving away from the EU to produce and pollute outside of EU’s borders. The DG Environment, on the other hand, wanted full auctions, which would make it more expensive to produce carbon-intensive products. This controversy, which is examined in the dissertation, also showed that there are different conceptions of control in the policy and market fields. Solutions, which appeared to be generating uncertainty on industrial markets, were perceived as factors of predictability in the policy field. Translation between the IFIEC and the DG Environment remained partly unsuccessful because full auctions remained the binding rule for the power sector companies, and the allocation of emission allowances remained based on historical emissions.

Power producers joined this debate and most of the coal- and gas-based power producers supported the IFIEC-method. This method would lower the cost of purchasing emission allowances and thus allow coal- and gas-based utility companies to maintain their dominant positions of suppliers of relatively cheap electricity within their domestic markets. Otherwise, due to full auctions for power companies, electricity produced from renewable sources would become competitive with “black energy.” However, past practices of power producers in many European countries to pass the market price of allowances to the price of electricity – while allowances were allocated to them for free – made it difficult to legitimate the claim for free allocation to power companies. Those ‘windfall profits’ earned by power companies distorted electricity markets in many EU Member States and were condemned by governments, NGOs, consumers, industries, experts and the European Commission. Therefore, the IFIEC-method was a middle-ground option, since it would prevent power producers from continuing to pass allowances price to the price of electricity but it would make it less costly for them to purchase emission allowances.

One should notice, that the Commission’s proposal was favorable for challengers on the European electricity market – for the green, small-scale producers. But it was also favorable to nuclear power plants, which do not emit carbon dioxide and constitute competition to alternative green energies. There is no clarity whether

the Commission aimed at favoring nuclear producers or whether new ETS rules of full auctions of emission allowances only coincided with interests of the nuclear lobby. However, the rules proposed by the Commission resulted in new policy strategies favoring nuclear¹³. For example, after the 2008 ETS negotiation, the Polish government decided to construct two nuclear power plants in Poland. ETS rules, such as the allocation method, had therefore wide implications for other markets and for national policy domains. The organizational fields approach allows us to examine organization of emission trade as taking place within market and policy fields.

But the theory of markets as fields, although helpful in understanding stakes of actors engaged in negotiation, does not help us to grasp the mechanisms by which actors simultaneously negotiated their position between their paternal fields and the 'hot' field of the ETS. Here I focus on price predictions as a translation device, which allowed actors to communicate their objectives between various fields. Price of emission allowances, price of electricity, or rather their predictions, were intersubjective and clear communicators, which allowed for further predictions of what may happen on the ETS and on other markets. It allowed for comparison of economic and environmental consequences of various ETS schemes, for example, of various allocation methods for particular sectors.

The role of prices has been variously defined in economic sociology. As Fligstein (2001) points out, prices are means of communication between actors, which convey a message about market relations between actors. Economists describe markets as price making contexts (North 1977). Sociologists and anthropologists tend to underline the social and cultural nature of prices (MacKenzie et al. 2008, Robinson 1980, Zelizer 1985, Geismar 2001, Velthuis 2003, 2005). Caliskan (2007) points to the necessity to "understand the material processes where prices are made and the rich world of prices that define the processes of market marking" (p. 241). Prices are made within socio-technical universes of markets and are produced in multiple locations, even if one studies a single commodity market (Caliskan 2007, MacKenzie et al. 2008).

The 2008 debate has revealed a multiplicity of price assessments, e.g. by the

¹³ The Fukushima disaster in March 2011 reversed that trend.

European Commission, WWF, Greenpeace, Polish lobbyists, Deutsche Bank, Carbon Point. When proposing the new ETS Directive, the European Commission assumed that the price of an emission allowance would be around 40 Euros. In the argument with the IFIEC, the Commission said that due to the benchmark allocation method, the price of emission allowances would be too low to give clear incentives to investments in green technologies. On the other hand, the Polish negotiators asked for putting a ceiling on the price of emission allowances to prevent price volatility and damaging consequences of speculations on the ETS for industries and power sectors in the EU. Predictions of the price of emission allowances allowed for predictions of other prices – like e.g. electricity prices – depending on the discussed allocation method, and economic and environmental trends. Electricity prices allowed for predictions of cost of ETS participation for industries, changes in employment structure, living costs of European citizens, and the level of green investments. Price, as Caliskan (2007) notices, is a “prosthetic device deployed to further various trading objectives” (p. 242). In the case of the ETS, it was also used to further various policy goals. Therefore, prices and their predictions allowed for negotiations of emission trade as a market embedded in other fields – as a market-based tool for environmental governance. Prices and calculations of various costs were crucial means of communication and mobilization of actors into expertise networks. They also served as means of articulating and representing interests of actors from various fields.

Performing Emission Trade within an Economic Frame

Emission trade is a market-based instrument for lowering GHG emissions in economies. At the same time, trading carbon for profit may be a goal in itself. For example, industries may decide to invest in cheaper offset projects and exchange credits earned this way into European Allowances (EUAs). This way they may avoid actual emission reductions or sell the surplus allowances on the ETS. For investment banks, emission allowances may become a part of investment portfolios traded for profit and not for the sake of complying with reduction targets. Practice of trading emissions is therefore not only sustained by government objective but also by profit seeking.

But how is this achieved? How come actors start trading emission allowances in the first place? Organization of the supply and demand side of emission trading schemes seems key to its market and governance character. In order to provide incentives for trading emission allowances, a demand for this new commodity has to be created. This is achieved by imposing on companies legally binding limits on emissions. Emissions, emission limits and emission allowances have to be technically defined and operationalized so that exchanges of emission allowances between companies are possible and can be calculated. There also has to be a particular procedure of allocating emission allowances. Companies may be granted emission allowances up to a certain level. If they emit above the allocated limit of allowances, they may have to buy additional ones on the market. To achieve a governance result, supply of emission allowances has to be systematically lowered and it has to be always lower than actual emissions of companies participating in emission trade. In a simple cap-and-trade system, demand for emission allowances will depend on the difference between the supply of emission allowances (the level of the emission cap) and the actual emission from companies.

In policy literature, organization of the supply of emission allowances has been often presented as a 'technical' enterprise. Economists and policy makers (e.g. Zafel and Vainio 2005, Ellermann 2006) analyzed how, step-by-step, an abstract idea of emission trade was coined into concrete mechanisms and procedures. They operationalized concepts such as emission permits, emission allowances, and designed an emission cap. A list of installations participating in emission trade was put together with lists of GHGs and proposed ways of calculating historical GHG emissions for companies and regions. Procedures for allowances' allocation were chosen and a technical and institutional infrastructure for allowances' allocation and trade was organized. Through these activities, experts aimed at organizing a system of governance, within which actors would relate to emissions in an economic way.

According to the performativity approach, which emphasizes the organized character of economies, commercial exchange implies a creation of an economic frame (Callon 1998). An economic frame makes it possible for the buyer, the seller and the exchanged goods to meet on economic terms. For that moment, the

buyer, the seller and the exchanged good become detached from other contexts of their existence (Callon 1998). All the three become abstracted from other roles and functions they play in society in order to engage in a commercial act. For example, Callon and Muniesa (2005) point out that “in order to be calculated, goods must be calculable” (p. 1229). Calculability of goods is predicated upon an ability to draw boundaries around a calculated entity – to detach it from other contexts of its existence.

However, as Callon (1998) points out, referring to Goffman’s theorization of framing processes, framing is possible only due to the existence of a reality outside the frame. Framing is like drawing a line between what comes into the frame and what stays outside of it. Had there been no ‘outside’, framing would not have taken place. Reality within the frame is never really able to cut all the links to what is left outside of it. And because of this immanent relationship between what is going on within a frame and what is going outside of it, a good is never a finished project. A possibility of referring to what stays outside an economic frame poses a threat to its successful completion. Also an economic transaction is always threatened by a possible breach, a sudden break, caused by the spilling in of what was meant to stay outside.

Framing depends on the outside reality for ‘requisites’ for frame’s construction (Callon 1998). These are laws, algorithms – various devices for calculation. Following economic sociology’s interest in real configurations of markets, the performativity approach refrains from holding to an abstract idea that ‘markets calculate’. By doing this they also divert from the under- and over-socialized vision of human action (Callon and Muniesa 2005). According to Callon (1998), calculation is not an act solely carried out in a human’s brain. Calculation is also not a cultural frame for a human activity. It is an action organized by and distributed throughout networks of humans and of non-humans – socio-technical networks. Callon (1998) speaks of ‘calculative agencies’ rather than ‘agents’, since calculation is a complex collective practice. He points to “the material reality of calculation, involving figures, writing mediums and inscriptions” (Callon 1998, p. 5). Calculative devices mediate action and thus may produce shifts in action and unintended consequences (MacKenzie 2008, 2008a, 2009, 2009a).

In *Laws of the Markets* (1998), Callon proposes to focus on technologies of calculation – not only understood as technical tools for calculation, but also as economic theories, concepts and institutions. These technologies are ‘socio-cognitive prostheses’ which enable humans to carry out various types of actions. They also facilitate efficient coordination and bring into existence competencies that potentially exist in human beings. Technologies perform ‘calculable goods’, ‘calculative agencies’ and ‘calculated exchanges’ (Callon and Muniesa 2005, p. 1230). Calculative technologies vary from very simple ones, like e.g. a counter, a library catalogue or an excel sheet, to more complex computer programs, economic models or sophisticatedly organized offices of bond traders (Stark and Beunza 2009, 2008).

There are moments when organization of an economic frame and its requisites are called into question. When a frame stops being an unproblematic intermediary (Latour 2005) of economic exchanges, calculation may be impossible to carry out and transactions may be suspended. The moment of emission trade organization is a moment when its economic framing is explicitly and strategically negotiated. This dissertation focuses on one of devices, which frames companies’ relations to emissions – the method for allocating emission allowances. This is a device, which organizes the supply side of emission trade and constitutes emissions trade both as a market structure and a governance tool. Its vitality became obvious in 2007 when national governments allocated as much emissions allowances to companies as they emitted, emission trade collapsed and the price of allowances fell down to 1 Euro. Any incentives to invest in green technologies were reduced to zero.

During the 2008 ETS negotiation, Polish actors challenged the general frame of the ETS as a pan-European carbon market. There was a growing disagreement about putting carbon dioxide produced in various places in the EU under a common frame within the ETS. Claims for incommensurability of the Eastern and Western carbons were based on a different worth, which was assigned to carbon in those parts of the EU. The Polish carbon was a post-transition carbon from a developing economy. According to the Polish government, power sector, trade unions and industries, it played an important role in Poland’s economic development. Western carbon was seen by Polish actors as emitted in developed

economies, which had already achieved what Poland was striving for. Western economies were ready to benefit from carbon reductions while Eastern economies would suffer from them. The alleged incommensuration may have resulted in situations of non-calculability (Espeland and Stevens 1998) threatening development of the European Emission Trading Scheme as a European carbon market and a governance tool for emission reductions.

Markets are also devices for reaching compromise on the nature of goods to produce and distribute and on the value to be given to them (Callon and Muniesa 2005, p. 1229). Callon and Caliskan (2009) propose a pragmatic approach to valuation and they build on anthropological research of this process. Appadurai in *The social life of things* (1986) takes a processual approach to valuation. According to him, values of things emerge from a series of transformations. Thomas (1991), on the other hand, distinguishes between processes of de-contextualization and re-contextualization of things. This is the basis for a distinction of gifts and commodities. Guyer (2004) underlines that value is produced through processes of commensuration and disjunction within various localities. During these processes people create and exploit asymmetries and mechanisms of valuation are diverse and perpetually flourishing.

The ETS negotiations examined in this dissertation revealed fragility of economic framing of carbon dioxide as a commodity. “Coal is our life” is the title of the famous book by Norman Dennis (1969) telling the story of a Yorkshire mining community. Similar lines could be heard from engineers working in the biggest Polish power plant in Bełchatów or from the mining and energy unions in Poland: “Carbon is the product of our daily work.” For the Central and Eastern European countries, carbon dioxide was a part of their histories of transition to a market economy and of their recent development. High emission reductions of carbon dioxide at the beginning of 1990s were associated with a painful experience of high unemployment and an almost total collapse of industrial production and economy. The region’s economic growth in the second decade of the 2000s was associated with growing carbon emissions but in industries and in the power sector there was a sense of entitlement to „emit to grow.”

Because of what was said above, while studying organization of emission trade,

one should bear in mind that carbon dioxide is embedded in various orders of worth. Questions of multiple meanings, similar to those Zelizer (1994), Carruthers and Babb (1996) asked about money, can be also asked about carbon dioxide. Carbon dioxide is valued in different ways in different places in the EU and there may be no agreement on which valuations (Boltanski and Thevenot 2006, Stark 2009) should stay outside of the economic frame. Things can be valued in multiple ways and all economies have a moral component since value may be something different than price (Stark 2009, p. 5-6). Bringing too many orders of worth into an economic frame may blow it up. Complexity of valuation makes it difficult to reduce a good's value to a monetary value (Espeland and Stevens 1998).

Framing is also a part of the commodity making process. Peter Holm and Kare Nørdlie Nielsen (2007) examine the framing of fishing quotas and argue that to make fishing quotas fully transferable, it needs a lot of legal, economic, metric and political framing, which would provide it with stability. Framing makes things commensurable with other commodities and exchangeable for money equivalents. This thesis examined the process of framing carbon dioxide as a transferable, European commodity – an emission allowance (EUA).

Framing also always gives an effect of something specific existing inside the frame. Callon (1998), Latour and Lepiney (2010), and many economic sociologists working within the performativity framework (MacKenzie et al. 2003, MacKenzie et al. 2007, MacKenzie 2006, 2009, Beunza 2008, Caliskan and Callon 2009, Holm 2007, Callon and Muniesa 2005, Muniesa et al. 2007), argue that economy is not a specific sphere that had to be discovered. There is no land called 'economy', but there are activities, which are framed as economic against other types of activities. The same regards markets. They are not spheres to be discovered, but ones to be organized.

One of the underlying assumptions of emission markets is that once accounting practices will be extended to environment, an intrinsic value of environment will be revealed (Barnes 2001). As Lohmann (2009) points out, environmental accounting is said to help us to "transform environmental objects into commercial 'goods and services; of which value can be 'discovered' in markets themselves" (p.

500). The market price is supposed to be, at least, a proxy of the value of environment (Lohmann 2009). There is supposed to be something more substantial about creating environmental markets, of which carbon markets are sub-species. It is not only a task of qualifying and framing GHG emissions as commodities but also of 'organizing' their market value.

Despite the critique of 'the callonistics' for its inability to address problems of value (e.g. Fine 2003), I would like to argue that Callon's framework provides a good starting point for conceptualizing how carbon's value is produced on the market. I point out that the Callon's framework allows us to shift the focus from the 'objectiveness' of carbon's value, which is to be 'discovered' on the market, to its 'constructed' and 'organized' character. Goods are co-elaborated, they are actively framed by actors, not only during market encounters but also in the policy-phases of markets' construction. But this framing is not a 'purely social' enterprise. It is a socio-technical process (Callon et al. 2002). As Callon et al. (2002) point out, things have life of their own before they get stabilized as products. They are transformed when they are produced, marketized or sold.

A distinction proposed by Callon et al. (2002) between a product as a process, and a good as a stabilized fact, allow us to examine practices through which carbon dioxide became a tradable emission allowance. At the same time, it seems that Callon is not sufficiently utilizing his own approach in order to better theorize the fact that framing performs value of products. Callon et al. (2002) notice that properties of goods are not to be observed, but "they are 'revealed' through tests or trials which involve interactions between agents (teams) and the goods to be qualified" (p. 198). This "implies specific metrological work and heavy investments in measuring equipment" (Callon et al. 2002, p. 199). In case of carbon dioxide, various measuring devices, like e.g. greenhouse gas inventories, global warming potential of greenhouse gases, a division between developing and developed countries under the Kyoto Protocol, had to be agreed upon in order to qualify carbon for market exchanges. MacKenzie (2008, 2009) points out that the global warming potential has a real impact on the cost of emission reductions both in the developing countries and in Europe. If a price is a monetary abstraction of goods' exchange value, then various measuring devices also have an impact on the construction of the exchange-value.

While preparing the project of the first ETS Directive (2003), the European Commission engaged in framing carbon dioxide emissions as a commodity. For example, they had to decide whether emission allowances would be called 'permits', 'quotas' and 'caps'. The concept of 'permits', as the Commission explained, was well established in environmental policy "particularly for the application of technical standards in the field of waste, water and air pollution" (p. 8). Also the concept of tradable allowances was not totally unfamiliar in the EU. "The quotas for Ozone Depleting Substances under the Montreal Protocol, the fish catch quotas under the Common Fisheries Policy, and the milk quotas under the Common Agricultural Policy are all practical examples of allowances with some degree of transferability" (p. 8). Qualification of carbon emissions as an allowance was not complete in the European Commission.

The emission allowance as a product was also developed by accountants. MacKenzie (2009) examines how in the run-up to the launch of the European Union Emission Trading Scheme, the International Financial Reporting Interpretations Committee (IFRIC) "discussed how to apply accounting standards to the new items, which it called 'emission rights', which were about to come into being" (p. 447). For example, IFRIC discussed whether European allowances (EUAs) were indeed rights (MacKenzie 2009, p. 447). MacKenzie (2009) points out that due to diverse accounting practices adopted in various companies, carbon was sometimes visible and sometimes invisible in company's accounts.

The visibility and invisibility of carbon in company's accounts has a direct impact on the supply and demand for carbon allowances. There are more or less carbon allowances visible and thus demanded, bought and sold. This also has an impact on carbon's value, which is constructed through the organization of an interaction between the supply and demand. Callon et al. (2002) write that the challenge shared by actors involved in goods' qualification and which divides them "is to establish this difficult adjustment between a supply and a demand that is formed around a list of qualities" (p. 201). This is an important point in Callon's text and I would like to point to the role of framing and qualification in the construction of the market value of products and in making them commensurable. Framing and qualification of carbon dioxide impacts actors' strategies towards this commodity

and the way they will value it in relation to their business activities. Carbon dioxide may start to be conceived of as an asset, a resource, a cost, an opportunity for making profit, and companies may start to engage in devising strategies to control its impact on their economic activities.

Translating Emission Trade Through Actor-Networks

Emission trade is a constraint, but it can also open up some opportunities to actors. During the ETS negotiation, these limitations and opportunities were recognized, defined, constructed and accounted for. This involved communication in the course of which interests were articulated, compared, juxtaposed, transformed or simplified. To grasp this flexible character of interests, Callon and Law (1982) argue: “interests are not background factors to be imputed by the analyst. Rather, they are attempts to define and, most importantly, to enforce the institutions, groups, or organizations (...) in the social world” (p. 622). This definition asks for the examination of actors’ interests by studying them ‘in action’ rather than by studying them as derived from actors’ positions within a wider social structure. By pursuing their projects and by enforcing new institutional orders, actors enact their interests. Once a new institutional order is in place, interests are temporarily stabilized.

Interests are historical, in the sense that they may change over time but also in the sense that they depend on actors’ past actions and involvements. This provides a good entry point for bridging the concept of a field with the ANT’s approach to interests. Instead of following Callon’s and Law’s (1982) proposal to say that interests are results of “previous processes of enrollment” (p. 622), I argue that actors entered the ETS negotiation from various organizational fields on which they were in fairly stable relations with actors, with whom they competed over various resources and gains. When the ETS became a ‘hot’ issue, they referred to these relations, and to the games they were involved in on those fields, to articulate their interests. We could say that this was the moment when relations within their organizational fields become reflected upon and these fields became enacted. Actors started talking about markets, the EU arena for decision-making, European NGOs’ community or domestic politics. The routine was

threatened by a new rule, a new element, and interests were articulated “out of actively constructed constraints that are recognized as limiting available options” (Callon and Law 1982, p. 617). But interests are never defined once and for good. On the contrary, they are re-constructed in the changing reality, which by putting new constraints and opportunities forces actors to make choices, take decisions and negotiate institutions.

ANT’s program of studying interests differs from rational choice approaches, e.g. rational choice institutionalism, where interests result from calculating maximal gains in a given situation. ANT approach to studying interests does not deny that actors aim at maximizing their gains and that actors’ positions within wider networks are both constraining and enabling. However, they propose to study actors’ projects and how actors pursue them rather than focus solely on their ‘objective’ structural positions. ANT does not aim at assessing the amount of ‘rationality’ in actors’ actions, but it aims at knowing as much as possible about actors’ actions and their alliances – failed and succeeded. Due to this fact, in the analysis, I do not stop at an observation of actors’ interests within organizational fields but I follow actors through the networks they join and build while negotiating to the ETS to learn how their interests were undergoing minor or major shifts.

For ANT, the fate of interests and interest groups is “one important part of the (contingently) coercive entities that influence structure and action” (Callon and Law 1982 p. 622). Structure is actively constructed and reconstructed through actors’ actions – and so was the ETS in the 2008 negotiation. ANT studies movement, mobilization and change, and points to the fact that actors try to enroll others – both humans and non-humans – into their projects to become stronger. They look for actors willing to join them and for actors whom they could represent as having a common interest. They also enroll reports, data, instruments or algorithms to become a network of expertise (Eyal and Pol 2011), which is may be strong enough to represent a larger part of the reality. To become such a network a lot of effort is put into making different elements fit together – making various interests similar at least for a while.

Interests change through processes of selection, simplification, and juxtaposition

of preferences and identities, “in which different claims, substance or processes are equated with one another: where, in other words, what is in fact unlike is treated as if it was identical” (Callon and Law 1982 p. 619). While pursuing their projects, actors select issues they want to represent and solve. They simplify them by highlighting some of their aspects and they try to persuade other actors that these issues are their problems as well. Polish actors, while negotiating the EU ETS in 2008, chose to speak of economic competitiveness of their national economy as being dependant on Poland’s electricity prices. They exposed the importance of energy cost for development – both economic and social. The problem of electricity prices became a national, and with time, even an Eastern European problem.

Trade union organizations, on the other hand, found it difficult to decide how to articulate their interests in the ETS negotiation and what kind of an ETS project to support. They were not able to enroll others into a network of expertise because they lacked efficient enrollment devices. They did not have a report on the impact of the new ETS on labor and they did not have an idea on how to organize allocation of allowances in a way, which would be alternative to the Commission’s proposal, and which would account for the value of labor. The European trade union organizations were not able to build up a network which would ‘organically’ be theirs, and therefore they allied either with European green NGOs and supported the Commission’s proposal of full auctions, or they allied with industries and supported the benchmark-based allocation. Neither of these projects; however, was adequate to articulate diverse, labor-related interests and concerns of European trade unions. Simplification of their interests due to supporting either of the two projects was so far reaching that it resulted in silencing labor interests in the ETS negotiation and in shifting them to be cared of within national policy domains.

ANT’s studies of interests and interest groups are directly connected to the problem of power. Power is an actors’ ability to define other actors’ problems, to offer them solutions to their problems, funnel their interests and represent them (Callon and Law 1982). The name for power in ANT is translation. In their text on scallops, Callon and Law (1982) distinguished between four moments of translation. Problematization is the first moment when some actors seek to

become indispensable to other actors by defining their problems and suggesting solutions to deal with the problems. This way, actors try to establish themselves as “obligatory passage points” for others (Latour 1987). By saying: “look, your problem is just like my problem”, actors simplify preferences of other actors and juxtapose them with their own. This is the first movement toward social and institutional change. What seemed distant and unlike is put together to be compared, to be simplified and to be made commensurable and alike. To define a problem, in other words, means “to map out an itinerary, to block others and to define the structure of the field of forces in which the solution to the problem could be seen as having an importance” (Callon et al. 1983, p.204).

The case of trade unions in the ETS negotiation is exemplary here. By granting support either to the Commission’s proposal or to the industries’ proposal, trade unions made both actors and their networks more powerful. The Commission could say to national governments, “look, the European Trade Union Confederation, our social partner, supports full auctions for the power sector. You should take it into consideration.” The industries, on the other hand could say to the Commission, “look, our sectoral social partner, the European Mining, Chemical and Energy Workers Federation (the EMCEF) supports benchmarks for the power sector. You should not disregard it.”

The second moment of the translation process is *interessement*. It can be defined as a series of processes by which some actors seek to lock other actors into new roles, which had been proposed for them in the program-solution. In the ETS negotiation, the Commission wanted to lock industries and coal-fueled power producers into the role of polluters who should pay back their debts to the society. The NGO community successfully locked the utility companies into the role of greedy parasites of the society, who earned additional profit on the free allocation of emission allowances. Actors also proposed new roles for themselves to advance their positions within various organizational fields. They were guardians of the global climate deal, engines of European economies, responsible and concerned citizens, or saviors of jobs in Europe.

The third moment is called *enrolment* and takes place when some actors seek to define and inter-relate various roles they had allocated to others. This brings

coherence and pattern to the social movement standing behind an institutional project. What has so far appeared as incompatible and heterogeneous is brought together and composed into a patterned network. As Callon and Law (1982) point out:

The theory of enrolment is concerned with the ways in which provisional order is proposed, and sometimes achieved. One, but only one, of the ways in which such enrolment is attempted is via the category of interests. Actors great and small try to persuade by telling one another that 'it is in your interest to...'. They seek to define their own position in relation to others by noting that 'it is in our interest to...'. (Callon and Law 1982, p.622)

Enrollment is often achieved through various devices. In the ETS negotiation these were various reports, calculations, methodologies, prognosis, proposals, reviews. They enabled, furthered and stabilized communication between actors. They also made it conspicuous to actors that they were in 'similar trouble', and opened their eyes for new opportunities. The IFIEC-method and its review by the consultancy EcoFys was an important and a very efficient enrollment device for the Eastern European governments, industries and power sector companies. Framing is also an important mechanism of enrollment. 'The Polish economic interest', 'the Central European economic interest', 'the interest of European industries', 'the general interest of the human kind' were frames for mobilizing actors to support and join a particular project of the ETS. Polish lobbyists, governmental officials and trade union leaders, were often moving between those frames, depending on what organizational field they were addressing with their claims, problems and solutions.

Framing of interests also help actors to map out networks, across which they try to navigate. By saying: this solution was in the interests of an X or Y actor, they mark actors who can be easily mobilized and those who may resist enrollment. My interviewees were eagerly pointing to particular actors speaking in favor of full auctions on the ETS proposed by the DG Environment in the European Commission. These were, for example, the President of the European Commission, José Manuel Durão Barroso, the President of the European

Parliament, Hans-Gert Pöttering, the Rapporteur of the ETS Directive, Arvil Doyle, President Sarkozy, environmental NGOs, the European Trade Union Confederation, the European Federation of Public Service Unions. There was also the British government, which was in favor of full auctions since this would increase the volume of transactions of the European carbon market, and thus make this market more attractive for financial actors from the London City. These actors represented the project of Europe developing innovative green technologies, Europe involved in research and development of green energy sources, and Europe replacing coal power plants with nuclear power plants, windmills and solar. It was also a project of Europe with a stronger sector of financial services fueled by trading emission allowances.

On the other hand, there were European industries, which opposed full auctions for themselves and for the power sector companies. They allied with coal-fueled power sector companies and trade unions from Germany and Central and Eastern Europe, with the European Metal Workers' Federation and the European Mine, Chemical and Energy Workers' Federation. They were represented by the Polish, Czech, Estonian, Hungarian and German governments and by the Commissioners responsible for energy and industries. They represented a different project – a project whereby Europe would still have a strong industrial base and European power sector would still be largely fueled by Europe's domestic fuel – coal.

Knowledge production is a crucial capacity of actors attempting to translate reality. No enrollment strategy is possible without an actor's capacity to diagnose his or her own problems and the problems of others. Moreover, actors have to propose to others a solution to their problems. In policy areas as complex as climate change, knowledge is unevenly distributed across European countries. Environmental economists in the best universities and research institutes in the UK, Germany or the Netherlands engage in producing knowledge on emission trade and climate policies in general. This expertise, in order to become an active part of policy-making has to become a network. In the chapter on the history of the ETS, I point out that at the early stage of the ETS's development, expertise on emission trade became a network joining few officials in DG Environment, US and European think tanks, and companies like BP and Shell.

The new Member States joined the ETS seven months after their accession to the European Union or, as Romania and Bulgaria, at the time when the ETS was already functioning for almost two years. They were the latecomers who did not participate in this network¹⁴. As the analysis will show, due to the lack of strong research centers, which would engage in the network on emission trade, the Polish government got enrolled into a project proposed by the association of European industries (the IFIEC). The Polish government, business lobbyists and trade unions became important spokespersons for the IFIEC project in the region and at the European Council meeting in December 2008.

The last moment of translation - of a successful institutional project - is mobilization. It is a set of methods used by some actors to ensure that supposed spokesmen for various relevant collectivities are properly able to represent the new project. This is the moment when a project becomes an institution with its representatives - spokespersons - able to speak of a new institution in a coherent way and represent it with legitimate language. According to my Polish interviewees, during the most important event of the ETS negotiation, that is during the Council Meeting in December, the IFIEC network of benchmark allocation was betrayed by many Heads of States, which seemed to have been enrolled in this project. During the final vote, they did not support this idea and the Commission's proposal won.

Emphasis put on knowledge production asks for a reflection on the role of experts. Rose and Miller (1992) point to the role of knowledge in modern government not simply understood as 'ideas', but as "the vast assemblage of persons, theories, projects, experiments and techniques that has become such a central component of government" (p. 177). Government has become a problematizing activity with a "claim to certain knowledge of the sphere or problem to be addressed" (Rose and Miller 1992, p. 182). Knowledge itself becomes also subjected to various rules of selection and legitimation. Expertise is transformed in the course of further expert evaluations, which legitimate it or point out to its shortcomings. Expertise as a network becomes qualified as 'the

¹⁴ Polish Ministry of Environment got enrolled in the project of tradable emission permits in the early 1990s but it did not result in the implementation of emission trade in Poland. After this failure the interest in emission trade in Poland faded away until the ETS was established in the EU.

Commission's proposal', 'the IFIEC's proposal', 'the Polish government's proposal.' This way it becomes inscribed into particular fields of action where it is not neutral anymore. An important example of this process is provided by the debate between the IFIEC experts and the European Commission, during which both sides engaged in justifying their own expertise by referring to boundaries (Gieryn 1983) between economy and politics. In fact they re-defined those fields and their boundaries. They argued what economy and markets were about, what it meant that markets would be efficient and competition between companies would be free and undistorted and how markets differed from politics. The stronger and the more heterogeneous the expertise network, the more successful it may be in translating between objectives, rules and realities of various fields.

The expertise tries to span different fields, it connects them by translating problems between them, but it also creates boundaries. There is no universal boundary between politics and economics but it is constantly organized and re-defined in discourses and through practices. Gil Eyal (2009) asks: where does boundary work itself fall? He approaches this question by trying to bring Bourdieu's work on fields and Latour's work on translation together. In a lighthearted tone he claims to be bringing some peace into relation of these two big opponents. He gives fields to Bourdieu and spaces between fields to Latour (Eyal 2009). Eyal notes that boundary work is a real work and it is carried out with the use of various devices. It is a work of including and excluding things, objects and issues. Boundary work is a process, which takes place within networks and not outside of them. It is a work of framing, entangling and disentangling - of separating and connecting (Callon 1998). Spaces between fields have their real, material volume (Eyal 2009, Mitchell 1991).

When conceptualizing the type of work carried out by experts, Eyal (2009) refers to Latour's theorization of the work of scientists. According to Latour (1987), scientists neither 'discover objective facts' nor 'socially construct' them. They 'recruit', 'mobilize' and forge alliances with objects they study. Eyal (2009) points to the material character of translation and purification. Experts, by producing expertise inscribe, relations between actors, problems and fields into their expert devices, such as reports, analysis, data collections or policy solutions. At the same time, Eyal and Pok (2011) point out that one should differentiate between experts

and expertise, as the latter is not a mere attribute of the former. Expertise is “a network connecting together actors, instruments, statements and institutional arrangements” (p. 1). Realities are being connected and translated within those networks of expertise.

Eyal (2009) concludes that this means that “the boundaries between nature and society, reality and discourse, science and politics, are thick and fuzzy, and that they are crisscrossed by the networks that scientists weave in order to recruit allies” (p. 6). Boundaries are therefore “internal to the network” (Eyal 2009, p. 6). At the same time, actors engage in ordering networks into some distinct spheres. Here starts economy and there starts administration. Here ends science and there ends politics. Mobilization and translation come together with the work of purification (Eyal 2009 and Latour 1987). Creation of those boundaries is also a pragmatic enterprise through which actors try to delineate spaces over which they may exert their control.

The ETS negotiation resulted in establishing of various boundaries: a boundary around the ETS, a boundary between free markets and an intervention into these markets, but also in a boundary between things and processes seen as European and things and processes seen as national. The ETS negotiation was therefore also a process of the construction and reconstruction of the European Union, and production of it as a quasi-state structure.

Complex Embedding of the ETS Organization - Some Methodological Considerations

The main objective of the theoretical framework outlined and discussed above is to grasp the complex embedding of the ETS organization in various realities, and to be able to account for processes through which this diversity is negotiated into a new market and a governance structure. It allowed me to see emission trade as being embedded in various organizational fields – not only markets for goods like electricity, glass, steel, cement, etc. – but also as in various policy fields. In more general terms, emission trade is embedded in politics, economics, and in science as well; though this aspect was not discussed here.

Organization of emission trade can also be understood as a process of translations of interests, objectives, visions, logics of action particular to various fields, which are carried out across them. The final goal of the ETS is to govern European economy and push it into a greener mode of development and this bold plan has left almost nobody indifferent to it. The real challenge resides in the ability to bring this heterogeneity together under a EU-wide scheme of emission trade.

As a largely technical issue, organization of the ETS is done by experts who propose various ways in which relations between companies, governments, carbon dioxide could be re-composed and re-assembled. They achieve it by the means of various translation devices. Organization of emission trade is thus also embedded in networks of expertise which are heterogeneous and consist of actors and of various kinds of objects, like reports, reviews, calculations, algorithms, fuels, morals, reduction targets, statements, histories, etc. These networks are composed and stabilized in a laborious process of problematization, interessement, enrollment and mobilization. The ultimate goal is to build a strong network that will stand up for a certain project of the ETS – for a new order and institution.

In the presented framework, it is also pointed out that this new order is possible due to the establishing of new boundaries – boundaries around the ETS, around the commodity to be traded, between markets and bureaucracies and between the national and European governance. Boundaries are important and necessary for actors to orient themselves, to know the limits of legitimacy, and by knowing it to be able to strategically attempt to push them a bit further in the future.

One of the mechanism through which actors – humans and non-humans – are enrolled is framing. In the discussion above I paid close attention to the framing of things and interactions in an economic way. But enrollment was also achieved through other sorts of framing, like the European or nationalistic framing of interests, or by framing regions as developed or underdeveloped. The multiplicity of frames points to the embedding of the organization of emission markets in various orders of worth within which this market-based tool of environmental governance will function and will be evaluated.

It should also be noted that this dissertation examines only one particular moment of emission trade organization – its policy-making phase. This is only one moment in life of the ETS, and its organization will be carried on through practices of emission trade. However, the policy phase is particularly interesting as a moment when the articulation of objectives, preferences, worries and hopes has been as intensive as never before. Quasi-social movements were created around this tool of environmental governance and by studying them we can understand a lot about emission trade, its proponents and opponents and about matters of concern they produce.

This research project set out from a simple observation of a controversy, which was conveyed by the media. Not all governmental and business circles were happy with the proposal of the European Commission and gradually a debate started to develop. With time, it became clear that one of the most controversial issues was the method for emission allowances' allocation.

In Poland – which I selected for my case study – full auctions, benchmark allocation, derogation from full auctions, were central themes in media. A controversy was open and I set out to collect data on it. By doing so I followed the research methodology developed by STS scholars like Nelkin (1995) and Latour (1987), and many others (Martin and Richards 1995), who made a controversy their object of analysis and an entry point for studying everything else: actors, their actions, strategies, relations between them and their interests.

This move allowed me to open my research to heterogeneous actors and prevented me from *a priori* classifications of 'who was supposed to' take part in the ETS negotiations. Here I was led by Michel Callon's (2009) point that organization of emission markets takes place within 'hybrid forums' and that market participants are to be discovered in empirical research. This way, I decided not to exclude any actors. The market and governance nature of emission trade soon made me realize that the scope of actors interested in the ETS is greater than I expected. It went far beyond companies who received emission allowances and had to pay for pollution. As a governance tool with a bold objective of transforming the European economy into a low carbon economy, it

was an object of attention of policy makers, NGOs, think tanks, researchers and politicians. The ETS is also a civilizing and integrating project and as such it generates concerns and interests that exceed its economic and environmental objectives. These are called by Latour (2005) 'matter of concern', and one of them, which I did not expect to discover was a great concern of trade union organizations about their jobs in the future green EU.

From the crowd of actors I chose to follow and study those who participated in debates about the allocation method for emission allowances. Selection of Poland and the Polish lobbying was not accidental as well. Poland was the only country, which strongly objected to full auctions for the power sector. While following the ETS negotiation in media, websites of various organizations and during interviews with the interested actors, I started to distinguish between supporters of full auctions and their critics. The Polish government, the Polish power sector companies and industries were the main and most vocal opponents to this method. I realized that they made distinctions between themselves and that they talked about stakes on the ETS but also on other markets, or within policy arenas. 'Matter of concern' multiplied but at the same time actors started ordering them into concerns of the Polish power sector or of the European industries, into the problem of the Polish society and the interest of financial and nuclear sectors. While actors posed questions about the boundary of the ETS, they could fairly well position themselves within bounded sets of other organizations. This led me to employ the concept of an organizational field both as an analytical tool and a pragmatic category used by actors.

The concept of a field also allowed me to pose the question about mechanisms through which this diversity was negotiated into something, which is called the ETS. In other words, by pointing to the fact that actors negotiating the ETS came from various organizational fields, I could ask how it happened that they managed to communicate across those fields. I was also able to ask how they differed from some actors and how they were similar to actors from the field they thought to belong to. I was curious how it mattered that some companies traded electricity and others steel or cement. And how was it important that some of them were companies and others NGOs? The stakes became clearer, and constraints and

opportunities more visible. The concept of a field also helped me to make more sense of the network of actors, which was established by the Polish lobbyists in the ETS negotiation. For example, I could point to the actors, which managed to occupy positions between actors coming from various fields.

But the network analysis grounded in the theory of organizational fields, though helped me to understand the structure of the ETS negotiation and relations between actors, could not provide me with an understanding of how the ETS was negotiated across them. In order to explain the mechanisms, I resorted to the ANT's concept of translation and the concept of 'expertise as a network of translation' (Eyal and Pok 2011). This turned my attention to the content of various methods of allocation. I started inquiring what they were about, how they would make a difference to the ETS and to various actors which I followed in my research. From being interested in how the organization of the ETS was embedded in various organizational fields, I began to be interested in how the ETS was being assembled from this heterogeneity of actors and their devices. My focus extended to non-humans, to the reports, expert statements, green papers, etc., which were used by various actors to argue for one allocation method over the other. I followed how they innovated with various proposal, how they introduced small shifts and brought bits and pieces into coherent proposals of the ETS. This way I could also reflect about the materiality of the ETS negotiation and of the ETS as an assemblage of actors, companies, technologies, fuels, calculative devices, histories and GHGs.

I could also identify devices, which made the translation work move on, like e.g. the predictions of prices. They were important for my understanding of the complex embedding of the ETS. Predictions of prices for emission allowances, electricity, or steel were devices for communication between the ETS and other organizational fields and for translating interests between them. On the one hand, they embedded the ETS in various organizational fields because actors were speaking of how the ETS would impact on their interests. On the other hand, they helped actors to frame their battles and mobilize other actors into a common cause and movement.

This way, when following processes of translation, I did not abandon the concept of a field. I argue that translation was carried out across fields and it re-enacted various organizational fields. Actors did not only translate problems, objectives, interests and concerns of one field into problems, objectives, interests and concerns of other fields. They also drew boundaries between them. And the material that I analyzed shows that purification, rather than mobilization, was the final moment in the ETS negotiation. Purification was the mechanism that brought about new orders, new categories and distinctions between spaces within which certain practices become legitimate or illegitimate. Purification is the moment when things become what they become. Thanks to this, actors are again able to navigate across reality and understand what they are doing, why, whom they should approach and whom they should avoid. The framework I presented aims at bringing more dynamism and movement to fields and more grounding and structure to the translation actor-networks.

Data collection

As Callon and Muniesa (2005) point out, markets are produced in various places. The research, which became the basis for this dissertation took this remark as a methodological advice for the research design and data collection. The case examined in this dissertation is the negotiation of the new ETS Directive proposed by the European Commission in January 2008. It is examined as a case of the organization of the emission trade, which is both a new market and a tool for environmental governance. The analysis is based on data collected during extensive fieldwork research carried out between September 2008 and December 2009. The ETS negotiation began when the European Commission announced the proposal for the ETS Directive in January 2008 and ended with the December 2008 European Council of the Heads of States. However, the analysis also presents events that preceded the 2008 negotiation, and namely, the four consultation meetings organized by the European Commission in 2007. The analytical chapters also provide some political and economic context to the pre-2008 situation in Poland with regard to the functioning of the ETS. Moreover, the

historical chapter gives an account of how the emission trade became institutionalized in the global Kyoto system and in the EU ETS. The historical analysis is based on secondary data and articles on emission trade in the world and in the EU.

The ETS negotiation is approached through controversies it evoked. And since the strongest objections to the proposed scheme were raised in Poland, the dissertation follows Polish activities with regard to the ETS Directive. First media and organizational reactions to the proposal of the ETS Directive came in Poland in mid-2008. Intensive lobbying activities of the Polish companies started in September 2008. Data collection for this project started roughly at the same time as the Polish lobbying campaign. This way I could follow the negotiation process as it unveiled. I managed to interview some officials during the ETS negotiation in 2008 and after it in 2009 to see how their attitudes and opinions changed.

The field research ended in December 2009, one year after the December 2008 Summit of the European Heads of States. By extending my fieldwork to 2009, I was able to collect accounts from various actors about the whole process of the ETS negotiation and about its results and consequences. In 2009, the memory of the ETS negotiation was still very vivid and many of the issues raised in 2008 were still debated. In 2009 the Polish lobbying campaign was still considered an important event and many of my interviewees eagerly talked about it. This also allowed me to collect quite fresh, and often very emotional, accounts of the ETS negotiation from the Polish and foreign actors. Some of the information and opinions were given off the record because at that time they were still considered sensitive.

The data analyzed in this dissertation were collected through various methods. I carried out around seventy in-depth interviews with Polish and international actors involved in the ETS negotiation, and more generally, in the negotiation of the Climate change and energy package in 2008. These actors may be divided into several categories. In Poland, I approached: the organizers of the Green Effort Group; governmental officials from the Office of the European Integration Committee (UKIE), which was assigned by the Prime Minister to coordinate negotiation of the ETS Directive between Warsaw and Brussels; high level

officials from the Ministry of Economy engaged in the ETS negotiation; high level officials from the Ministry of Environment engaged in the ETS negotiation; leaders of the biggest environmental NGOs in Poland (InE, PKE, WWF, Greenpeace, Polska Zielona Sieć, FEWE); the main expert on electricity markets in Poland, Bolesław Jankowski; leaders of the Polish mining and energy trade unions from Solidarność and the ZZG in Poland; leaders of the Polish unions' federations - Solidarność and the OPZZ). In Brussels, during two visits in March-April 2009 and June-July 2009, I interviewed: the main negotiator of the ETS Directive from the Representation Office of the Republic of Poland in Brussels; officials from DG Environment; representatives of environmental NGOs and think-tanks residing in Brussels (WWF, Greenpeace, Friends of the Earth, Climate-Action-Network Europe, the European Environmental Bureau, the Institute for the European Environmental Policy, Bellona, E3G); officials from the employers' associations (Eurelectric, the International Federation of the Intensive Electricity Consumers-Europe); officials from the European trade union organizations (the European Trade Union Confederation, the European Mining, Chemistry and Mining-workers' Federation, the European Metal Federation, the European Public Services Unions); Members of the European Parliament involved in the negotiation of the ETS Directive; professionals from the public communication company hired by the Green Effort Group in Brussels. I also interviewed German trade union leaders by phone. In each organization I was asking for an interview with a person involved in the ETS negotiation. I did not interview any journalists. Not all interviews are quoted in this dissertation; however, all of them are important for this project, since they allowed me to better understand the context and the proceedings of the ETS negotiation.

Scenarios for each interview were designed individually based on my research of the organization's role in relation to climate policies and the ETS negotiation. I collected position papers from all organizations where I conducted interviews and studied them before each interview to be able to ask about concrete problems, interests and steps taken with regard to the ETS negotiation. I always asked to evaluate the proposal of the ETS Directive (before January 2009) or to evaluate the ETS Directive as compared with the Commission's proposal from January 2008 (for all interviews carried out from January till December 2009). I also asked

about the most controversial aspects of the ETS Directive and the biggest controversies of the ETS negotiation. I was also interested in the organization's cooperation with other organizations, in common actions they carried out and in conflicts and disagreements they were involved in. Since, my main focus was on the engagement of Poland in the ETS negotiation, I always asked my foreign interviewees to express their opinion about Poland's attitude, arguments and strategies with regard to the new ETS. I also asked Polish actors to evaluate themselves and to tell me about reactions to their activities in Brussels. In cases when I interviewed representatives of foreign organizations, which objected to some of the Commission's proposals, like the IFIEC, or the industrial European trade union organizations, I asked about the European Commission's reactions to their postulates and activities. This way I tried to reconstruct some lines of arguments, lines of conflict and cooperation and identify main objects of controversy. In many instances I asked some interviewees to confirm information I got from other people. I did not disclose names of my informants but I often asked them to advice me on organizations and actors whom I should interview.

Another set of data was collected during five events in which I participated: a conference 'Energizing Europe' in London, in May 2008; trade unions' events during the COP-14 in Poznań in Poland, in December 2008; the International Economic Congress in Katowice in May 2009; the Green Week in Brussels in June 2009 and a trade unions' conference on climate policies in Bad Ort in Germany in October 2009. During the last event I worked as an interpreter for the leader of the Secretariat of the Mining and Energy Workers' Union in Solidarność, Kazimierz Grajcarek. I recorded on a voice recorder most speeches and presentations made during these events. I also participated in lunch-break conversations. These were good occasions for me to fill-in my knowledge on the ETS and climate policies in the EU. I could also observe how representatives of various organizations related to each other during those meetings and which issues were most controversial. These meetings enabled me to identify and meet many of my interviewees.

In this dissertation I also examined the lobbying network created by the Green Effort Group during its numerous meetings. I connected actors from the Green Effort Group with the network of actors established by the DG Environment

officials during four meetings organized to consult the ETS in 2007. The European part of the network was reconstructed from the report documenting these four meetings, which is a part of the *Impact Assessment* accompanying the proposal of the ETS Directive. These meetings constituted the European Climate Change Programme (ECCP). I reproduced the Polish part of the network from the official report of the Green Effort Group prepared at the end of 2008 as a document of all lobbying meetings. This report is publicly accessible on the website of the company run by Żmijewski - *Procesy Inwestycyjne* in Warsaw. The motivation behind making this report public is worth mentioning here. The term lobbying has a negative connotation in Poland of shady dealings between politicians and businessmen far from the public eye. The leaders of the Green Effort Group wanted to show to the Polish public that lobbying did not have to imply these behind the scenes activities and that it could be a transparent process of fighting for different regulation in the name of a more general economic interest. This, at least, was the explanation I received from the GEG leaders.

I also collected media reports on the ETS negotiation. Between September 2008 and December 2009, I systematically saved information on the ETS negotiation from two Polish information websites on energy and industry: CIRE and WNP. After that time, my collection became less systematic but I was still updating the news database on weekly basis. In June 2011, I collected all articles published on the ETS in the Financial Times since January 2007. I also examined all media appearances of the GEG, which were collected by the GEG and made accessible to the public in Internet. The following chapters will examine the material collected during my research fieldwork.

List of interviewees:

- 6. October 2008, Greenpeace Polska, „Zmiany Klimatu”, expert (phone interview)
- 13 October 2008, WWF Polska, „Klimat i Energia”, expert, Wojciech Stępniewski (Bydgoszcz)
- 22 October 2008, SgiE „Solidarność”, chair, Kaziemierz Grajcarek (Warsaw)
- 24 October 2008, SKGWK NSZZ „Solidarność”, chair, Domonik Kolorz (Katowice)
- 7 November 2008, KK NSZZ Solidarność, Department of Foreign Affairs, Andrzej Adamczyk, expert and the EKES representative (Gdańsk)
- 10 November 2008, Zieloni RP, member of the organization, Popławska (Warsaw)

17 November 2008, KK NSZZ Solidarność, Health and Safety Department, expert, Agnieszka Dojlido (Gdańsk)
 20 November 2008, PGE, Environmental Department, Director, Niewiadomski (Łódź)
 20 November 2008, PGE, Department of Development and Strategy, Director (Łódź)
 25 November 2008, Lewiatan, Daria Kulczycka, expert (Warsaw)
 2-4 December 2008, COP Poznań, events of Trade Unions (Poznań)
 9 December 2008, KPP, Piotr Rogowiecki, expert (Warsaw)
 26 January 2008, SKGWB, Zdzisław Boksa, chair (phone interview)
 28 January 2009, FEWE, Szymon Liszka, expert (phone interview)
 29 January 2009, Greenpeace, Julia Michalak, expert (phone interview)
 29 January 2009, Greenpeace, Magdalena Zowsik, expert (phone interview)
 3 February 2009, PGE, Environmental Department, Director, Niewiadomski (Łódź)
 4 February 2009, PKE, Zbigniew Karaczun, leader (Warsaw)
 5 February 2009, Sanjeev Kumar, WWF EPO, (phone interview)
 6 February 2009, ZZZE, Janusz Śniadecki, leader (Warsaw)
 9 February 2009, UKIE, Piotr Serafin, expert (Warsaw)
 12 February 2009, KK NSZZ Solidarność, Health and Safety Department, expert, Agnieszka Dojlido (Gdańsk)
 13 February 2009, Greenpeace, Julia Michalak, expert (phone interview)
 9 March 2009, John Scowcroft, the Head of Environment and Sustainable Development Unit, Eurelectric (Brussels)
 10 March 2009, Magdalena Stoczkiewicz, Friends of the Earth Europe (Brussels)
 18 March 2009, Polish MEP, Bogusław Sonik (Brussels)
 19 March 2009, the European Environmental Bureau, Pendo Maro and another expert (Brussels)
 20 March 2009, European Climate Foundation, Michael Hogan, (Brussels)
 23 March 2009, Greenpeace Policy Unit, Joris B. (Brussels)
 26 March 2009, CAN Europe, Tomas Wyns, expert (Brussels)
 26 March 2009, CAN Europe, Time Gore, expert (Brussels)
 27 March 2009, CEEP, Mireilla Vandome (Brussels)
 27 March 2009, Permanent Representation of the Republic of Poland, Olaf Kopczyński, the negotiator of the ETS Directive (Brussels)
 27 March 2009, EWEA, Remi Gruet (Brussels)
 1 April 2009, IEEP, Joanna Chiavari, expert (Brussels)
 1 April 2009, IEEP, Jason Andersen, expert (Brussels)
 2 April 2009, ECF, Stephen Boucher, EU Climate Policies Programme Director (Brussels)
 6 April 2009, ETUC, Anne Panneels (Brussels)
 6 April 2009, DG Environment, Unit C2, Anne Theo Seinen (Brussels)
 7 April 2009, Chris Davies, the Rapporteur of the CCS Directive, British MEP (Brussels)
 8 April 2009, WWF, Sanjeev Kumar, expert (Brussels)
 8 April 2009, 3EG, Mark Johnston (Brussels)
 9 April 2009, Satu Hassi, Finnish MEP, Rapporteur of the Effort Sharing Directive (Brussels)
 24 April 2009, ECF, Tomasz Terlecki, (Warsaw)

29 April 2009, the Polish President's Office, Zbigniew Gidziński, energy expert (Warsaw)
 29 April 2009, PKE, Zbigniew Karaczun (Warsaw)
 30 April 2009, Forum CO2, Tomasz Chruszczow (Warsaw)
 6 May 2009, GEG, Krzysztof Żmijewski, (Warsaw)
 7 May 2009, PKEE, EnergSys, Bolesław Jankowski (Warsaw)
 26 May 2009, 5 trade union representatives in PGE (Bełchatów)
 26 May 2009, Bolesław Cirkos, Director of Strategy and Innovation at PGE (Bełchatów)
 19 June 2009, M. Budzanowski, The Ministry of Treasury (Warsaw)
 23 June 2009, EPSU, Jan W. Goudriaan (Brussels)
 23 June 2009, Bellona, expert (Brussels)
 24 June 2009, EMCEF, Peter Kerkhof (Brussels)
 24 June 2009, IFIEC, Vianey Schyns and Hans Gruenfeld (Brussels)
 25 June 2009, KREAB, Piotr Bonisławski (Brussels)
 30 June 2009, Adam Gierak, Polish MEP, Temporary Climate Change Committee (Brussels)
 2 July 2009, ETUC, Anne Panneels (Brussels)
 3 July 2009, Piotr Tulej, DG Environment, Director, CCS Directive (Brussels)
 14 July 2009, Anne Theo Seinen, DG Environment (Brussels)
 29 July 2009, Andrzej Jakubowski, Syndex (Warsaw)
 4 August 2009, Ralf Wolf, IGBCE (Warsaw)
 5 August 2009, Maciej Burny, Ministry of Economy (Warsaw)
 12 August 2009, EMCEF, Reinholdt Reibsch (Warsaw)
 1 October 2009, KK NSZZ Solidarność, Health and Safety Department, expert, Agnieszka Dojlido (Gdańsk)
 15 November 2010, ICEM, Brian Kohler (phone interview)
 October 2010, Woźniak, the former Minister of Economy (phone interview)

Chapter 2. Between Markets and States: A Fuzzy History of Emission Trade

Introduction

This chapter presents a historical analysis of how the governance of climate change has gradually taken on a market-based approach. Although, as consecutive Conferences of the Parties (COPs) to the United Nations Framework Convention on Climate Change show, the future of global emission trade is still not clear, emission trade has already become something more than a concept. It is a global socio-technical network – an assemblage of actors, projects, institutions and technologies. The emission trade generates economic interests that feed on political action aimed at sustaining and furthering the development of emission markets. It also generates interests that feed on political action against it. In this chapter, I examine how the emission trade has been conceptualized, promoted and implemented. It is discussed here as a case of climate governance marketization – a case of inscribing climate governance into neo-liberal governmental rationality.

Over the last several decades, the logic of market competition has gradually been introduced as an organizing principle of climate action. As a result, “economic efficiency” has become a prominent criterion for climate action in addition to “environmental efficiency”. In other words, the legitimacy of climate action has become expressed both in environmental and economic terms. Economic efficiency and flexibility of emission reduction schemes has become key – after all, “it’s economy, stupid!”

While market-based policy instruments are in the mainstream of climate governance today, this has not always been the case. Three decades ago emission trade was still highly controversial. It has gradually gained legitimacy thanks to the determination of particular actors. It has been put in place in the course of building alliances between non-governmental organizations, politicians, scientists and businesses. It has been rejected and it has failed several times in several

places. Some allies have proved not strong enough to dismantle adverse networks. Even today, emission trade has its big critics and opponents who act toward tearing it down. However, in general, in the first and second decades of the twenty-first century, emission trade may celebrate its big success, bringing about a shift from governing ecological problems by the state to governing them by markets.

Emission trade could therefore be called a new technology of governance perpetuating a neo-liberal governmental rationality and leading to the marketization and financialization of climate governance. This problem is not new in literature. The spread of neo-liberal governmental rationality has been dealt with by scholars interested in government issues (Foucault 1991, Rose and Miller 1992). However, such a neo-liberal shift in environmental governance would not have been possible without a strong support and organizational effort of state apparatuses, national governments, administrations, or regional governmental bodies, such as e.g. the European Commission. The emission market, globally and regionally, has to a large extent been orchestrated by states. States have administered and are still administering and controlling important aspects of it – e.g. the size of emission caps. States have amended laws, created institutions, agencies, registries, or monitoring mechanisms as an administrative infrastructure for the emission trade. While for some actors, e.g. bankers, traders, Western European companies involved in exchanging CDM credits for European Allowances (EUAs), emission markets primarily mean ‘trade’, for other actors, e.g. some governments or the European Commission, emission markets have primarily meant and still mean ‘administration’. Emission markets appear as hybrid organizations with complex state and market infrastructures.

The hybridity of the emission markets also manifests itself in alliances forged between political, public and private actors in relation to knowledge production about it. Rose and Miller (1992) argue against overestimating the ‘problem of State’ in the political debate and social theory, and they offer conceptual tools for studying various alliances between political and other authorities that seek to govern the economic activity, social life and individual conduct. They underline the role of knowledge in modern governance – knowledge, which “does not simply

mean ‘ideas’, but refers to a vast assemblage of persons, theories, projects, experiments and techniques that has become such a central component of government” (Rose and Miller 1992, p. 177).

Therefore, I propose to examine the history of emission trade as a history of shifting alliances between diverse authorities where knowledge production has played a crucial role in establishing them. Expertise has often functioned as an opportunity structure used by some actors to advance their position and pursue their goals. Expertise has often bridged gaps (e.g. the “Project 88”) between apparently adverse ideas, actors and their diverse goals and interests. Expertise has provided idioms summing up and helping to comprehend relations between climate change, markets, governments and particular economic actors. Expertise ascribed new roles to actors, things and authorities and inscribed them into new relations. Knowledge production has been one of the mechanisms for bringing together actors who have geographically or ideologically been quite distant. At times, the knowledge of emission trade has been politicized and at times it has helped de-politicize the climate action. Knowledge is an important part in the emission trade assemblage – it has helped to bring this assemblage together and has given agency to it.

The challenge of telling the history of the emission trade resides in the fact that it is a story about diverse authorities acting on multiple sites. I propose to look for the sites and parts of the emission trade network which served as the “centers of calculation” (Latour 1987) for the emission trade and for the objects which served as the ‘boundary objects’ between various sites, actors, authorities and interests. A center of calculation is a place where transmittable knowledge of a particular problem is produced and extended socio-technical networks are created (Latour 1987). An important center of calculation for the emission trade has been, for example, the U.S. based think tank Environmental Defense Fund (EDF) which has worked out practical applications of emission trade theories and managed to weave them into the U.S. sulfur dioxide emission reduction program, and later on also into the Kyoto Protocol. EDF, in cooperation with U.S. Senators, federal agencies, politicians and companies, managed to establish an actor-network of emission trade, a Leviathan, which started living its own life. It initiated debates

on emission trade in Europe in the late 1990s and in Poland in the early 1990s – at the time Poland underwent economic and political transition from Communism to capitalism and democracy.

‘Boundary objects’ are objects, which have the potential of connecting various actors, interests and authorities. They are loosely structured in common use and provide some space for being re-interpreted by actors in their local uses (Star and Griesemer 1989). They help translating ideas, concepts, and interests from one locality to another. They provide communication and coordination between various localities without the need to establish a central coordinating body. The EDF’s report *Project 88* – which, among other things, explained the practicalities of the emission trade, served as a boundary object binding EDF’s emission trade to the U.S. Senate, President Bush’s Administration, Polish economists in the early 1990s, the British Petroleum (BP) and the European Commission (EC). Each actor bound by *Project 88* could refer to other actors as knowing, understanding, and practicing the emission trade without necessarily getting in touch with them. Boundary objects create a sense of an issue-related network without necessarily physically and directly connecting each of its elements. The U.S. sulfur program, and later BP’s internal emission trade, also served as ‘boundary objects’ for promoting emission trade as a successful policy and business strategy, and thus helped enrolling new allies into the emission trade network.

When examining the history of the emission trade, one cannot indicate one central actor who has ‘imposed’ emission trade onto other actors. One should rather examine how certain ideas got shape within heterogeneous networks. However, what seems important is that the early action of some actors provided them with a first mover advantage and an ability to influence and build up the network of market-based climate governance in accordance with their own ideas about it. Such first movers with regard to emission trade were EDF among environmental NGOs in the U.S. and in Europe, BP and Shell among global oil companies, the UK and Denmark among European countries, and DG Environment among the European bureaucracies. At the backdrop of these actors, Poland seems a peculiar case. The Polish government was approached by EDF with the idea of installing economically efficient emission trade for pollution in the

early 1990s. This was a couple of years before EDF persuaded BP to launch its own system at the end of the 1990s and before EDF established a network of knowledge exchange with the European Commission (EC) also at the end of the 1990s. However, while BP and EC managed to coin the knowledge of emission trade into practical rules and working systems, the Polish government has dropped the idea in the mid 1990s and only later, in 2005, joined the European Union Emission Trading Scheme.

A tentative explanation proposed here is that the cost of assembling a socio-technical network of emission trade was much higher in Poland than in BP and in the EU. To use Callon's language, Poland at that time lacked 'calculative agencies' - managers trained to market behavior - 'calculable objects' - registers of emissions - and 'calculative encounters' - institutionalized and legally regulated market relations between various actors. And the cost of organizing all the free components of markets was very high, since managers lacked sufficient training, the equipment and rules for emission monitoring were not well developed and the laws regulating the exchange of property rights of emissions were still not in place. And while a concept of a calculation method - the concept of tradable pollution permits - was circulating within the Polish networks of policy-makers, it has never been put into practice because a socio-technical network of trading pollution permits has not been assembled in Poland. This case asks for consideration when do markets as socio-technical assemblages fail and when do they become practice?

In the eyes of Polish emission trade experts, e.g. Żylicz (1999), markets in Poland in the early 1990s were 'thin' and 'weak', and thus not able to function well. The failure in introducing the emission trade in Poland was also caused by vague prospects for the emission trade to expand to other countries. Markets like to expand, as economists tend to say, and in the early 1990s, the whole of Western Europe was hostile to emission trade and the Kyoto agreement was still to come. On the contrary, the story of installing emission trade system in BP shows how easily the company used its existing infrastructure to establish emission trade - the socio-technical network needed for trading emissions was to a large extent in place. There were also clear prospects for extending emission trade to whole

Europe, since at the end of the 1990s, carbon tax appeared a failed policy option for the European Community and Europe was looking for a new mechanism to comply with the Kyoto targets. At the end of the 1990s, the concept of emission trade hooked the European Commission, and BP was there to enhance Europe's interest in emission trade.

About fifteen years after the attempts to install the emission trade in Poland failed, the Polish government had to get back to this issue. With the accession to the EU in 2004, Poland had to join the European Union Emission Trading Scheme (ETS). However, this time Poland was a late-comer - an actor that had to adjust to the existing rules which had not been negotiated with its participation, let alone due to its initiative. And, as the analysis will show, the cost of installing the emission trade in Poland was high at that time as well. Therefore, the first years of the emission trade in Poland were marked by a large administrative effort to prepare conditions for emission trade and by many lost opportunities to actually trade in emissions.

Therefore, the success of the emission trade should be examined with regard to particular cases. The spread of the neo-liberal logic of governing air pollution has not been automatic. It has not been a historical necessity, but it has rather been contingent on many events, actors and authorities. It had to be organized and assembled into local or regional markets in order to be put into practice. And the role of states and administrations was enormous in bringing it into life. The following analysis and the approach adopted here aim at providing some better understanding of the dynamics of neo-liberalism and the mechanisms through which it colonizes the climate governance.

How Economics Met Environmentalism

An increasing attention paid to the problem of climate change came along with a relative theoretical maturity of environmental economics. Theories trying to solve the problem of market failures by creating more markets have slowly developed at university seminars at the best U.S. graduate schools. An argument has been

made for putting the externalities of economic action - in particular environmental problems - on the market and assigning market value to them.

Environmental economics originated in 1950s in the United States when the Resources for the Future (REF) was established in Washington D.C. Its work was initially related to the problem of the scarcity of resources. But only in the 1960s environmental economics came of age against the political backdrop of the first environmental revolution initiated by Rachel Carson's *Silent Spring* in 1962. The growth of the agrochemical business, the use of DDT to raise agricultural productivity, and a growing awareness of costs and benefits of any economic action brought the reflection on environmentalism closer to economics (Pearce 2002, p. 58).

The central tenets of environmental economics are that market-oriented economic systems do not account for externalities, therefore those systems cannot maximize human well-being (p. 58). The idea of an externality, a detrimental or beneficial effect to a third party for which no price is exacted, came from the work of Pigou in the 1920s. Also the issue of efficiency became prominent to environmental economics following the U.S. army's concerns about military spending on resources. The cost-benefit logic prevailed and with time an argument was made that gainers may compensate for the losses of the others and improve the overall well-being (Pearce 2002, p 59).

Ronald Coase, a University of Chicago economist, is considered the grandfather of pollution trading, and thus also in a way of the Kyoto Protocol. He thought of a pollution dump as of just another resource or commodity. According to him, the right to pollute was a factor of production, just like other rights - e.g. the right to use land or labor. Exercising these rights produces externalities to third parties; the question is, therefore, how to measure them. His answer to this question was that pollution dumps should be put on the market. If a market is a perfect market, the dump will be used to contribute to a common well-being (Lohmann 2006). Coase also argued against the idea of the responsibility for property, as in the private enterprise: no matter who owned what, the same results would occur. Once property rights are created the "affected parties themselves can decide

whether to restrict activities through private trading of rights” (Kysar 2003, p. 686).

Coase’s article “Problem of Social Cost” was one of the most important contributions to environmental economics. As Pearce (2002) points out, “Coase observed that an externality context was conducive to two potential solutions. The first, familiar from the work of Pigou, was a tax on the creator of the externality (the polluter), or some form of regulation that imposed the burden of action on the polluter. The second involved the sufferer paying the polluter not to pollute. In the first case, the polluter pays and in the second the victim pays” (p. 61). In terms of the efficiency of both ideas, Coase put an equation mark between them. While the second solution appears unfair at the first glance, it may be found in real world situations when the polluter is poor and the victim is rich. There are many cases when rich states pay poorer states for improving their environmental standards in order to prevent cross border environmental damages. The Kyoto cap-and-trade system is based on the polluters-pay principle but the project-based emission trade is based on both. Within the Kyoto’s Clean Development Mechanism and Joint Implementation (project-based emission trade), developed countries invest into reducing emissions in the developed countries. In return they obtain emission credits, which they may exchange for emission allowances on the European Union’s carbon market.

However, before emission trade came to the heart of the Kyoto Protocol, it had to be taken out of the tranquility of academic lecture rooms to the hectic world of politics and business. First attempts to bring it out to the spotlight earned it a number of enemies. The idea of emission trade has been hated by the U.S. and European environmental left for years. The Friends of the Earth (FoE), for example, point to new inequalities resulting from the global cap-and-trade and project-based emission markets while both of them generate little environmental gain. FoE argues that capitalism is to blame for global warming and only a structural change of global economic relations may bring about a real change to the climate. However, Fred Krupp, the executive director of the Environmental Defense Fund (EDF), thought about it in a different way: “capitalism had got us

into climate mess, and capitalism was the only thing that could get us out of it” (Pooley 2011, p. 56).

And it was Fred Krupp’s great determination that took emission trade as far as to Kyoto, Warsaw and Brussels. As Eric Pooley (2011) reports, at the 2000 UN climate negotiations in Hague, the European environmental activists accused EDF of being a ‘corporate front group’. However, the record of environmental actions scored by EDF from the late 1960s till the 2000s does not convey such an impression. Ban on DDT, getting lead out of gasoline, getting McDonald’s drop its foam packaging – these were great success stories of EDF. And even if they have at times been achieved through “sleeping with enemies”, this did not concern the pragmatic Fred Krupp, who preferred to call it “dealing with the world as it was rather than as he wished it to be” (Pooley 2011, p. 56).

Pooley (2011) describes EDF’s strategy from the 1960s and 1970s as “courtroom environmental advocacy based on hard science” (Pooley 2011, p. 59). Both scientists and lawyers were crucial to the organization, but scientists drove its agenda. Environmental economics started attracting EDF’s attention already in the 1970s when the organization was still very small and had an office on the top floor of a fraternity house at the Berkeley campus in California. The California regional office of EDF was founded in 1971 by Tom Graff, a graduate from Harvard Law School and the London School of Economics. As Pooley (2011) reports, Graff had radical ideas about using financial incentives to encourage green behavior.

While court suits still constituted the core of the U.S. environmental movement’s strategy, some organizations started looking for modes of action, which would let them act as active proponents of environmental laws. Tom Graff from the EDF’s California office was one of them (Pooley 2011, p. 59). Environmental economics was supposed to be the missing link to connect EDF to the world of policy making. In 1975 he hired Zach Willey, a Ph.D. economist who proposed California that “instead of building new dams on the few untamed rivers left in California, (...) the state should allow irrigation districts to sell their access water to cities that desperately needed it, and use the proceeds to finance new irrigation systems”

(Pooley 2011). At the beginning of the 1980s, Graff hired Fred Krupp as the CEO of EDF. Krupp had also been interested in environmental economics since his studies at a law school at the University of Michigan, but it was Graff and the other guys at EDF who made these academic concepts live in Krupp's head. Later on, another environmental economist, Dan Dudek, was hired to the EDF's New York office. He was the one who already had a clear idea on how emission trade could work in practice (Pooley 2011).

Before EDF decided to push for emission trade in the U.S., there had already been a couple of local initiatives of installing emission trade supported by the US Environmental Protection Agency. However, these experiments never really took off (Pooley 2011). As Pooley (2011) points out, one of the problems faced by emission trade was the definition of compliance in terms of emission rates rather than emission amounts. "If two facilities wanted to trade, they had to go back to the regulator and get approval for how to equate one facility's emission rates with another's" (Pooley 201, p. 68). Later on, EDF solved this problem by proposing to set a cap (a maximum level) of emissions and express reductions in tonnes of emissions.

Inspired by his economist colleagues, Krupp made market-based solutions a distinct product of EDF. This allowed EDF to advance its position within the U.S. environmental movement, attract new funding and open new paths to policy makers. In November 1986 Krupp announced the arrival of the "Third Stage" environmentalism on the opinion page of the Wall Street Journal (Pooley 2011, p. 69-70). It was a revolutionary move for an environmental organization to promote environmentalism in the most "capitalistic" of newspapers. Environmentalism promoted by Krupp was supposed not to collide with economic growth, on the contrary, it was supposed to generate more economic growth. The message sent out by Krupp was clear - EDF did not want to condemn corporations but it wanted to engage them into environmental action. While the Second Stage environmentalism of the 1960s and 1970s was mainly leftist in its political orientation, the Third Stage positioned itself closer to the political center and remained open to cooperation with the capital (Pooley 2011). Krupp wrote that the Third Stage environmentalism would:

recognize that behind the waste dumps and dams and power plants and pesticides that threaten major environmental harm, there are nearly always legitimate social needs – and that long-term solutions lie in finding alternative ways to meet those underlying needs – and that long-term solutions lie in finding alternative ways to meet those underlying needs. Otherwise, we are treating only symptoms; the problems will surface again and again. Answer the underlying needs, and you have a lasting cure. (Krupp after Pooley 2011, p. 70)

As Pooley (2011) points out, “the piece ended with a vague promise that ‘market-oriented incentives’ could achieve ‘greater environmental and economic benefits at a lower social and economic cost’” (p. 70). The message outraged the U.S. environmental movement, but C. Boyden Gray, the counsel to Vice President George H. W. Bush, got interested in the idea and invited Krupp to the White House for lunch. As Pooley (2011) briefly notices, since elections were approaching “Vice President Bush was hatching a plan to distinguish himself from Ronald Reagan, and EDF’s market-driven environmentalism would turn out to be central to the scheme” (Pooley 2011).

From the Bush Administration to the Kyoto Protocol

Already in the mid-1980s, EDF put global warming at the top of the organization’s priorities. This attracted new funding from the German Marshall Fund and the Rockefeller Brothers Fund who were getting interested in climate change (Pooley 2011). Promoting market solutions to environmental problems could also change EDF’s position within the political scene. It could appeal both to Democrats traditionally more interested in environmental problems as well as to some fractions of Republicans who could be persuaded by the market logic of environmental action.

In 1988, EDF prepared a report with market-based solutions for various environmental problems. It was called *Project 88: Harnessing Market Forces to Protect the Environment* (Stavins 1988) and was commissioned by Senator Tim Wirth from Colorado and John Heinz from Pennsylvania. Robert Stavins from EDF,

an economist and professor of public policy at Harvard University's John F. Kennedy School of Government, coordinated the expert work on this report. The project was financed from multiple sources: the Carnegie Corporation of New York, the Richard King Mellon Foundation, the Rockefeller Family and Associates, and Keystone Center/Madison Associates and the Environmental Policy Institute (Stavins 1988, p. viii). More than fifty figures from academia, private industry, environmental organizations, and government contributed to or reviewed drafts of the report.

In the foreword to the report, Senators Wirth and Heinz (1988) point out that among many ways to have clear environment, there are "innovative measures to enlist the forces of the marketplace and the ingenuity of entrepreneurs to help deter pollution and to change the conduct that wastes and degrades nature's resources" (p. ix). Consequently, the report does not discuss environmental goals but practical measures to achieve them. The goal of the report sounds bold: "to find the best, most cost-effective, new approaches to the mounting environmental hazards which face Americans and the world at large" (Project 1988, p. 1) and the authors refer to the announcement of the Third State Environmentalism in the Wall Street Journal by Krupp two years earlier.

Project 88 balances between innovativeness and tradition, and by bringing together economic and environmental concerns it works as a boundary object between problem areas whose objectives seemed incommensurable. *Project 88* became an important tool for enrolling various actors into emission trade. It could be presented to the public and promoted in political circles as being ripe with new opportunities for the economy, for the environment, but also for particular actors trying to advance their positions in various power circles. *Project 88* could be called an inscription device for transporting the concept of emission trade (on inscription devices see Latour 1987, Callon and Latour 1981, Callon and Law 1982). It resonated very well and enhanced Bush's aspiration to promote himself by taking the problem of acid rain on board in his election campaign. EDF's market-based approach seemed like a perfect strategy for Bush and with Bush's victory in the presidential elections, EDF made its way to the center of policy-making.

As the acid rain problem matured in the policy agenda of Bush's Administration, Goffmann, an economist from EDF, got appointed by the U.S. Environmental Policy Agency and became the main architect of the system for sulfur dioxide trading. He made sure that the 'cap' – the maximum level of emissions – was well defined and present in the system. The sulfur dioxide trade turned out a big success. Around 5 percent of sulfur dioxide emissions were reduced at a much lower cost than expected (3 billion dollars in comparison to the expected 10 billion dollars). But more importantly, EDF had its positive and practical example of emission trade to show to the world. The U.S. sulfur trade became another 'boundary object' to promote emission trade for a bigger cause – for fighting global warming.

Global warming was a much tougher challenge – it was a global problem. Therefore, the scale of action had to be bigger. In the Spring of 1996 EDF set out to promote carbon trade – almost two years ahead of the important conference of the United Nations Framework Convention on Climate Change in Kyoto in Japan (December 1997). The Nineties was a decade of proposing carbon tax both in the U.S. and in Europe. In Europe it was proposed by the European Commission and in the U.S. it was favored by Al Gore. But the idea of carbon tax failed in both cases. It meant too much of state intervention in the U.S. and Europe was divided on the carbon tax issue. The requirement of unanimity in voting on fiscal matters in the European Community made it difficult to have carbon tax passed (MacKenzie 2008, Braun 2009). By the time of the Kyoto conference, carbon tax was a discredited option on both continents.

Slowly, the Clinton Administration "bought into EDF's approach" and cap-and-trade became a deal-breaker of the Kyoto negotiations (Pooley 2011, p. 89). At the same time, however, in the U.S., opponents of a global deal to reduce emissions managed to frame climate action as being harmful for the U.S. economy. The alleged opposition – climate vs. economy – as Pooley (2011) puts it, prevented the U.S. Senate from agreeing on binding reduction targets unless developing countries, such as China, committed to an emission cap as well. In 1995, "the Berlin mandate split the world in two parts, the developed nations and the developing world, and let the developing nations off the hook for mandatory

reductions” (Pooley 2011, p. 90). Pooley (2011) provides an insightful commentary to this fact:

In the eyes of many American politicians, this became the original sin of the global climate negotiations. China and India wouldn't have accepted mandatory cuts at the time, nor should they have been expected to, but weaving their refusal into the fabric of the system just as China was emerging as a global competitor gave the Senate a reason to hate Kyoto, an excuse not to get on board. (Pooley 2011, p. 90)

The Berlin mandate proved to be another important device to define the roles of the 'developed' and 'developing' countries, and to inscribe relations between them and toward climate change. At the end of the 1990s, in the U.S. it worked as an opportunity structure for the U.S. Senate to unanimously vote against U.S. signing the Kyoto Protocol. At that time, the U.S. Senate did not think of 'killing' the Kyoto Protocol completely, but of not letting China get away from the deal. Finally, during the Kyoto negotiations, “to avoid blowing up the deal, the Americans agreed to defer the question to later talks (...). In return America got a global cap-and-trade framework” (Pooley 2011, p. 92).

A major U.S. opposition to emission reductions by any means came from the oil and coal sectors. Pooley (2011) describes how the fossil fuel sectors mobilized scientists willing to oppose theories about anthropogenic global warming. Conferences, publications, manifestos, media campaigns – all aimed at raising doubts about the certainty of global warming as a real, man-made problem. One of the main counter-arguments raised by the fossil fuel block against emission trade was that, all in all, this was a tax as well. However, while the “old” industrial economy based on fossil fuel combustion organized to oppose climate action, the „new” economy of services and finance got interested in carbon trade.

Wall Street people and people in hedge funds constituted the main target group which EDF lobbied for establishing emission trade in the U.S. This would be a new market with a new commodity – carbon dioxide – and in the future even more commodities as carbon dioxide is not the only GHG. GHGs could become new important assets for investment banks and new risk-hedging products could be

offered to those who trade in emissions on the global emission market. Moreover, for consultancies, trade brokers, banks, emission trade offered new business opportunities. A new market needed a service infrastructure and this infrastructure could grow in the future. Not only would emission trade reduce costs of environmental action in emitting companies, but it could also become a profitable business to other economic actors.

Finally, on 11 December 1997 in Kyoto, Japan the Protocol was adopted. It entered into force on 16 February 2005; however, without the United States of America. In 2001 America - alone in the industrialized world - refused to ratify the Protocol. The Bush Junior Administration did not want to pursue the path trod by the Clinton Administration. This way, the world gained a global cap-and-trade system for emission trade without the participation of its main author. The U.S. has not committed to binding reduction targets within the United Nations' Framework Convention on Climate Change ever since.

Emission Trade for an Economy in Transition

Even before EDF launched its campaign promoting emission trade within the UNFCCC, it approached Poland with the concept of emission trade in the early 1990s. Although this curious case of knowledge exchange is still under-researched, it will be briefly discussed here as a case of a failed transfer of neo-liberal governmental rationality to the environmental agenda of an economy in transition.

As Tomasz Żylicz, the Warsaw Ecological Economics Center, points out in a 1999 publication of OECD on implementing domestic tradable permits for environmental protection, 1989 marked the launch of a comprehensive reform of Poland's environmental policies. From the beginning, the Economics Department (ED) of the Ministry of Environment (ME) has "strongly recommended taking advantage of emission trading to improve the cost-effectiveness of the new policies" (p. 141). The idea of emission trading attracted interest from academic and political forums as it was appealing from the political point of view. It fitted the neo-liberal aspirations of Polish economic and political reformers. Żylicz

(1999) points out that “ideas for environmental policy reform were (...) developed by dissident economists prior to 1989” (p. 147). The circumstances in which this development took place still need more research, however, Żylicz (1999) makes it clear that the potential political advantage of the Tradable Pollution Permits (TPPs) was for the dissident economists that of “letting the market constrain the power of bureaucracies” (p. 147).

In 1991, the Polish Parliament officially approved the introduction of Tradable Pollution Permits (TPP) into the National Ecological Policy. In 1991 a new Environmental Protection Act was drafted - it also included TPPs as a policy option. Żylicz (1999) comments that in the early 1990s, prospects for TPPs seemed bright but soon the process of environmental reforms slowed down and the 1991 bill has never been passed. He also stresses that TPPs were not an obvious policy choice for Poland, as the Western European counterparts perceived TPPs as ethically ambiguous. This shows that Poland started considering emission trade much sooner than the European Community. As it will be shown later in this analysis, Europe started learning more about emission trade and began to seriously consider a European emission trading scheme at the beginning of the 2000s. Americans were Poland’s allies in developing the concept of emission trade.

In the fall of 1989 a Polish-American workshop took place, where TPPs were promoted to be recommended to the new democratic Polish government. “The main argument was that, even in thin or hardly-existing markets, substantial cost savings could be achieved, if at least one low-cost polluter and a neighboring high-cost polluter were allowed to comply with certain regulations jointly” (Żylicz 1999, p. 148). In Poland, like in the U.S. and the West of Europe, emission trade had to confront the already existing command-and-control approach put in place in Poland in the 1980s. In Poland it had also to confront decades of the socialist, central-planned economy.

Żylicz (1999) points out that in the late 1980s, “the central planning ideology has been severely eroded in Poland” (p. 148). At the same time, however, institutional/infrastructural bases for constructing an emission market were very

weak. It also became clear that there were certain cognitive and psychological barriers to be overcome, as industrial managers had problems learning how to operate at free markets for goods they produced, let alone for emissions they generated. Industrial managers were used to the “excessive paternalism of state administration” (Żylicz 1999, p. 148). Consequently, Żylicz (1999) points to the absence of well-established market structures and entrepreneurial behavior as two main obstacles for implementing emission trade in Poland in the early 1990s (Żylicz 1999, p. 148).

Moreover, a system of pollution charges had been in place in Poland from the 1980s. “The main challenge thus seemed not so much to depart from command-and-control approaches, but rather to persuade policy-makers and stakeholders that, under the particular circumstances in Poland at the time, TPPs were a preferred alternative to the existing pollution charges” (Żylicz 1999, p. 148). Two major reports were translated into Polish and widely distributed, in order to enhance the understanding of environmental policies in modern market economies. This was a publication on Economic Instruments for Environmental Protection (OECD, 1989), which gave a wide overview of policy experience in the OECD countries and the *Project 88* report. These were two ‘boundary objects’ that bound Polish economists and officials to emission trade. However, an empirical proof was missing which would convince Polish actors that even in “thin and weak” market economies, emission trade could still unleash entrepreneurial behavior and generate savings (Żylicz 1999, p. 150).

Failed Experiments of a Too Early Action

Since such an empirical proof was missing, it had to be created. Starting from 1990, the Economics Department tried to specify a good demonstration site for an emissions trading experiment. The plans of the Economics Department met with interest from a number of environmental policy specialists, mainly from the US. In 1990, the Economics Department reached an agreement with the Environmental Defense Fund (EDF) to jointly develop a pilot project to demonstrate the usefulness and viability of emission trade. The Economic Department and EDF set

out to look for possible locations. Soon, it became clear that the physical and technological characteristics of a site were of lesser importance than the understanding and the willingness to co-operate from a regional environmental administrator. At that time, the regional administrator gave out permits for such initiative (Żylicz 1999, p. 151).

One of the demonstration projects was launched in Chorzów. As Żylicz (1999) points out, no real “emissions trading” actually took place in Chorzów, since Polish law did not recognize “emission reduction credits” (p. 151). He also explains legal conditions for exchanging pollution permits in Poland:

In 1991, a new Environmental Protection Act was drafted by the Government. It included Article 45, which stated that “the terms of a pollution permit can be transferred (either fully or in part) to another plant subject to the approval of the authority who issued the original permit”. The Act was eventually abandoned, so no “emission reduction credits” could formally become a commodity. Consequently, the whole experiment can be labeled as a “tradable permit project” only in a metaphorical sense. (Żylicz 1999, p. 151)

The other project was carried out in Opole and it came with new funding opportunities of the EU pre-accession period. The European Poland and Hungary: Action for the Restructuring of the Economy (PHARE Programme) offered to finance few full-scale research projects addressing problems of practical importance for the Ministry of Environment. The Opole project was originally conceived as an implementation exercise. However, it became apparent that with the political establishment being only marginally interested in environmental policy reforms, there would be no chance for an appropriate amendment of the legislation. “Consequently, the project was redesigned and, instead of actual implementation, a series of computer simulations served as a test of the legal mechanism that needed to be developed” (Żylicz 1999, p. 154).

The third project to demonstrate the effectiveness of emission trade was the Jadwisin workshop organized by the Polish Ministry of Environment together with the Harvard Institute for International Development in June 1996. Its goal was:

to elucidate the relationship between tradability of permits and emerging European legislative issues. (...) The Workshop provided an opportunity to assess Polish plans to introduce emissions trading from the point of view of both US practical experience, and the European legal framework. (Żylicz 1999, p. 155)

The Environment Directorate (DG Environment) of the European Commission presented “European issues” at that meeting. At that time, the Integrated Pollution and Prevention Control (IPPC) was the most important act of the European environmental policy. Therefore, emission trade was largely discussed in the context of Poland’s preparation to transpose IPPC to Polish legislation. DG Environment made it clear that the IPPC Directive imposed some extra requirements on pollution sources, but it did not preclude emission trading. Nevertheless, it was said that emission trade could not over-rule any source- and/or site-specific conditions that policy-makers in Europe were likely to retain.

The 1999 account by Żylicz, provides some important information. Firstly, the concept of TPPs developed in Poland within Polish-Western networks of economists around 1989 and in the early 1990s. It was perceived as a potential tool for Poland’s economic transition to market-based economy and thus was appealing also after 1989 when the ideology of central planning was not acceptable anymore. However, institutional, legislative and cognitive bases for implementing emission trade were too weak at that time. Moreover, pollution control had already been carried out in Poland from the 1980s and it was difficult to break through with a new concept of emission trade to the mainstream of the Polish environmental policy. Additionally, in the early 1990s, other policy areas seemed more important – e.g. fiscal policy, privatization policies, etc. One should bear in mind Poland’s economic condition at that time. In 1991, the Gross Domestic Product (GDP) was 18% lower than in 1989 (Jankowski 1991). Environmental policy experts – with their progressive ideas and concepts were relatively marginal in the national policy field.

This account also shows that in its early transition years, Poland had to make a choice between the U.S. and European models of environmental policy. In the

early 1990s Poland discovered the emission trade used in the U.S. A good indicator of a close cooperation between EDF's staff and Polish environmental economists is the publication by Rober Stavins and Tomasz Żylicz (1995) entitled "Environmental Policy in a Transition Economy: Designing Tradable Permits for Poland" (RFF Discussion Paper, No. 9, Washington DC). At the beginning of the 1990s, Poland also discovered various command-and-control solutions coming from the EU and Germany. As it will be shown further in the this paper, the EU, and particularly Germany, was hostile towards the U.S. concept of emission trade in the 1990s. The 1990s was a decade of 'carbon tax' in the EU, which finally failed and was in fact never imposed upon the Members of the European Community. Only in the late 1990s and in the 2000s, the EU made a dramatic policy turn toward emission trade and established the European Union Emission Trading Scheme with the 2003 ETS Directive. However, in the early 1990s there were no signs of such a policy turn. Therefore, Poland, with its aspiration to join the European club, decided not to implement emission trading for sulfur dioxides (SO₂) and nitrogen oxides (NO_x), despite the fact that emission trade for these gasses could have brought substantial savings (Jankowski 2006). Consequently, some more general, political, cultural and economic aspirations overshadowed a pure cost-benefit calculation of various policy instruments.

The next part of this paper shows that the beginning of the 1990s was the time when Western Europe started getting interested in reducing GHGs, and in particular carbon dioxide emissions. It should be stressed that Polish attempts to introduce emission trade in the early 1990s did not include carbon dioxide. The main focus was put on carbon monoxide, sulfur dioxide and nitrogen dioxide (Żylicz 1999). This indicates two things. Firstly, in the early 1990s, Poland was still quite far away from putting carbon dioxide reduction onto its environmental agenda. Secondly, as the following chapter will show, carbon dioxide reductions came for the European Member States as a distinct air pollution problem, which had been dealt with by existing command-and-control policy instruments.

Europe Commits Itself to GHG Emission Reductions

While the idea of emission trade experienced its ups and downs in the U.S. Senate and in the Polish government, Western Europe was taking on a slow turn toward reducing carbon emissions. The beginning of the 1990s was formative for Western Europe in terms of their approach to global warming. At that time, concerns about global warming were weaved into domestic and Community-wide economic policies and Europe's more general philosophy of development. Differences between new and old Member States will become more understandable when we notice that the European Union Emission Trading Scheme, which started operating in 2005, stems from almost two decades of Western Europe's thinking of how to translate emission reductions into an economic opportunity.

The first attempts to reduce carbon dioxide emissions in Europe date back to the beginnings of the 1990s. At that time several countries came up with their own domestic targets and policies of emission reductions. In 1989, the Dutch government issued its First National Environmental Policy Plan (NEPP), which called for stabilizing carbon dioxide emissions for the Netherlands at an average level of 1989 and 1990 until 2000. In June 1990, the West German government announced a target of 25 to 30 percent reduction in its emissions compared to 1987 levels by 2005. In the same year the Danish government stated that it would reduce carbon dioxide emission by 20 percent in relation to 1988 levels by 2005. The Austrian government followed the three other countries with a goal of 20 percent reductions of its emissions compared to 1988 levels by 2005 (Schreus and Tiberghien 2007, p. 32).

These efforts were soon taken up to the Community level and as early as October 1990 the European Ministers of Energy and the Environment declared that the European Community "would seek stabilize its joint carbon dioxide (CO₂) emissions at 1990 levels by the turn of the century" (Schreus and Tiberghien 2007:20). However, the three cohesion countries – Spain, Portugal and Greece – demanded a "burden sharing" approach that would allow them to declare their own reduction goals corresponding to their lower level of economic development. As Warren (1993) points out, "although per unit of GDP they already rank

amongst the least energy efficient in the Community, on a per capita basis they are relatively small polluters given their lower levels of affluence” (p. 7).

The burden sharing approach was also adopted by the European Community in the 1997 negotiations at the Kyoto Conference. It guaranteed success. When the European Commission pushed for an ambitious community-wide target it also recognized a need for differentiation in national targets. As a result, “only seven MS were expected to reduce their emissions: Austria, Belgium, Denmark, Germany, Italy, Luxemburg, the Netherlands, and the United Kingdom. Other EU Member States either pledged to stabilize their emissions (Finland, France) or to work to reduce the rate at which they were growing (Spain, Greece, Portugal, Sweden, and Ireland)” (Schreus and Tiberghien 2007, p. 33). During the Kyoto negotiations, the EU committed itself to cutting 8 percent of its 1990 emissions in the period between 2008 and 2012. Stepping out of the U.S. Bush administration at the beginning of 2000s was a big stroke for the global efforts to curb carbon emissions. However, for the EU it provided an opportunity to take up the role of a leader, a norm (Ellickson 2001, Hechter and Opp 2001, Lightfoot and Burchell 2005, Manners 2000; 20002) and political entrepreneur (Downs 1957; Kingdon 1983; Tiberghien 2007) and build up its image as a global guardian of the climate system.

It is worthwhile to examine why some Member States declared such ambitious emission reduction targets at the beginning of the 1990s. Schreus and Tiberghien (2007) point to the changing underlying economic conditions in the biggest Member States (p. 32). Germany provides a good example of how the country’s changing economic conditions were coined into an ambitious climate policy. Due to the collapse of many industries in the East of freshly unified Germany, the whole country noted huge windfall reductions in carbon emission. Later on, a strong position of the German Green Party, invited by the Social Democratic Party to join the coalition after 1998 elections, resulted in a successful push for an ecological tax reform (reducing the tax burden on workers, while increasing it on energy consumption), a nuclear phase-out plan, an active promotion of renewable energies through special feed-in tariffs and an aggressive climate change policy (Schreus and Tiberghien 2007, p.37).

The UK and France, on the other hand, provide good examples of how existing policies were conducive to ambitious emission reduction goals. The UK, skeptical about emission reductions in the early 1990s, turned into a strong supporter of climate action when it started switching from coal to gas. Tony Blair, the then Prime Minister, established himself as a big supporter of climate action to improve his image as a politician independent of the U.S. around the time of the Iraqi war (Schreus and Tiberghien 2007, p.38).

France, which currently emits less than half of Germany's carbon dioxide, achieved this emission level mainly due to its 1970s decision to become less dependent on energy imports. Today, fifty-nine nuclear reactors produce 78 percent of the country's electricity and account for the bulk of the 50 percent energy autonomy boasted by France (Schreus and Tiberghien 2007, p. 39). According to Schreus and Tiberghien (2007), till 2005, France played a limited role in the international climate negotiations. However, at a certain point its bureaucracy realized that "Kyoto can serve to buttress the role of technocratic elites, playing up their strengths in the nuclear and automobile sectors" (p.39). Also President Chirac seized upon climate change as a major political entrepreneurial issue.

Smaller countries like Austria, Belgium, Denmark, Finland, Luxemburg, the Netherlands and Sweden managed on many occasions to form a strong coalition pushing for climate change action. The Netherlands and Denmark have been a particularly strong advocate of emission cuts. The latter soon became a pioneer in developing renewable energies (Schreus and Tiberghien 2007, p. 39, more). Austria, on the other hand, had a strong environmental movement, which pushed the government for action.

As Schreus and Tiberghien (2007) point out, European industries were more eager to accept reduction goals than the US business. Despite some opposition, "many companies have joined groups like the Business Council for a Sustainable Energy Future, the European Wind Energy Association, the International Cogeneration Alliance that accepted the need for action" (p.28). The British Petroleum (BP) was one of the first European fossil fuel companies, which in 1997

recognized that precautionary action was necessary. Also “prior to EU signing the Kyoto Protocol, the oil firm Austrian OMV supported the EU’s 15 percent reduction target” (p.28). Schreus and Tiberghien (2007) point out that “in general, the European industry saw the potential to move into new business areas, such as BP’s move into solar energy, Royal Dutch Shell Group’s development of solar and wind energy, and Austrian OMV’s embrace of biofuels” (p.28). In Europe, much emphasis has also been laid upon the “first mover advantage” to be achieved by moving into the development of green technologies and selling them world-wide (Warren 1993). According to Warren (1993), this approach could be observed in Germany, where the German government viewed the development of energy efficient industry as a potential export good.

Failure of the European Carbon Tax and the Search for a New Policy Tool

In order to become policy issues, climatological findings on global warming had to be translated into ‘manageable’ interventions by the European Community (Liberatore 1994). For a long time, Europe stood against the U.S. proposal of maximum flexibility mechanisms and emission trade. Europe demanded the right to reduce emissions through domestic measures and policies (Schreus and Tiberghien 2007, Braun 2009, Lohmann 2006, more). Additionally, in the early 1990s Europe, unlike the U.S., knew very little about emission trade. Emission trade was a U.S. invention. According to Braun (2009), one of the main reasons why the EU changed its mind and actually proposed carbon trade in the beginning of the 2000s as its own regional climate policy instrument was the failure to introduce a Community-wide carbon tax (MacKenzie 2009).

In 1992 the European Commission proposed to introduce a Community-wide carbon tax. Warren (1993) calls the carbon/energy tax a macho-symbol for the true believers (p. 8) and puts some flesh on the negotiations around this issue:

At the end of the last Environment Council of Ministers on June 28th, Germany’s long-standing Environment Minister Klaus Topfar was telling Reuters that his Government will simply not ratify the UN Climate Change Convention ‘unless it is made clear that at the same time the EC-

wide tax on energy and carbon is crucial'. This view is overtly endorsed by the Danes and the Dutch - and more quietly, by Luxembourg, Italy and the current President of the EC, Belgium. (Warren 1993, p. 8)

The proposal failed due to the unanimity procedure within the Council of Finance ministers. It was undermined by several Member States and industry lobbyists. A revised proposal from 1995 did not come into effect either. Braun (2009) confirms that it was "hampered in particular by Germany insisting on such demanding tax rates that the proposal had to fail" (p. 473). The carbon tax was finally introduced in 1997 in the EU, but "was so watered-down that its impact hardly had any relevance" (p. 473). Braun (2009) points out that emission trade did not need unanimity, but according to the Art. 175 (1), as "an environmental policy measure", it only required a qualified majority. Consequently, searching for a lever to implement the Kyoto Protocol, the European Commission finally got interested in it (p. 473).

In 1999 there was a lot of distrust towards emission trade in Europe. However, with time it slowly started melting down. In his 1999 article in *European Environment*, Gert Tinggaard Svendsen, from the Department of Economics at the Aarhus School of Business in Denmark, referred to the lack of trust in the U.S. proposal of emission trade during the UN negotiations:

The US has been criticized for wanting to earn a fortune on a global CO₂ market. However, compared to the situation without trade and provided that such a market is designed so that it does not pay to cheat, a global CO₂ market may provide the world with an epoch-making means of cost-effective control which can solve future global environmental problems. (Svendsen 1999, p. 232)

Svendsen (1999) perceived the system as politically attractive to some participants who could have benefited from the "hot air" distributions of permits. "Hot air" was the name for emission reductions in transition economies, which came with the collapse of their industries. Trading "hot air" was perceived as an opportunity for Russia and most of the post-socialist countries as they could

receive important financial transfers from selling emission quotas and in this way finance investments in their rundown industries.

However, as Svendsen (1999) points out, during the Kyoto negotiations representatives of some European countries were enraged about the proposal of emission trade. The Danish Minister for the Environment, Svend Auken, “suspended negotiations with the Americans, and criticized their proposal using very strong words: morally objectionable, a loophole designed to allow the world’s biggest emitter of CO₂ to continue polluting” (Svendsen 1999, p. 232). While the cap-and-trade system remained largely unknown for the European politicians, academics like Svendsen (1999) found it appropriate to ask whether Americans were “heroes or villains when (...) they suggest international trade in greenhouse gasses” (p. 232). He drew a conclusion that all that depended on whether an agreement could be reached on designing a global carbon dioxide market in such a way that permits were renewed periodically. He also added that “if tighter CO₂ target levels are required in the future, it is possible to reduce the number of permits when renewing them” (p. 326).

Catching up with Missed Opportunities – EDF Lobbies BP

Peter Zapfel¹⁵ and Matti Vainio¹⁶ (2002) give an account about the way European emission trade has been established. They were both closely involved in its creation and they provide some interesting insights into the process. They distinguish between three phases in the European debate on carbon trade. The debate after the Kyoto Conference of the Parties in 1997 chiefly focused on trying to understand what the Kyoto accord really meant and whether and how emission trade could be made operational under Article 17 of the Kyoto Protocol.

¹⁵ Since 2000 he has worked for DG Environment. He has represented the Commission as a delegation member in several UN climate negotiation sessions. For several years he was responsible for the economic assessment of climate policy. He has been involved in the Commission’s work on emissions trading since 1998. He has coordinated DG Environment’s EU ETS team for over two years

¹⁶ From 1998 to 2001, as Policy officer in Economic Analysis Unit (Acting Head of Unit in 1998) he contributed to all European Climate Change Programme (ECCP) working groups and thus worked with all DGs and main stakeholders involved in climate policy. Directed a 3-year long multi-sectoral study “*Economic Evaluation of Sector Objectives for Climate Change*”, which underpinned the ECCP and the Commission proposal for EU Emission Trading Scheme in greenhouse gases. Developing the methodologies to carry out cost-benefit analysis for DG ENV.

At that time the knowledge about emission trade in Europe, both in the European Commission and among European industries, was very poor and European voices in the debate were critical of emission trade. Despite this skepticism and some misconceptions about the purpose of emission trade (Zapfel and Vainio 2002), in the 1990s, the debate was kept alive by a feeling of inevitability of having to make further decisions on emission trade with regard to the still negotiated Kyoto Protocol. The U.S. put carbon trade as a precondition for ratifying the Protocol (Zapfel and Vainio 2002, p. 6-7). Moreover, a new market was quickly perceived as a good business opportunity by market intermediaries and other potential service providers – auditing companies, consultants, lawyers, academics, commercial conference organizers (Zapfel and Vainio 2002, p. 7).

At that time, U.S. experts started getting involved in the European debate on carbon trade – they have in fact initiated it in Europe. At the end of the 1990s, the U.S. was making up for a strategic mistake it made in the run up to the Kyoto Conference – for having failed to promote emission trade sufficiently in Europe before 1997 (Zapfel and Vainio 2002, Braun 2009). As Zapfel and Vainio (2002) recall, “immediately after the Kyoto conference US actors with an interest, but also real-life experience, in emissions trading (EPA staff, the environmental pressure group Environmental Defense, the think tank Center for Clean Air Policy, researchers at the Massachusetts Institute of Technology and other academics etc.) invested a lot of time and resources in participating in the European debate” (Zapfel and Vainio 2002, p. 7). After 1997 the UN negotiations significantly slowed down and many actors in Europe started thinking whether it was worth waiting for a UN scheme or maybe it was better to start developing one on their own (Zapfel and Vainio 2002). In the same time, European actors began to accumulate expertise on emission trade, mainly from U.S. based experts.

In May 1997, John Browne, the CEO of the British Petroleum (BP), gave a speech at Stanford University. He announced that BP would reduce its greenhouse gas emissions, and thus become the first major international oil company to recognize publicly the threat of climate change (Browne 1997). In 1998 BP started experimenting with emission trade to be able to implement a large-scale company-internal greenhouse gas emissions trading system in January 2000 with

a goal of cutting emissions by 10% by 2010 (Victor and House 2006). Zapfel and Vainio (2002) point out that “a major factor in the decision to embark on this route was the lobbying of BP by the US environmental pressure group Environmental Defense, the most active supporter of emissions trading on the environmental side in the United States for many years” (p. 8). Fred Krupp played a major role in persuading BP to launch an experimental emission trade scheme:

With a privileged position inside at BP, and having a favored policy instrument at hand, Fred Krupp, EDF’s President, lobbied John Browne to adopt a cap and trade system. Having played a role in securing that choice, EDF helped key BP managers gain familiarity with the instrument by leading workshops on trading for BP that gave particular attention to topics such as monitoring systems, trading rules and enforcement. (Victor and House 2005, p. 2102)

The next step was to install the infrastructure for trading, “especially a system for collecting the emissions data that forms the foundation of any credible cap and trade system” (Victor and House 2006, p. 2102). The company also lacked a uniform standard for reporting greenhouse gas emission which it developed in May 1997 and “by the end of 1997 had inventoried GHG emissions for 1990, 1994, 1995, and 1996” (Victor and House 2006, p. 2102). The actual trading platform was developed by oil traders, who used the BP intranet as the medium through which buyers and sellers would place bids. All emissions permits would be held in a central database, where they could be electronically moved from one business unit (BU) to another.

However, for tax purposes, “money would not physically change hands, but BUs did report trading-related “income” and “expenses”” (Victor and House 2006, p. 2102). Having reviewed various allocation options, BP chose the “grandfathering” approach—“allocating permits on the basis of historical emissions, with 1998 as the base year as it was the most recent year with reliable emission data” (Victor and House 2006, p. 2103). “Grandfathering” will also become the main allocation method for the European Emission Trading Scheme between 2005 and 2012.

This was in fact the first global emission trading system, as it encompassed all of BP's business units world-wide (Braun 2009, Zapfel and Vainio 2002, Victor and House 2006). In March 2002 Browne gave another speech at Stanford praising his company for the attainment of 10% reductions seven years in advance of the set date 2010. Victor and House (2005) point out that "the stellar performance of BP's emission control program has led many observers, inside and outside BP, to ascribe success to the firm's emissions trading system" (p. 2100) and countries and other firms which considered the adoption of a trading systems, "often point to BP's pioneering experience as a guiding star" (p. 2100). Victor and House (2005) argue that no study has ever explained the operation and impact of BP's trading system and they conclude that it did not operate like a "textbook" cap-and-trade scheme, but rather like a "safety valve" trading system, "where managers let the market function until the cost of doing so surpassed what the company was willing to tolerate" (p. 2100).

In a relatively short time, within four years, BP gained a first-mover advantage. It had a successful story of emission trade to tell to the others. It had some first-hand experience in operating a system, which BP itself could later on lobby for at the European level. It had a green image to boast about, which made BP a legitimate partner in debates on environmental issues. And at the same time, all this did not cost much. Victor and House (2006) also point out that BP "hoped that a successful demonstration of emissions trading would forestall alternative, more costly policy responses such as an emissions tax" (p. 2101).

BP was afraid of carbon taxes because of the company's large emissions. Taxes would shift revenues from the firm to the taxing governments (Victor and House 2006). As a geographically and operationally diverse organization, BP was also aware of varying marginal costs of emission reductions in its different units. It hoped therefore to find a way to reduce emissions reduction costs within their own business units and emission trade would enable it. However, when the system closed in 2002, according to Victor and House (2006), nobody really regretted it. Managers were satisfied that one of the main goals was achieved, and namely a "prompt delivery on BP's public commitment to control its

emissions while adjusting the public debate so that it focused on trading instruments rather than regulatory or tax approaches” (p. 2105-2107).

Between 2000 and 2002, the Royal Dutch Shell Group introduced an internal emission trading scheme (Schreus and Tiberghien 2007:28). Braun (2007) points out that “the industry was much more open to the carbon trade than to the carbon tax” (p. 473). They welcomed it for its economic efficiency and set out to gain practical experience. For example, EURELECTRIC practiced emission trade on a “simulation exercises programme based on a flexible, scenario-based model: the Greenhouse Gas Emissions Trading Simulations (GETS)” (p. 473). In 2002 the UK introduced the world’s first nation-wide carbon trade emissions trading scheme (Braun 2009). BP has been an active participant in the UK’s ETS. Victor and House (2006) state that “indeed, BP’s experience helped to convince the UK government to deploy a trading system” (p. 2105). Roughly at the same time Denmark introduced its own trading scheme as well (Braun 2009). Equipped with practical and theoretical experience, European companies helped the European Commission work out an EU-wide carbon trade scheme. Braun (2009) argues that “BP’s scheme in particular (...) constituted an increasingly powerful driver in the EU’s emissions trading discussion” (Braun 2009: 480).

Consequently, emission trade came to Europe largely through the U.S. based think tank EDF and through European businesses. Was it easier for EDF to lobby companies rather than governments? Certainly, EDF’s lobbying strategy and the story of the failed European carbon tax point to constraints for states’ regulatory powers imposed by economic actors. It also shows that particular policy options have not solely been debated and crafted in governmental circles, but knowledge, expertise and experience for installing new policies has often come from private actors, such as the EDF think tank and companies like BP and Shell. Braun (2009) points out in his analysis that emission trade has long remained a rather obscure policy instrument for many of the national governments. It was simply too difficult to understand it and it took national administrations much time to learn more about it. Further in this chapter it will be shown that the debate on emission trade took place mostly in expert-circles within exclusive workshop meetings, trainings, simulations, far away from the public eye. Soon, a new European ‘center of

calculation' was created by several actors from the Directorate General in the European Commission.

Europeanizing Emission Trade - on the Way to Installing Emission Trading Scheme in the EU

According to Zapfel and Vainio (2002), the second phase of the debate was much more Europeanized. This was also a time when European actors started debating what and how to trade if a European emission trade is to be installed. The European Commission looked for a system that would best correspond to the specific institutional, cultural, legal and administrative nature of the Member States. As a result, officials from the Commission ceased being interested in advice coming from the U.S. (Zapfel and Vainio 2002). At the same time, the Clinton Administration became more hesitant about creating a carbon market in the U.S. and lost its impetus in thinking about emission trade. While the U.S. examples, such as EPA Sulphur Allowance Trading, North-Eastern state-level NOx schemes, and the Californian RECLAIM programme, lost its usefulness for the European actors, new domestic schemes, the Danish carbon dioxide quota scheme, the business-led UK emission trade and the BP pilot scheme constituted convincing instances for other European countries. For example, they served well to persuade Germany, still skeptical about emission trade, of the pros of such a system. Zapfel and Vainio (2002) argue that the "possibility to be involved in the early stages and influence the rule development was a major engine to power the German interest in the new and coming instrument" (p. 10).

In this phase, attention was mainly paid to a bottom-up approach, which meant that Member States would create their own domestic emission markets (Zapfel and Vainio 2002). However, a set of domestic carbon markets in Europe could possibly lead to fragmentation and incompatibility of different schemes if they were to be connected in the future. Thus in the third phase, the debate focused on the European dimension of emission trade, and a European emission trading scheme became recognized as a strategy for European integration (Zapfel and Vainio 2002; Schreus and Tiberghien 2007). It could also become a tool for the European foreign policy, because in the future, the system developed in the EU

could be expanded to other regions (Zapfel and Vainio 2002, Schreus and Tiberghien 2007).

Emission trade also proved an entrepreneurial opportunity for DG Environment – a part of the Commission, which has been marginalized for years as a leftist group of environmental idealists (Bitter 2010). DG Environment seized upon emission trade as an opportunity when, after Kyoto, two units of DG Environment (International Negotiations unit and Economic Analysis unit) merged and Jos Delbeke, an economist, was nominated the head of the new Climate Change unit (Bitter 2010). So once again, like in case of EDF, emission trading became a strategy to advance an organizational position within a particular policy field. It enabled to move DG Environment more to the core of policy making in the EU – of strategizing about EU’s development. Moreover, knowledge on emission trade was still poor in the EU and the project of EU ETS became a “child” of a couple of people in DG Environment. This gave power to this unit in relation to other DGs in the European Commission.

In 2000, a couple of policy entrepreneurs from DG Environment: Jos Delbeke, Peter Vis and from 2000 on also Peter Zapfel (Braun 2009) pushed for a more focused debate. They had been well trained in the subject of emission trade thanks to their cooperation with EDF. DG Environment invited other think tanks, research centers and NGOs to share its knowledge on carbon trade. Braun (2009) points out that it was the necessity to learn about emission trade, which constituted a basis for establishing an issue-specific policy network on emission trade. The Foundation for Environmental Law and Development (FIELD) became DG Environment’s main consultant on emissions trading (Braun 2009). FIELD recommended DG Environment to have grandfathering as the main allocation methodology. It did it for political reasons, because full auctions, although regarded as economically most effective, would in fact equal a carbon tax strongly rejected a couple of years earlier by Member States and European industries.

In March 2000 the Green Paper on “Greenhouse gas emissions trading within the European Union” was issued, sketching the first ideas of what a European scheme could look like (European Commission, 2000). The document defined the

respective roles of the European Commission, the Community in general and Member States. The Commission underlined that it believed that “a coherent and coordinated framework for implementing emissions trading covering all Member States would provide the best guarantee for a smooth functioning internal emissions market as compared to a set of uncoordinated national emissions trading schemes” (p. 4). According to the Commission, a Community-wide scheme would lead to a common price signal for carbon emissions in Europe. This move made by the Commission suggested a strong integration agenda. The Commission pointed out that “development of the internal market has been one of the driving forces behind the EU’s recent development, and this should be taken into consideration when creating new markets” (p. 4). The climate change was defined as “the clearest case of transboundary effects requiring concerted action” (p. 4) and the European-level scheme would reduce the cost of such action.

It is important to mention that a choice to trade carbon dioxide, and not other GHGs, was not an obvious one. The Commission thought of establishing “a comprehensive trading scheme across different Member States covering all 6 greenhouse gases and sinks, and encompassing all emission sources” (p. 10) in a long term. However, at the beginning of 2000, there were still some “considerable uncertainties surrounding the emissions of the fluorinated gases and the absorption of carbon dioxide by sinks” (p. 10). The Commission concluded that:

Consequently, if the Community wishes to follow a prudent step-by-step approach in the development of emissions trading, it should initially confine itself to large fixed point sources of carbon dioxide, where monitoring and supervision of the system is more feasible. Carbon dioxide (CO₂) emissions constitute approximately 80% of the Community’s greenhouse gas emissions. (Commission 2000, p. 10-11)

In 2000 carbon was still not priced. There were only empirical estimates that could guide the Commission’s reflections. Such estimates showed a large variety, “ranging from 5 Euros to 58 Euros per tonne of carbon dioxide equivalent traded between industrialised countries” (p. 11). The Commission also proposed a

definition of roles the Community and Member States should play in the new scheme¹⁷.

Soon, the Commission created a multi-stakeholder working group in the European Climate Change Programme, which allowed it to become more active in its promotion. In May 2001 the stakeholder group concluded its work with a clear recommendation that European trading in GHG permits should be established “as soon as practicable” (Zapfel and Vainio 2002). DG Environment also involved European NGOs community. Braun (2009) notices that European NGOs entered the stage in January 1998 when DG Environment organized a meeting. Then they started to work on solutions to increase environmental effectiveness of the EU ETS and generated considerable expertise on this issue (p. 479). For example, lobbying for partial auctioning came from the European Parliament and NGOs and resulted in a compromise allowing Member States to voluntarily auction part of emission certificates (Braun 2009, p. 479). Now, the Climate Action Network Europe, a leading NGO network working on climate change, has 129 member organizations. The Green 10 consists of the ten leading environmental non-governmental organisations (NGOs) active at EU level¹⁸.

In October 2001 the European Commission presented a Proposal for a framework Directive for greenhouse gas emissions trading within the European Community - COM(2001)581. The proposal foresaw “the mandatory introduction of trading in GHG permits in all EU Member States as of 2005” (Zapfel and Vainio 2002, p. 11). Details of the emission allocation decisions were left to Member States.

¹⁷ Conceptually, emissions trading within the European Union could be organised at a number of different levels, with varying degrees of Community intervention. These levels could range from a Member State driven scheme, where the Community’s role would be limited to maintaining oversight of national schemes to ensure conformity with Community law and to monitor progress with Community commitments. At the other end of the spectrum could be a harmonised Community-wide scheme in which the design and regulation of all the essential elements would be agreed at Community level, and Member States would implement the scheme in a consistent manner with only limited regulatory discretion. A “middle” option would be to develop a Community scheme, but leaving Member States with some degree of choice whether or not, and to what extent, they participate, and possibly some choice in the key implementing rules. (Commission 2000, p. 12)

¹⁸ BirdLife International (European Community Office), Climate Action Network Europe (CAN Europe), CEE Bankwatch Network, European Environmental Bureau (EEB), European Federation of Transport and Environment (T&E), Health and Environment Alliance, Friends of the Earth Europe (FoEE), Greenpeace Europe, International Friends of Nature (IFN), WWF European Policy Office. They work with the EU law-making institutions - the European Commission, the European Parliament and the Council of Ministers - to ensure that the environment is placed at the heart of policymaking. Except for Greenpeace, the Green 10 members receive funding from the European Commission. Currently they are very useful for the Commission in urging to adopt more radical reduction targets and make sure that “polluters pay” (interview information).

Governments were obliged to prepare National Allocation Plans (NAPs) for the first trading period 2005-2007.

The Commission put two concepts in the center of its proposal. “The first of these is that of the greenhouse gas “permit”, that will be required by all installations covered by the scheme. The second concept is that of greenhouse gas “allowances”, denominated in metric tonnes of carbon dioxide equivalent, which entitle the holder to emit a corresponding quantity of greenhouse gases¹⁹” (Commission 2001, p. 3). Member States, or their relevant authorities would grant a greenhouse gas permit to an industrial installation that would set an obligation to hold allowances equal to the actual emissions, as well as would require adequate monitoring and reporting of emissions. In addition to permits, Member States, or their relevant authorities, would allocate allowances. These allowances could be traded between companies if they chose to do so. Each year, companies would have to submit for cancellation a number of allowances that would correspond to their actual emissions. Should they have not enough allowances, sanctions would be imposed on them. The holding and tracking of allowances would be done through an electronic register (Commission 2003, p. 3). Member States were given the right to decide upon the total quantity of allowances it will allocate for that period and the allocation of those allowances²⁰ to the operator of each installation. The EU ETS was launched in January 2005, three years before the Kyoto international trading scheme started operating.

¹⁹ The concept of ‘permits’, as the Commission explained, has been well established in environmental policy “particularly for the application of technical standards in the field of waste, water and air pollution” (p. 8). Also the concept of tradable allowances was not totally unfamiliar in the EU. “The quotas for Ozone Depleting Substances under the Montreal Protocol, the fish catch quotas under the Common Fisheries Policy, and the milk quotas under the Common Agricultural Policy are all practical examples of allowances with some degree of transferability” (p. 8).

²⁰ The Directive elaborated more on the concepts of an emission allowance and an emission permit: “‘allowance’ means an allowance to emit one tonne of carbon dioxide equivalent during a specified period, which shall be valid only for the purposes of meeting the requirements of this Directive and shall be transferable in accordance with the provisions of this Directive; (...) ‘greenhouse gas emissions permit’ means the permit issued” (Commission 2003, p. 3). It also defined ‘emissions’ as “the release of greenhouse gases into the atmosphere from sources in an installation” (p. 3) and listed ‘greenhouse gases’. The Commission also relied on the GWP which, as I mentioned before, was still a controversial issue in scientific circles. The Directive states that ‘tonne of carbon dioxide equivalent’ means one metric tonne of carbon dioxide (CO₂) or an amount of any other greenhouse gas listed in Annex II with an equivalent global-warming potential (p. 23). It also listed installations in Annex I of the Directive.

The European Union Emission Trading Scheme became a new strategy of European integration, both understood as an institutional process as well as identity building (Schreus and Tiberghien 2007). Carbon trade would bring all Member States to a common market and involve them in practices of exchanging a newly constructed commodity - carbon. Carbon trade was also perceived as an instrument of a better incorporation of the EU into global economies. It would be an instrument, which the EU as a global leader, could offer to the rest of the world. Carbon trade was, therefore, a potential tool for a better integration within the EU as well as globally (Schreus and Tiberghien 2007).

Poland in the EU - EU ETS as an 'Imposed Solution'

Poland signed the Climate Convention on 26 July 1994 and ratified the Kyoto Protocol on December 13, 2002, making the commitment to reduce GHG emissions by 6 % within the period 2008-2012 compared to the 1988 emissions (Jankowski 2006). As Jankowski (2006) points out, these decisions were taken in Poland after a lot of hesitation and discussion whether “the policy of reducing carbon dioxide emission would not impose too much burden on Poland, because of its hard coal domination in fuel consumption” (p. 393). At that time, the European Commission was proposing “carbon tax” and this raised most concerns in coal-dependent Poland. However, as Jankowski (2006) sums up, “the political will to support the efforts of the international community on climate protection prevailed” (p. 393).

Due to Poland's transition to market economy, many of the national industries collapsed. This also meant dramatic reductions in carbon dioxide emissions. In fact, as early as 2001, Poland's emission reductions reached ten times the amount committed in Kyoto. In 1988 Poland's carbon dioxide emissions were 476.6 Mt and in 2001 it was 317.8 Mt (66.8% of 1988). The situation was a bit similar to that in Germany where the collapse of the Eastern German industry brought emission reductions to the whole country. However, the main difference resided in the fact that Germany had its rich, well-developed Western part, which could

pull the East German economy up and provide resources for investments in the Eastern parts of the country.

Poland did not have its 'rich Western part' and the social cost of the economic transition, and thus also of the windfall emission reductions, was very high. For example, in 2003, the unemployment rate was 20% and each strategy to increase GDP implied an increase in energy consumption of the Polish economy, and thus also an increase in carbon dioxide emissions (Jankowski 2006). As a result, having reduced its emissions dramatically in the first decade of the economic transition, in the 2000s, Poland set out onto a path of a faster development - with the goal to catch up with Western Europe. It has thus also set out onto a path of increasing carbon dioxide emissions.

In May 2004 Poland joined the European Union and thus also the European Union Emission Trading Scheme (EU ETS) installed in the EU with the 2003 EU ETS Directive. The first trading period was about to start in 2005 and end in 2007. The Polish government had to prepare the National Allocation Plan (NAP), which would list all the companies participating in the EU ETS and the amount of emission allowances (EUAs) each company would be granted for this trading period. The work on the Polish NAP started relatively late - in December 2003 (Jankowski 2006).

From Jankowski's (2006) point of view, integration of the new EU members within EU ETS "was made in the simplest way" (p. 397). The system designed for the EU15 was automatically extended to the new members and it was done "in spite of the fact that under Article 30 the Commission was obliged to consider and to outline 'how to adapt the Community scheme to an enlarged European Union'" (Jankowski 2006, p. 397). Jankowski (2006) also argues that "the situation and specific features of new EU members were not considered during the design of EU ETS" (p. 397). This resulted in "doubts regarding legal fundamentals and economic efficiency of this system" (Jankowski 2006, p. 397). Jankowski's critic goes even further:

From the new Member States' perspective, the current version of emission trading could have serious negative consequences for their

development. The EU ETS creates significant implementation costs for companies (emission monitoring, changes in accounting, market behaviour, operational planning, strategy planning etc) but gives neither direct nor cost-saving benefits for the economy. This is due to the fact that in the absence of the ETS Poland does not need to implement any carbon restriction programme as it currently meets the Kyoto target. (Jankowski 2006, p. 397)

To put it short, Poland perceived ETS as an administrative burden and an administrative cost to the national economy. ETS was also perceived as redundant due to the fact that in the mid of the first decade of the 2000s, despite its economic growth, Poland was still exceeding its emission reduction targets from Kyoto by 30%. Therefore, there was simply no justification for Poland's participation in ETS, if the only rationale behind establishing the ETS was to ensure compliance with the Kyoto targets within the EU Member States. Difficulties with meeting Kyoto targets were faced by the old Member States, and the ETS, as a flexible tool for emission reductions in the EU, was beneficial for those countries.

The Polish government and business circles also raised concerns about fairness of the rules applied to the process of constructing National Allocation Plans (NAPs). These rules were established without the participation of the newly accessed countries. Concerns were raised in particular with regard to the following rules: taking current emission level as a base for further allocations; no early action's influence on the total number of allowances in NAP; allocation based on projection, not on Kyoto limits (cap). Jankowski (2006) concludes that "critical assessments of the whole system had significant influence on the process of the Polish NAP creation" (Jankowski 2006, p. 398).

As a result, the Polish National Allocation Plan was designed in such a way as to take account of both the rules accepted by the EC and Poland's economic and social situation (Jankowski 2006, p. 398). Most questions emerged regarding "the legitimacy of adaptation to disadvantageous EU ETS rules, in a situation where Poland put a lot of effort earlier, considerably reducing the emissions of CO₂" (p.

398) and having met the Kyoto Protocol limits. Therefore, the following rule was accepted as a fundamental guideline for work on the Polish NAP: “the implementation of EU ETS in Poland should not worsen the situation of the Polish economy compared to the situation of individual realisation of the Kyoto Protocol targets.” (Jankowski 2006, p. 399).

The main role in preparing the National Allocation Plan was played by the Ministry of Environment, representatives of industry sectors covered by the ETS and independent experts (consultants). Jankowski (2006) notices that the Ministry of Economy played a less important role. This was criticized by industries. There was, however, “a common conviction that CO₂ emissions and ETS are a big issue for the old EU countries, not for Poland” (Jankowski 2006, p. 399). Economic aspects of emission allocation for Polish companies were therefore taken care of by the Ministry of Environment. According to Jankowski (2006), “at a relatively early phase of the work, the Ministry of Environment decided to propose additional bonuses above emission projections in order to acknowledge early action” (p. 400).

The NAP document was accepted by other governmental departments and submitted to the European Commission on 22 September 2005. It proposed to allocate allowances for 286.2 million tonnes of average annual emissions in the period 2005-2007. On 8 March 2005 the European Commission decided to assign the allocation at an average level of 239 million tonnes per year²¹, about 16.5 % less than the Polish proposal. The Polish Government, after a lot of hesitation,

²¹ The Commission used the following arguments:

‘This additional information records the actual carbon dioxide emissions of Poland in 2000 as being 308.3 Mt CO₂eq, the total emissions intensity of gross domestic product (GDP), expressed in units of carbon dioxide emissions per unit of GDP, as decreasing by 4.8 % between 2002 and the period 2005-2007, and the total GDP growth in Poland as increasing by 20 % between 2002 and the period 2005-2007. Multiplying the 2002 carbon dioxide emissions of Poland by projected GDP growth and projected emissions intensity improvements for each of the years 2005, 2006 and 2007, and then averaging the results, means that the average annual total carbon dioxide emissions of Poland in the period 2005-2007 would be 351.6 Mt CO₂eq. Applying the share of the trading sector’s carbon dioxide emissions in the total carbon dioxide emissions as provided in the plan (68 %), the maximum average annual emissions of the trading sector during the same period should be 239.1 Mt CO₂eq.’ (Jankowski 2006, p. 401)

Jankowski (2006) comments that:

‘This decision did not take into consideration that: (i) the year 2002 was characterised by a temporal drop in electricity production (99.1 % compared to 2001) while the next year showed dynamic growth (105.2 % in 2003 compared to 2002), (ii) share of ETS sectors in total CO₂ emission in years 2005-2007 was expected to reach 70.3 % according to BLN scenario, (iii) uncertainty related to GDP growth and effects of changes in emission monitoring made possible emission increase above BLN projection.’ (Jankowski 2006, p. 401)

decided not to appeal and began to work on the NAP adjustments to the limit imposed by the EC (Jankowski 2006). After the EC decision, two factors were crucial in making Poland accept the modifications. Some updates in production volumes in several sectors, including the steel and power industries, played a key role as they proved to be lower than the assumed levels. Another reason was of political nature and was related to the fact that the government was not interested in creating conflicts with the EC before of new parliamentary elections. (Jankowski 2006, p. 412-413)

Finally, due to a lack of sufficient arguments in favour of the emission reductions proposed by Poland, the Polish government accepted emission limits put forward by the European Commission. However, it restructured the share of emission allowances between Polish installations. The new National Allocation Plan was accepted by the European Commission and introduced in Poland by a regulation of the Polish government on December 27th, 2005 (Regulski 2008).

On December 22nd, 2004, the Polish Parliament adopted legislation regulating emission trade in Poland, which emphasized the economic efficiency of emission reductions. Most of the legislative acts regulating emission trade and allocation of emission allowances came relatively late in 2005, 2006 and even 2007. This fact as well as the incompetence of local officials and inadequate emissions measuring techniques, resulted in a low efficiency of emission trade in Poland.

There were also huge delays in reporting yearly emissions by particular installations and its verification. Verification could only be carried out by certified auditors who in 2005/2006 were still very scarce on the Polish market. As Regulski (2008) points out, the auditing companies that operated in Poland at that time offered their services at extremely high prices deterring smaller businesses from using their services. On the other hand, provincial officials entitled to do the auditing lacked sufficient training and resources to carry out this task.

Also the National Registry of Allowances was put into being in July 2006, delaying actual emission trades till that time. As Regulski (2008) points out, this resulted in many lost early opportunities of financial gains for companies that couldn't start emission trade already in 2005. The collapse of ETS in 2007, when the price of

European Allowances hit the lowest price of 3 cents in December 2007, deprived Polish companies of any chances to earn on ETS during the first trading period 2005-2007. In addition, huge delays in setting emission trade into motion in Poland resulted in a shorter period for practical training available for Polish companies, during which they could have gained knowledge and experience for the coming phase 2008-2012. While many companies were learning how to benefit from the system and how to use other Kyoto mechanisms (CDM and JI), Polish companies were struggling with slow legislative processes and a general incompetence of officials.

Another battle between the Polish government and the European Commission was fought about the second National Allocation Plan for 2008-2012. The basic version of the second NAP was prepared by the Polish government in June 2006 and submitted for approval to the European Commission. The project assumed that, between 2008 and 2012 Polish installations would emit 284,6 ml tones of carbon dioxide a year. As Regulski (2008) points out, after an intensive exchange of arguments between the Polish government and the European Commission concerning mainly the Polish government's forecast of the increase in Polish industry's emissions by about 16%, the European Commission rejected the Polish NAP. On March 26th, 2007, the European Commission rejected the Polish NAP and proposed to allocate 208,5 million tonnes of annual emission allowances to Polish installations for the trading period between 2008 and 2012. This allocation quota was supposed to cover not only the emission of the existing installations but also of the new ones – the new entrants.

The Polish government appealed to the European Court of Justice in Luxemburg, which, in September 2009, supported the position of the Polish government and overruled the decision of the European Commission to allocate less allowances to Polish companies. What's Interesting, as early as July 2008, after a government change in Poland, the new government issued a regulation to adopt the National Allocation Plan prepared by the new Minister of Environment. This new NAP allocated 208,5 million tonnes of carbon dioxide allowance a year to Polish companies (Walczak 2008). Therefore, the new government acted in congruence

with the 2007 decision of the Commission despite the fact that the case in the Court, initiated by the previous government, was still pending.

However, the Court's decision opened a new round of negotiations anyway. It urged the Commission to use the latest available data on carbon emissions in Poland when deciding about the new National Allocation Plan for Poland. As a result, the Commission considered the emissions for 2009, which were in fact lower than what the Commission proposed for Poland in 2007 – 204,1 ml tonnes. Such low carbon emissions in 2008 resulted from an economic downturn – a consequence of the 2008/2009 financial crises. After some additional negotiations, the final yearly amount of allocated emission allowance for Polish companies was agreed to be 208,5 ml tonnes. Additionally, the Commission allocated to Poland a reserve pool of emission allowances of 13 ml tonnes of carbon dioxide emissions for companies that built new, less emitting production lines and industrial installations.

Another big battle was still to come. In January 2008, the Commission proposed new rules for the ETS and new reduction targets. The new system would be more centralized, and above all, more expensive to coal-dependant countries like Poland. Events that unfolded around the amendments to the 2003 ETS Directive will be discussed in further chapters of the thesis.

Conclusions

This chapter examined how the emission trade transformed from an idea into practice. This was not a linear process of a 'historical necessity' but a process contingent on many circumstances, on actors' interests and on economic, legal, political conditions. In many cases, implementation of the emission trade failed. The early 1990s Poland is one of such examples. Implementation of the emission trade was also far from being an automatic process. In each economic and organizational context, this idea took a bit different shape. This points to the fact that the spread of the neoliberal logic in environmental governance is carried out by actors and the unifying power of neoliberal governmentality is never total but it is always limited by local conditions.

At the same time, the emission trade introduces changes to the way companies and governments relate to GHG emissions. In November 2009, Fiona Harvey and Ed Crooks published in Financial Times the article “Under a cloud” where they discussed the functioning of European Union Emission Trading Scheme – the biggest market so far trading in carbon dioxide. At the end of the section “Trade or tax” they wrote: “Perhaps the most persuasive argument for governments, however, are those of political expediency. Unlike a tax, a trading scheme is largely invisible to the public. It is also easier to repeal a tax than dismantle the machinery of a cap-and-trade system.”

This is perhaps the most pointed distinction made between: environmental taxes and environmental markets. While taxes are explicit tools of the State’s interference into economy, markets are spaces of which boundaries are not less visible and publicly less negotiable. Taxes and markets also differ in terms of the scope of actors involved in relations between the State and economy. A tax involves a ‘thick bureaucratic interface’ between the State and the economy and a ‘thin business interface’. Emission trade is not solely in State’s capacity. Although as a regulator it may interfere into emission trade in order to guarantee its environmental efficiency (e.g. the emission cap), emission reductions are mediated by various actors, which are not necessarily driven by an environmental agenda. Thus, while taxes make State bureaucracies grow, markets make economic actors proliferate.

Today, it is difficult to pin emission reductions down to a particular location. As Harvey and Crooks (2009) point out “rows of traders sit staring at their banks of computers, hand on mouse, eyes restlessly scanning the numbers that stutter across the screens. (...) They may not look it, but these men and women are on the front line in the battle against climate change.” Carbon trade is mainly carried out in the London City and in 2008 it mounted up to 125bn dollars. According to Harvey and Crooks (2009), carbon is perceived as a promising new asset class attracting banks and brokerages. Moreover, “emissions are now being treated as an integral part of the banks’ larger energy trading portfolios, which started with oil and coal” (Harvey and Crooks, 2009). There is also a growing number of specialist exchanges in Europe, like e.g. the European Climate Exchange (ECX), a

unit of the UK-listed Climate Exchange group. They are offering spot trading in carbon credits as well as futures contracts on them. As Harvey and Crooks (2009) point out, “average daily trading volume in European emissions allowances is a little more than 20m tonnes, up roughly 100 per cent on a year ago. In the whole of 2005, ECX traded 95m contracts.”

The carbon trade sector is thus growing fast. But professional traders are still uncertain about the future. Although the European carbon market is considered ‘mature’, carbon trade would gain new quality with its expansion onto the U.S. and other regions. And this is the point where politics come into play. High hopes about the December 2009 negotiations in Copenhagen disappeared soon. Instead of legally binding commitments and a post-Kyoto action plan, a 13-paragraph ‘political accord’ was negotiated by approximately 25 parties including the US and China, but it was only ‘noted’ by the COP as it is considered an external document not negotiated within the UNFCCC process. The 2010 conference of the UNFCCC parties in Cancun in Mexico was even less memorable than the previous one. And while the European Union is preparing for the third trading period with open pan-European auctions of emission allowances from 2013 on, the rest of the world does not want to make any serious commitments.

But while the world is looking at the main players like the U.S., EU, China, India and Russia, particular Member States within the EU are on the ride in the same trolley, which drives them into a costly transition into a low carbon economy. Costs carried by particular EU Member States are rarely articulated or taken into account during the global talks. And concerns of some EU Member States are radically different from those raised by carbon traders. The liquidity of the GHG markets is rarely a vital issue for governments. More often they are worried that the cost of buying emission allowances will deter companies from doing their business within their country’s borders.

Chapter 3. Between Calculation and Metaphors: Accounting for Carbon and Challenges to an Economic Frame

Introduction

A growing realization that carbon dioxide has a strong impact on Earth and a concern about the future of human civilization prompt us to re-cognize the world with carbon dioxide. This simple molecule is becoming a conspicuous and troublesome participant in various human and non-human activities. The invisible becomes visible and things start appearing to our eyes as 'low carbon' or 'carbon intensive'. Carbon may become a defining part of new identities, relations and hierarchies between places, processes and actors. It may for example become the basis for constructing new top-ten lists, like the Wiki's list of the biggest carbon dioxide emitters in 2007²². On the top of that list, we can see China followed by the United States, the European Union, India, Russia, Japan, Germany, Canada and the United Kingdom. Poland takes 21st place.

There is too much carbon dioxide in the atmosphere and it should be reduced – this is the call of scientists and policy makers. But which carbon to reduce? It seems to be everywhere. Wiki's list includes countries and territories by carbon dioxide emissions due to human activity, which include “carbon dioxide emissions from the burning of fossil fuels and cement manufacture, but not emissions from land use such as deforestation.”²³ We may not be satisfied with this narrow scope but, more importantly, we start to realize that acting to reduce carbon dioxide makes us choose the carbon dioxide we want to act upon.

This chapter examines the challenges to framing European carbon dioxide in an economic way. This framing was provided by the PRIMES model developed by a group of experts from the National Technical University in Athens. The PRIMES model was used to calculate the impact of European climate policies on the EU's electricity market. However, the use of the PRIMES model has raised many

²²http://en.wikipedia.org/wiki/List_of_countries_by_carbon_dioxide_emissions

²³http://en.wikipedia.org/wiki/List_of_countries_by_carbon_dioxide_emissions

controversies. It assumes that the European electricity markets are interconnected, it makes calculation for the whole EU to account for differences in individual Member States. As a private property of the research group from the National Technical University in Athens (NTUA), it escapes public scrutiny. The exclusiveness of NTUA to provide the European Commission with such an analysis makes it difficult to examine the premises of the model and the calculations it generates. The impact of the PRIMES model on policies in the EU raises doubts as to whether the Commission should rely on private expertise.

The main controversy stemming from the PRIMES-based calculation is what carbon dioxide should be traded on ETS. This chapter focuses on ETS negotiations in 2008, during which Polish industrial and power sectors, and governmental actors expressed concern that Polish power plants would be obliged to buy allowances (EUAs) for all carbon dioxide they emitted. They wanted to emit large quantities of carbon dioxide for free and opposed putting all carbon dioxide emissions from power plants under the rule of auctioning emission allowances. They set out with discursive and technical strategies to re-negotiate spatial, temporal and technical boundaries over Polish carbon dioxide, which they would have to economically account for on ETS in 2013-2020.

Callon and Muniesa (2002) point out that, in order to become tradable, a good is first singularized from many other goods and then attached to the market infrastructure. Once put on the market it may wander away moved by forces different from the ones that produced it (Callon and Muniesa 2002). While the movement of carbon dioxide as a molecule is governed by laws of chemistry and physics, the movement of carbon dioxide as a commodity is governed by laws of markets. Consequently, companies and, in particular, industries and coal-fired power plants that want to keep control over their carbon, struggled to attach as little their emissions to the new ETS as possible. In other words, companies fought for free allocation of EUAs and only a partial duty of buying EUAs on auctions.

When preparing the proposal of the new ETS Directive, the European Commission tried to assess its impact on European economies. It based its assessments on the

PRIMES model. The calculations and results of these assessments were gathered in report entitled the *Impact Assessment* and presented together with the proposal for the ETS Directive. Interestingly, the Commission and the Athens experts chose to speak of the ETS impacts on the European Union as one economic space of free flows, rather than on various Member States separately. This, as it will be shown further in this chapter, has raised serious concerns and objections in various Member States, and especially in Poland.

The PRIMES Model for an Average EU Economy

The *Impact Assessment*, which accompanied the ETS Directive and other legislative proposals of the Climate Change and Energy Package, raised much controversy in Poland. When the European Commission announced that the average increase in the European Union's electricity prices would be around 22 percent, Polish actors started inquiring how this could have happened that differences in the new legislation's impact on individual Member States were so cleverly concealed by this figure. Their inquiries led them to the PRIMES model.

The full name of the model is the PRIMES energy system model and its history in the EU is quite long. Work on it was initiated in the National Technical University in Athens (NTUA) in 1993 and has been supported by a series of European Commission research programmes. The model was developed at the Energy - Economics - Environment Modelling Laboratory Research and Policy Analysis (E3MLab). The E3MLab is operating within the Institute of Communication and Computer Systems of NTUA (ICCS/NTUA), Department of Electrical and Computer Engineering.

E³MLab is a laboratory that specializes in the construction and use of large scale computerised models covering the areas of Energy, the Economy and the Environment. Such models are used to make projections and analyse complex issues requiring system-wide

consideration. Special emphasis is given to policy analysis and support.²⁴

The PRIMES model is owned by NTUA and is not sold to third parties. It is used for consultancy projects undertaken by NTUA, which invites partners on a project basis. For example, partners in the “Model based assessment of EU energy and Climate Change policies for post-2012 regime, for European Commission, DG Environment” were: International Institute for Applied Systems Analysis (IIASA) and EuroCARE GmbH Bonn.²⁵

The model was successfully peer reviewed by the European Commission in 1997-1998. The aim of developing PRIMES “was to focus on market-related mechanisms influencing the evolution of energy demand and supply and the context for technology penetration in the market” (p. 3). It has been designed as a tool for energy policy market analyses and it assumes complete liberalization of the European energy market. A more detailed description of PRIMES can be found on the official website of the E3Mlab.²⁶

To put it short, the PRIMES model is a very complex tool used for modeling processes on the European energy market with regard to the development of environmental policies and innovative energy technologies. The model also fully

²⁴ <http://www.e3mlab.ntua.gr/e3mlab/>

²⁵ http://www.e3mlab.ntua.gr/e3mlab/index.php?option=com_content&view=article&id=143%3AClimate-change-policies-for-post-2012-regime&catid=40%3Aenvironmental-policy-projects&Itemid=61&lang=en

²⁶ The PRIMES model is a modeling system that simulates a market equilibrium solution for energy supply and demand. The model determines the equilibrium by finding the prices of each energy form such that the quantity producers find best to supply matches the quantity consumers wish to use. The equilibrium is static (within each time period) but repeated in a time-forward path, under dynamic relationships. The model is organized in sub-models (modules), each one representing the behavior of a specific (or representative) agent, a demander and/or a supplier of energy. The model can support policy analysis in the following fields: (1) standard energy policy issues: security of supply, strategy, costs etc., (2) environmental issues, (3) pricing policy, taxation, standards on technologies, (4) new technologies and renewable sources, (5) energy efficiency in the demand-side, (6) alternative fuels, (7) conversion decentralisation, electricity market liberalisation, (8) policy issues regarding electricity generation, gas distribution and new energy forms. The model is organised by energy production sub-system (oil products, natural gas, coal, electricity and heat production, biomass supply, and others) for supply and by end-use sectors for demand (residential, commercial, transport, nine industrial sectors). Some demanders may be also suppliers, as for example industrial co-generators of electricity and steam. (ppt presentation by N. Kouvaritakis, V. Panos, L. Mantzos, P. Capros, Demonstration of PRIMES-ELMAS Models in ETRES). Source: <http://www.e3mlab.ntua.gr/e3mlab/>

integrates the national energy systems within the multinational ones for oil production, gas supply to Europe and electricity generation and trade. The demand is evaluated at a national level. Electricity dispatching and capacity expansion are determined at a national level, depending, however, on a complex market allocation mechanism, operating through the electricity grid Europe-wide. The primary energy supply, for example coal and lignite supply curves, has, on the other hand, a national-specific character. Finally, energy savings, technological progress in power generation, abatement technologies, renewables and alternative fuels (biomass, methanol, hydrogen) are determined for each country-specific energy system. Its comprehensiveness and ability to model different subsystems made it an invaluable tool for the Commission's work on environmental and energy policies:²⁷

The model version 1 has been used in 1997 in the evaluation of the set of policies and measures envisaged by the European Commission in the negotiation phase for the Kyoto conference for climate change. (...) During the 1998-1999 period, version 2 of PRIMES has been used to prepare the European Union Energy and Emissions Outlook for the Shared Analysis project of the European Commission, DG XVII. It has been also extensively used for DG Environment and started to be used at government level in the EU.

The usability and a growing importance of the PRIMES model have contributed to the fame and authority of several NTUA analysts. Among them were P. Capros and L. Mantzos gained a strong position in international energy policy journals (e.g. *Energy Policy*). In 1999, before the ratification of the Kyoto Protocol, P. Capros, L. Mantzos, L. Vouyoukas and D. Petrellis published the article "European

²⁷ PRIMES was applied to the following studies: "Energy Baseline Report: Trends to 2030 - Update 2009" [2010], "Pathways to Carbon-Neutral Electricity in Europe by 2050 - Final Report" [2010], "Model - based Analysis of the 2008 EU Policy Package on Climate Change and Renewables" [2008], "Energy Baseline Report: Trends to 2030 - Update 2007" [2008], "The Role of Electricity - Summary Report" [2007], "Scenarios on high oil and gas prices" [2006], "Scenarios on energy efficiency and renewables" [2006], "Trends to 2030 - update 2005" [2006], "European Energy & Transport Scenarios on Key Drivers" [2004], "Trends to 2030" [2003].

Source:

http://www.e3mlab.ntua.gr/e3mlab/index.php?option=com_content&view=article&id=221%3Aselected-applications-&catid=35%3Aprimes&Itemid=80&lang=en

Energy and CO₂ Emissions Trends to 2020: PRIMES model v.2” in the *Bulletin of Science, Technology & Society* where they presented the summary of a consistent outlook for European Union (EU) energy and energy-related emissions till 2020.

However, with the fame of the PRIMES model, controversies also came. When in January 2008 the European Commission presented a proposal for the new ETS Directive in Poland, it also presented the *Impact Assessment*, which used the PRIMES model. The Impact Assessment evaluated economic impact of the new ETS on European economy. The Commission foresaw an average increase in electricity prices in the EU-27 to be at a level of 22 percent. Surprised voices could be heard in the room: Why did the European Commission decide to speak of an average increase in electricity prices in the EU instead of making forecasts for each EU country separately?

This ‘methodological mistake’, as they liked to call the Commission’s calculation, gave an impulse for debating new ETS rules in Poland. The Polish power sector, industries and governmental representatives were asking similar questions: Was there a bit of bad will on the side of the Commission to fail to speak on behalf of poorer regions in the EU and those most dependent on coal in power generation? Does Europe really look so homogeneous from comfortable seats in Brussels offices? Polish businesses and the government questioned the Commission’s legitimacy to speak on behalf of Poland. They claimed that by casting such a ‘homogenizing gaze’, the European Commission had failed to represent particular economies.

They assessed that the increase in electricity prices in Poland would be much above the European average because Poland’s electricity generation depended on the most ‘carbon-intensive’ fossil fuel – coal – in almost 93%²⁸. The cost of participating in the ETS would be very high for Poland. This was a crucial breakthrough in Poland’s attitude to ETS. In 2008 the ETS ceased to be ‘the problem of the old 15’. It became the problem of the new EU10 that would particularly affect the poorer and more coal-dependent Member States, like Poland, Estonia or the Czech Republic.

²⁸Project interview, Warsaw, February 2009.

The validity of the PRIMES model and the transparency of its use were questioned. These have been the main objections from Polish experts in 2008:

It might be that the Commission is not really aware of its mistake when it supported its policy proposals by simulations on an idealized model of the European economy - the PRIMES model, which assumes 100 percent of free flows in all streams of exchange within the EU. However, the Commission must be partly aware of what it is doing - because it is consciously refusing to speak of an increase in electricity prices in each Member State. Instead, it insists on talking about 22 percent of an increase in electricity prices in the EU27.²⁹

The E3M underlines that in the PRIMES model “for electricity and gas markets, the European countries can be simulated as an interlinked system”³⁰. This assumption was also heavily criticized by my interviewee, a representative of Polish industries:

All would be fine and we could speak of an average EU if a European electricity market existed. But there is no EU-wide electricity market. It doesn't exist at least because of the lack of technical solutions that would allow transfer of green electricity throughout the EU. I don't even want to mention here the price of such electricity. Let's assume we construct 100 000 ha of solar panels in Portugal and we will send this energy to half of the EU, we can even send it to Poland! But how are we going to send it? Sending electricity over such a distance simply doesn't make sense... (Interview, Warsaw, February 2009)

As the Polish governmental officials and energy experts got involved in an argument about the reliability of the *Impact Assessment* study, the Commission

²⁹ Krzysztof Żmijewski, Blog 20-06-2008 11:54, www.wnp.pl

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http://www.google.pl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&ved=0CDEQFjAA&url=http%3A%2F%2Fwebarchive.iiasa.ac.at%2Fains%2Fmeetings%2FTFIAM_EC4MACS_uncertainty%2Fpresentation%2Fppt%2FEC4MACS%2520PRIMES%2520November%25202010.pptx&ei=o0_LUM2FEo2GhQey5oGIAg&usg=AFQjCNHp0u2dPWwQaw5PxQ2qerR-nuakmg&bvm=bv.1355325884,d.ZG4 p. 3

officials tried to defend their expertise. Matthias Ruete, the General Director of DG TREN sent an e-mail in response to Prof. Żmijewski's doubts:

Complex modeling usually brings some variations in prognosis. The Commission is however convinced about the appropriateness of the PRIMES model for its policy proposals and scenarios. The model has been tested and improved over the last years, which gave very good results. We would also like to add that the Member States' experts took part in making prognosis with the PRIMES model by providing the Commission with feedback about the assumptions and results of the model, especially with regard to particular Member States. Such comments were included in the consequent usage of the model while at the same time a harmonized approach was ensured for modeling at the EU level, such as coherent assumptions.³¹

In October 2007 an association of Polish power sector companies – the Polish Committee for Electric Energy (PKEE) – commissioned a report from EnergySys to assess the impact of European emission reduction targets agreed upon by the EU Member States at the beginning of 2007³². The 'Report 2030' was ready at the end of September 2008. Its full version was updated to account for the Commission's latest proposals from January 2008. Jankowski, PhD (2008), the main analyst of EnergySys pointed to discrepancies between the Commission's analysis and the analysis carried out by his institute:

³¹ Matthias RUETE, October 10, 2008, source: Blog of Krzysztof Żmijewski <http://www.wnp.pl/blog/2.html> (author's own translation).

³² A declaration signed by the Heads of the States, known as 3x20, assumed reductions of carbon dioxide emissions in the ETS sectors by 20 percent by 2020, an increase in energy efficiency by 20 percent and a 20 percent share of energy from renewable sources in the final electricity generation in Europe also by 2020.

Table 1. Differences between the Commission and EnergSys's assessment of the new ETS Directive's impact on European and Polish economies

	Commission's analysis	EnergSys analysis
Increase in power generation costs by 2020	In EU-27 by 23-33%	In Poland by 65-80%
Increase in electricity prices by 2020	In EU-27 by 19-26%	In Poland by 60%
Increase in power consumption costs for households by 2020	In EU-27 by 4.4-6.8%	In Poland by 19%
Proportion of energy consumption costs in household budgets by 2020	In Poland 10%	In Poland 16%

Source: Jankowski, Bolesław. 2008. "Pakiet energetyczno klimatyczny porażką czy zwycięstwem Polski i Unii?" ["Climate and energy package: Poland's and Union's success or failure?"], Badania Systemowe „EnergSys”h Sp. z o.o.: Warsaw.

Jankowski (2008) argues that full auctions for the power sector would increase electricity prices most harshly in Poland, the Czech Republic, Denmark and Bulgaria and to a much lesser extent in France, Austria, Germany and the UK. As to indirect costs, Poland would be most burdened with them. Many countries would avoid high costs having significant proportions of nuclear, hydro or wind energy in their energy mix. Jankowski argues that nuclear power plants and hydroelectric power stations would enjoy the biggest benefits on ETS: "The French EDF will be in an especially favorable position in the new ETS" (Jankowski 2008: 18). Serafin, UKIE, told me during our conversation that the 'Report 2030' was "the only Polish study that made sense" (Interview, Warsaw, January 2009). He said: "We don't have many analysts in Poland who do systemic analyses of energy systems. There is only one, Jankowski, who is very good and that's it" (Interview, Warsaw, January 2009).

However, doubts about the adequacy of the PRIMES model have not only been expressed in Poland during the 2008 ETS negotiation. In 2009 and 2010 serious questions about the usefulness of the PRIMES model for the EU were raised by the Network for National Integrated Assessment Modeling (NIAM). In 2009 the NIAM praised the PRIMES model for its "sophisticated state of the art." However,

it also voiced concerns, mainly regarding the assumptions made in this complex model, its transparency, the use of data and the process of disseminating results. The NIAM appealed for more consultation with the Member States and a better information communication. According to the NIAM, the existing consultation process covers only DG TREN's list of energy experts in each EC country. They usually have a different perspective on environmental and energy policy issues than the national governmental experts. Furthermore, the NIAM pointed to the extremely sketchy description of the PRIMES model available to the public:

DG TREN handles diffusion of information and results, and consultation procedure. The PRIMES model and the databases are protected under commercial copyright. This limits analysis results which can be disseminated to 3rd persons to summary data as there is no contractual obligation, nor any financing to make data "public". (...) This way "one of most sophisticated and comprehensive energy models worldwide" remains unavailable for more independent peer review. As any future questions/comments must be via national energy experts for DG-TREN, there is a need to establish communication links within countries. It is important to understand PRIMES and comments are needed to help with future updates.³³

Similar complaints were made by the Polish government during the 2008 negotiations of the new ETS Directive. Due to the lack of more detailed information about the PRIMES model, Polish experts were not able to examine how the average increase in electricity prices of 22 percent in the *Impact Assessment* was calculated. The PRIMES model, which is a private property of the NTUA could neither be bought by the Polish government or businesses nor could it be reviewed. One of my interviewees, a Polish energy expert working at the Warsaw Technical University, told me that only through some personal connections Polish governmental officials managed to get access to some parts of the PRIMES model (Interview, Warsaw, May 2008).

³³ Source: INFORMATION REQUESTED CONCERNING the PRIMES MODEL: based on submissions from members of the NIAM network Collated by Helen ApSimon.

The NIAM also noticed that the PRIMES team is obliged to use EUROSTAT data which often differ from national data. Only sometimes such discrepancies are modified, if notified by national energy experts. The NIAM argues that, in general, more detailed data are needed to understand differences between national projections and explanation hypotheses made for each country, with specific macroeconomic assumptions.

Concerns about the validity of the PRIMES model also came from a member of the PWR – a British company active in research and consultancy on climate change – Mike Parr. On 17 September 2010 Parr commented on the recent report produced by the National Technical University of Athens - *Energy Trends to 2030* – making a reference to the report by Kjaer from the European Wind Energy Association who thought the estimate for the European wind energy in 2030 as defined in the PRIMES model was unrealistic. The authors of the EWEA report accused the European Commission of allowing “the E3M Lab to feed Member States and the general public with misleading information about the future of European energy.” Parr went on with his accusations:

Given that the model seems to have real ‘form’ in making ‘misleading’ projections, there are a couple of questions that could be posed to EU Energy Commissioner Günther Oettinger (who commissioned the *Energy Trends* report). The first could be “did you know there are some serious doubts about the Primes model’s ability to provide reasonable energy projections?”. It could be followed by “are there any plans to review the model?” and “do Athens Uni and E3M have the capabilities to operate the model?”. The last question is not so difficult to answer. Working on the basis that the EWEA’s facts (with respect to the reliability of the model) are correct and given the apparent failure to review the model, then answer seems to be ‘no’.³⁴

³⁴ Source: <http://euractiv.blogactiv.eu/2010/09/17/energy-trends-to-2030-or-energy-fantasy-2030/> , <http://www.pwr.co.uk/>

The PRIMES model seems to be a powerful inscription device, which sums up complex relations between systems and actors in the EU. It is a performative inscription device. This device not only frames EU's electricity markets in an economic way but it also shapes policies on those markets. As an analytical tool used to develop the EU's environmental and energy policies it legitimizes, and thus, enables policy actions.

Law (1992) suggests to imagine a continuum on which a thought is the "cheapest", but also the most ephemeral material, and a text or a building is more expensive in terms of energy expenditure, but at the same time a more durable material. According to Law (1992), things made of more durable materials "maintain their relational patterns for longer (...) thus a good ordering strategy is to embody a set of relations in durable materials" (p. 6). Law (1992) also argues that the durability of materials is not given by the nature of things (p. 6), but is a relational effect achieved in the process of building networks.

The durability of the PRIMES model is assured by its long lasting association with the European Commission, its positive reviews from the European Commission, its frequent use, its complexity and comprehensiveness which make it a unique one of its kind among the models dealing with energy, environment and technologies. Its durability is also ensured by its form of ownership -PRIMES is owned by the NTUA and it cannot be sold to third parties or publicly reviewed. Moreover, its strong alliance with the DG TREN and DG TREN's position the PRIMES model as an 'obligatory passage point' (Latour 1987) for Member States which want to discuss implications of energy policies with the European Commission. It also makes the DG TREN a powerful mediator between knowledge produced by the NTUA, other DGs and Member States. The alliance with the DG TREN also has legitimized PRIMES by moving it from the sphere of private expertise to the sphere of public knowledge without making it vulnerable to public review. This raises questions about the transparency of the policy-making processes in the EU but also it shows the materiality of the work done between various fields - the national and EU policy fields, and between various market fields.

As I have already mentioned, PRIMES is not only an inscription device which represents certain relations between actors and systems in the EU, but it also performs them. It performs them, for example, by assuming 100 percent of free flows in the EU, the interconnectivity of the European power grid, the liberalization of the EU's electricity sector, while all these things are still a matter of future construction. As a result, PRIMES is a 'mediator' and not a mere 'intermediary' in the European Union's climate policies as it does not "transport meaning or force without transformation" but it "transforms, translates, distorts and modifies the meaning or the elements they are supposed to carry" (Latour 2005, p. 39). In this way it makes it even more difficult to open black-boxes it produced - like the figure 22% in the *Impact Assessment* - given the lack of public access to the complete model.

A great deal of energy is needed to write some documents and reports. This is always the case, says Callon, "when simple word associations unite elements which are distinct and disparate" (p.200). A varying amount of force is an attribute of words, which create associations that are more or less solid. Some words are so powerful that "it is not easy for the reader to circumvent or ignore these words. In order to do this, he would need to have at his disposal the immense intellectual, financial and institutional resources necessary to redefine atomic theory, and the instrumental techniques which consolidated it" (Callon 1983, p.199). Such powerful words are "true objectified macro-actors" (p.199). They accumulate the energies and power of actors, which brought the words into existence. A great challenge resides in questioning such macro-actors and in dismantling them. And this is what the Polish actors tried to do - they tried to undo the economic frame constructed over Polish carbon with the use of the PRIMES model.

Challenges to Economic Framing of Carbon Dioxide: the East-West Divide

Climate change is a global problem and as such it changes our understanding of space and relations between actions undertaken in various places. Climate change takes the local experience of greenhouse gas (GHG) emission out of its

spatial boundaries and makes it global in its consequences. Consequently, fossil fuel combustion, intensified after industrial revolution in the North, ceases to be a regional phenomenon. It becomes a global phenomenon through its impact on global temperatures. At the same time, despite the fact that the consequences of GHG emissions are global, they do not manifest themselves in the same way in every place of the globe. Some places may be struck by draughts, some by sea level rising, others by more rapid storm weather. There is also no equivalence between the record of GHG emissions in particular places and their history of changing weather conditions. For example, Europe, which accounts for around 13 percent of global GHG emissions, is not much affected by climate change. This complex relation between GHG production in individual places and these places' particular experience of climate change makes it difficult to take on clear responsibilities.

The relations between various localities become even more complicated when policy measures are proposed to mitigate climate change. As long as climate measures are designed and implemented at and for local scales, they create few new interdependencies. However, emission trade, today the only instrument with a potential to orchestrate climate action globally, establishes new spatial relations between countries and regions. What makes these interrelations more complicated are different socio-economic and political characteristics of the countries involved in emission trade. It has become a common practice to determine emission reduction targets on the basis of a country's absolute volumes of GHG emissions and their GDPs. The European Union is a good example here as the burden sharing and solidarity approaches have been adopted for setting the emission reduction targets for each country.

However, when the Commission used the PRIMES model for calculating the impact of ETS on EU economy, a distorted result was achieved. The average increase in electricity prices calculated for the whole EU and not for each Member State separately made it difficult to forecast the indirect costs of ETS in Member States and thus also their GDPs. As a result, during the 2008 ETS debate, the burden sharing approach was questioned by the Polish government. Poland demanded a lower reduction target and a free allocation of emission

allowances for the power sector companies instead of the full auctioning of emission allowances as proposed by the European Commission.

Interestingly enough, in the initial phase of criticism of the Commission's *Impact Assessment*, Polish actors came up with various metaphors which could grasp the core of the Commission's 'methodological mistake'. During an interview, a representative of Polish industries, proposed such an interpretation:

When assessing the impact of proposed directives, the European Commission took the mean value for the whole EU. (...) Or to put it shortly, it took the Romanian Danube delta and the mouth of the river Elbe and took the mean of them. Right? My other favorite comparison is: we compare Klagenfurt in Austria and Pernik in Bulgaria. True, both lie in the mountains. And what is between them...? We do not know what is between them! (...) Now, we propose a law which doesn't impact the living conditions in Klagenfurt but evokes dramatic changes in Pernik. I am telling you, we cannot create policy instruments that impact economies and development of individual regions without accounting for the characteristics specific for these regions. We cannot build an artificial statistical construct and assess the impact of a real policy instrument on this statistical construct. The problem is that such a construct, just like an average Europe, does not exist in reality. It is as if we crossbred an Italian with a Finn and with an Alsatian sheepdog! The outcome will be absurd, right? So we cannot accept the Impact Assessment study as a well-done job as it tells us nothing about the real impact of the proposed policies on particular regions. If the people working on the Impact Assessment would have at least divided Europe's regions into rich, poor and those in between, we could get some insights into directives' potential impacts. It would at least show that people working on the Impact Assessment were aware of the fact that we may be able to take the mean of a series of numbers but we cannot

take the mean of a group of people. (Project interview, Warsaw, January 2009)

In this anecdotal way, my interviewee tried to convey an important message: an average EU economy does not exist in reality. It may exist on paper but without any real and material equivalent in the real world. However, he perceived a problem in the fact that this artificial creation of European bureaucrats would have real and material consequences for particular localities. He pointed out that EU policies were not only introduced on paper, they were introduced in material settings of national economic systems. These systems varied significantly from each other.

The impact of EU policies should therefore be contextualized, and only by doing so the European Commission could claim legitimacy to speak on behalf of the EU – a heterogeneous club of national economies. According to my interviewee, the EU was diverse and each region was a unique assemblage of people, technologies, laws and natural resources. The results of the *Impact Assessment* were interpreted in Warsaw either as an error on the side of the Commission or as a political decision to obscure the picture of economic inequalities and uneven development within the EU.

This argumentation was characteristic of Polish actors representing industries and the power sector. It has been widely expressed in Polish as well as international media. The first article to discuss Poland's situation in relation to the proposed amendments to the ETS Directive was published in the *EuropeanVoice* before the Warsaw meeting in July. The article appeared on 4th July 2008, at the time when GEG was taking up shape. Written by Żmijewski³⁵ and titled "A breakthrough or a breakdown", the text outlined dangers posed by the new ETS to the Polish economy.

Under the scheme, emission rights will be scarce for everyone, in order to force producers to become more efficient (...). But for

³⁵ Professor at the Warsaw Technical University, President of the Social Consultative Council for the Power Sector, a promoter of energy efficiency in Poland and former President of the Polish Power Grid company.

Poland, and for some other new EU member states, the costs of acquiring rights and the challenges of adjustment will be particularly large. First, Poland will be bidding for emission allowances against countries that are richer. That will bump up the price and substantially increase the Polish energy industry's costs, which are currently about one-third lower than those in the EU's older states. Second, Poland will need to buy many more allowances than other states, because its economy is still very energy-intensive. And, third, its energy mix is based so much on relatively dirty fuels – coal and lignite – that it will be exposed to heavy costs for a particularly long time.

In this short article Żmijewski outlined main challenges faced by Poland because of the new ETS. According to him, the existing economic inequalities will be perpetuated if industries and power sector companies from all over the European Union will have to purchase emission allowances on a common market. Smaller companies with less capital, like e.g. the Polish power sector companies, will have to bid against bigger ones on the pan-European auctions. The bigger and richer companies, like E.ON, RWE or EDF would be able to invest more capital into buying bigger volumes of emission allowances (EUAs), while they were relatively cheap, and sell them when they were more expensive and more in demand.

This was an important point in the light of the expected privatization of power sector companies. The method of allocating EUAs through auctions could serve as an instrument for fostering cheap privatization of Polish electricity producers. Once the cost of purchasing EUAs grows, Polish electricity producers may have problems to finance new projects and thus may have to look for more capital. One way of raising capital comes through privatization. And the fear among the Polish power sector companies and the government, the owner of most of the power sector in Poland, was that the post-2012 ETS would lower the value of the Polish power sector companies on the market. The consequence of the introduction of the new ETS, according to Żmijewski, would be that rich power sector companies based in, or owned by, old EU member states like Germany or France, could more easily buy out companies in Central and Eastern Europe.

This was, therefore the first argument against full auctions for the power sector companies and in favour of a higher emission cap for Poland – an argument defending national power sector champions against foreign capital. The other argument concerned the impact of full auctions on the situation of industries operating in Poland. The European Commission agreed to allocate EUAs to European industries partially for free in order to protect them within global competition from companies not bound by any emission reduction targets.

However, according to Polish officials and representatives of industries, the Commission did not take into account the indirect impact of full auctions for the power sector on industries in individual member states. The more EUAs have to be bought on the ETS by the power sector companies in a given country, the higher the price of electricity would be. Since the production of electricity in Poland primarily depends on coal, electricity prices could rocket up. And this would mean more expensive industrial production in Poland. Poland would become less attractive for investors, and companies operating in Poland would move their production out to other regions. Preserving the manufacturers' competitive advantage by keeping electricity prices low was one of the objectives of the government – this was the project for the Polish economy.

This has been explained to me by one of the Polish Members of the European Parliament (Interview, Brussels June 2009). When I asked him to evaluate the impact of the new ETS on the Polish economy he said that the impact would be extremely negative. He pointed immediately to the competitiveness of the Polish economy and sketched the chain of relations: high electricity prices → high production costs → low competitiveness of the Polish economy → high unemployment. He also underlined that cheap energy is Poland's main advantage in the EU, right next to well-educated population and beautiful natural environment.

In an article published in *European Voice*, Żmijewski proposed an alternative scenario to the one outlined by the European Commission. He urged for auctions to be carried out at the national level and to be limited to locally incorporated bidders. The auctions could gradually be expanded internationally to include

bidders from elsewhere in the EU, until all EU states operated on a level playing field. Moreover, he proposed that the energy sector should, initially, be excluded from the scheme. “It should be included gradually and under rules that ensure that emissions would not be distributed only through auctions” (EuropeanVoice 4 July 2008).

Here, Żmijewski came up with a proposal totally different from the one drafted by the Commission. While the European Commission underlined the need of building a coherent system at the Community level (2008), Żmijewski argued in favour of the separation of national emission markets. The idea of national carbon markets was discussed about ten years earlier when the first thoughts about establishing a European emission trade emerged after the Kyoto Conference in 1997 (Zapfel and Vainio 2002). It was rejected by the Commission which, led by an integration agenda, proposed in its Green Paper (2000) a Community-wide scheme to prevent a future fragmentation of emission trade in the EU. What is interesting in Żmijewski's proposal, is not only the fact that it was clearly made without paying much attention to the previous debates on ETS, but also that it assumed some degree of incompatibility between emissions in individual Member States. His proposal conveyed the message that carbon dioxide emissions produced in different national economies are hardly comparable and that some time should pass and economic conditions should change to make the carbon dioxide produced in Poland and that produced in e.g. Germany commensurable and amenable to commercial exchanges.

Six days later, another article concerning Poland's situation in the context of the new EU ETS was published in *Die Zeit*. The article was titled “The anxiety of Pygmies” (Claas and Tenbrock 2008) and the heading read: “Europe is fighting for climate protection. The Continent is threatened with a rupture as the East is anxious about its economic growth.” The next sentence pointed to the specificity of the Eastern European Member States: they are heavily dependent on coal in power generation. In fact, only Poland, Estonia, the Czech Republic, Bulgaria and Hungary are highly dependent on coal. Other new EU Member States have more diverse energy-mixes but the article made a broad generalization about the region and announced: “Poland generates electricity almost exclusively from coal.

Carbon dioxide emissions are growing again – the same concerns practically the whole Eastern Europe.”

The article was based on an interview with Żmijewski who ended it by “drawing three big figures on a piece of paper, like from a cartoon, next to which he drew three smaller ones. – The big ones are Maasais, the small ones are Pygmies – says Żmiejewski and asks – how will the race between them end?” And he states: “Pygmies are not able to catch up with Maasais, the East is not able to keep up with the West, Poland is not able to keep up with Germany.” This imaginative rhetoric trick introduced a clear division between “the big West” and “the small East”. It also gave little hope for the future since Pygmies’ short legs would never let them catch up with the long-legged Maasais.

Die Zeit made a statement that “Eastern Europe is afraid both of the Western Europe and of the ambitious climate policy of the Brussels Commissioner Stavros Dimas” who does not seem to care about the Eastern European ‘short limbs’. And the limbs stood not only for the yearly income per capita, which in Eastern Europe amounts to about 29100 Euro, while in Western Europe 83000 Euro. They also represented lower carbon emissions per capita in the East (7,1 tonnes compared to 9,8 tonnes in the West) and lower efficiency of Eastern coal-fired power plants (36 percent compared to 46 percent in the West) (Claas and Tenbrock 2008). How could the Commission ignore all this and tell the Pygmies to run as fast as the Maasais? – this was Żmijewski’s message.

In his Die Zeit article, Żmijewski tried to emphasize the differences between the rich West and the poor East. And while the Commission proposed to operate with a statistical construct of an average European economy, of an average increase in electricity prices, the Polish industrial and energy experts set out to deconstruct it and to reconstruct the incompatibility of Europe’s East and West, and this would also translate into the incommensurability of carbon dioxide emissions in the East and West.

Carbon dioxide has thus become politicized and contextualized. It has become part of the EU member states’ unique socio-economic systems. The drawings of the Maasais and Pygmies might have been the most dramatic rhetoric trick used

in the foreign media to convey the idea of differences between Eastern and Western economies. It essentialized these differences by bringing them down to physical characteristics and not mere economic indicators. Pygmies and Maasais seemed to be two different races in the EU, which could not be brought to compete in the same race, since the result would be a foregone conclusion.

Challenges to Economic Framing of Carbon Dioxide: Carbon as a Historical Thing

Time is another important aspect of climate change. Climate change is a historical phenomenon caused by industrial revolution. It is historical in its genesis and it also has consequences for the future fates of the human kind. A growing realization about the humans' impact on the global climate system introduced a new way of measuring time - as a function of the impact of GHG emissions on global temperatures. An amount of carbon dioxide emitted in a given period of time would translate into an increase in global temperatures in the coming years. And this impact would last for years and would be difficult to reverse. Therefore, decisions concerning GHG emissions taken in a given period of time would have long lasting consequences.

Theories on climate change and global warming have a particular impact on the temporality of climate policies. As environmental NGOs and many activists point out, climate action has to be taken up to save the climate system "right in time." And the moment scientists have become capable of estimating the probabilities of GHGs' concentration impact on temperatures, it is easier to give more precise timeframes for climate action. The Executive Summary of the Stern Review has claimed that the current level of GHGs concentration in the atmosphere amounts to around 430 parts per million (ppm) CO₂ compared with 280 ppm before the Industrial Revolution. The Stern Report states that "these concentrations have already caused the world to warm by more than half a degree Celsius and will lead to at least a further half degree warming over the next few decades, because of the inertia in the climate system" (p. 3). Based on the relation between GHGs concentration and the global temperature, it is possible to work out a policy action. The Stern Review proposes:

Stabilizing CO₂ at or below 550ppm would require global emissions to peak in the next 10 - 20 years, and then fall at a rate of at least 1 - 3% per year. (...) By 2050, global emissions would need to be around 25% below current levels. These cuts will have to be made in the context of a world economy in 2050 that may be 3 - 4 times larger than today - so emissions per GDP unit would have to be just one quarter of the current figures by 2050. (Stern Review ES, p. xi)

In the introduction to the proposal of the ETS Directive, the Commission put forward a goal of keeping the global temperature rise at 2 degrees Celsius. At the same time, it proposed a clear time frame for climate action - 20% of emission reductions by 2020 compared to 2005. The scientifically determined time of climate change, the time of climate action proposed by the European Commission were soon confronted with other times - those of doing business, of parliamentary elections and of the historical transformations in individual societies.

The Berlin Mandate has already taken into account the time, or rather the timing, of economic development and has divided the world into developed countries obliged to reduce GHG emissions and the developing ones suspended from the obligation to reduce GHG emissions. In the Kyoto Protocol, countries became divided into Annex A (developed) and Annex B (developing) countries. Poland was included into the group of Annex A countries, however, categorized as an 'economy in transition'.

The question of time has also been addressed by Polish officials and industrial and power sector representatives. With the ETS, according to the Commission's proposal from January 2008, Poland would enjoy a special status because of its lower GDP per capita. It would therefore be among several countries, which would get the additional 10% of the total cap of emission allowances redistributed. However, the proposal of the new allocation of emissions did not account for the past emission reductions under the Kyoto Protocol. And this has become the critical issue for the Polish government, industries and the power sector. They have asked the Commission to take into consideration the past effort

of reducing emissions when constructing and dividing the emission cap for 2013-2020.

In his *Die Zeit* article, in Polish media (e.g. *Cire*, *WNP*, *Gazeta Prawna*), and on his blog, Żmijewski raised the issue of significant emission reductions in Central and Eastern Europe at the beginning of the 1990s. He argued that in 2004 emissions in the new Member States fell by 23 percent compared to 1990. The Czech Republic reduced its emissions by around 20 percent, Poland by around 27 percent and Slovakia by 25 percent.

He argued that these earlier reduction efforts should have been taken into account on the ETS today and in the future. One of the ways to do so was to shift the base year for 2013-2020 emission reductions from 2005 – as proposed by the Commission – back to 1990 – the year before the post-Communist economic meltdown (*Die Zeit*, 10 July 2008). This idea has also been strongly promoted by the Polish mining and energy trade unions. The leader of the Secretariat of the Mine and Energy Workers' Union *Solidarność* argued for this shift during our conversation in October 2008:

Every country should be treated individually as to carbon emission reductions, especially because Poland had signed the Kyoto Protocol and by the time it joined the European Union, it managed to reduce emissions by 500 percent of what it declared. And now I am asking: so what? Having accessed the EU, which did not meet its Kyoto reduction targets, we are made to help the EU make up for its failure. The EU failed, we reduced over 500 percent of what we were supposed to have done and now again we have to make the same reduction effort. (Interview, Warsaw, October 2008)

This was a controversial point and some argued that emission reductions carried out outside of ETS should not be taken into account within ETS (Pearson 2010) and thus Polish carbon reductions achieved before the EU accession in 2004 should not count in the new emission cap for the 2013-2020 trading period. This issue was debated already at the beginning of the 2000s, before developing the EU ETS. At that time the term 'hot air' was coined to refer to "the amount by

which the Eastern European country's Kyoto Protocol target exceeds its probable emissions in 2012 even without any abatement actions. The reason for this excess emission reduction is the economic collapse which these countries suffered after the base year 1990" (Ellerman et al. 2006, p. 15-16).

When the first National Allocation Plans were constructed and negotiated between 2003 and 2005, some new Member States, like e.g. Hungary, perceived the fact of taking account of the past emission reductions as a reward for the hardship of the last decade. Istvan Bart (2006) writes that "businesses became excited with the possibility of receiving surplus allowances, which could be resold to western customers" (p. 332). However, policy makers concerned with the environmental efficiency of the ETS argued that allowing for 'hot air' in the total EU cap would water down emission reductions target for the whole EU and they rejected this idea (Ellerman et al. 2006).

Even among Polish actors there was no agreement about the best-suited base year. In his *Die Zeit* article, Andrzej Kassenberg, the leading Polish authority on environmental issues, argued that while the Polish economy is back on the development path, GHG emissions are on the rise as well. In 2008 the level of industrial GHG emissions was almost as high as in 1990 and they would grow in the future. For Kassenberg, emission reductions during the transformation years happened "by accident", they were not driven by policies nor by participation on the then non-existent European carbon market. They were just the matter of 'a historical coincidence'.

Debates about the reference time for reducing carbon dioxide emissions on the ETS show that carbon dioxide is a historical thing not only in terms of being emitted at a particular point of time or not being emitted at all. It is also historical because it is emitted or reduced in particular socio-economic and institutional contexts. The carbon dioxide emitted during the socialism seemed therefore different from that emitted at the time when Poland was a EU member. The carbon dioxide reduced during the early 1990s transition period differed from the carbon dioxide reduced within the institutional frame of the EU ETS. These have been different efforts, different histories and different carbons.

Conclusion

Debates discussed here show that Polish actors have tried to put limits onto the Commission's project of the ETS. These would include spatial limits so that Poland and some other Eastern European countries are excluded from trading emission allowances with other parts of Europe; and temporal limits so that Eastern European countries are allowed to account for their Kyoto emission reductions achieved in the early 1990s. And while the European Commission was driven by an integration agenda when constructing the ETS in the 2000s, Poland proposed to re-organize the ETS and to limit emission trade to national states. Also, while the European Commission conceptualized the threats and opportunities for the EU as one economic region, the Polish power sector, and industrial and governmental actors tried to conceptualize the threats and opportunities for the Polish economy, and for particular regions within the EU separately.

The political process Poland has embarked upon was also a process of constructing a commodity - European Union Allowance (EUA). Spatial and temporal boundaries that would be set around carbon dioxide to be applied on the European carbon market would in the future influence EUAs' price and the value of companies, sectors and national economies. Consequently, the activity of market construction can be perceived as a strategic one, whereby actors engage in a collective process of negotiating competitive advantages for themselves. They want to have control over what will be traded and how. National governments wanted to lower the cost of market participation for their domestic companies and tried to preserve the attractiveness of their economies as containers of industrial production.

One can also interpret this debate as an attempt to challenge the economic frame put onto the European carbon dioxide. The frame that would put carbon dioxide emitted in various parts of the EU into a common space of the ETS was questioned as being inadequate. Arguments about spatial and temporal differences between EU Member States and between the EU's West and East

were brought up to blow this frame up. Carbon dioxide was contextualised in various orders of worth – of the economic transition in the East, and of various development urgencies and environmental priorities.

In order to calculate goods, they have to be made calculable (Callon and Muniesa 2005), which means that they have to become comparable according to a certain measure – they have to be made commensurable. Commensuration can be most generally defined as “the comparison of different entities according to a common metric” (Espeland and Stevens 1998, p. 313). Espeland and Stevens (1998) present it as an inherently interpretative and political process, which is crucial to how we categorize and make sense of the world. As an underlying process of classification, it has been studied in various areas of social life, including economics. Commensuration is a mechanism of articulating, and at the same time, producing value. It does not happen automatically, but it requires a varying organization effort and discipline. It may at times be a difficult and controversial process and this “depends partly on whether it is used routinely to express the value of something, on whether people accept it as a legitimate expression of value, and on how disparate-seeming are the entities being commensurated” (Espeland and Stevens 1998, p. 317).

As Espeland and Stevens (1998) point out, “commensuration changes the terms of what can be talked about, how we value, and how we treat what we value” (p. 315). We might think that it is simple to compare a tonne of carbon dioxide emitted in a coal fired power plant in one place in Europe with a tonne of carbon dioxide emitted in a cement factory in another place in Europe, but negotiations of the new ETS showed the opposite. And this is because carbon dioxide is in fact an actor-network – it acts in and through particular production processes, which give agency to carbon. Carbon is uniquely entangled into configurations of other actors like technologies, workers, laws, moralities. They are embedded in various institutional orders and fields of actions. In these socio-technical assemblages carbon dioxide is valued differently. The objectification, singularization of carbon dioxide from various localities in the EU was a risky endeavor enticing controversies and conflicts. So while MacKenzie (2008, 2009) showed how challenging the idea is of making various greenhouse gases the same, I aim at

showing that making one particular GHG – carbon dioxide – the same may be a difficult task as well.

The challenges to commensuration examined in this thesis became evident when the new method for allocating carbon allowances was negotiated. The stakes of this negotiation were high because, as MacKenzie (2008) points out, accounting for carbon would change the ‘bottom line’ for doing business in the EU. Any business activity of European industries involved in trading carbon on the ETS has to account for the cost of emitting carbon. The commensuration of carbons from various production assemblages results in commensuration of these various places in the EU: companies, production processes and even whole economies, which have to start accounting for carbon in their business activities.

Commensuration can also be seen as “a technology of inclusion” (Espeland and Stevens 1998, p. 330), which may trigger resistance manifesting itself through strategies that enable some actors to exclude themselves from the process. Espeland and Stevens (1998) argue that “defining something as incommensurate is a special form of valuing” (p. 326). Such a definition signifies something unique. The salience of incommensurable categories depends on “how passionate we feel about them, on their centrality in defining our roles and identities, and on how much effort it required to breach them” (p. 327). Negotiations of the new rules of the EU ETS revealed passionate interests and centrality of carbon in some of the European economies as some actors pointed to incommensurability of carbon produced by them with carbon produced in other places.

Espeland and Stevens (1998) hypothesize that “the most frequent and most durable claims about incommensurability occur at the borderlands between institutional spheres, where different modes of valuing overlap and conflict (...) and where what counts as an ideal or normal mode of valuing is uncertain, and where proponents of a particular mode are entrepreneurial” (p. 332). It is also a valid hypothesis for the case examined in this thesis. Most of the resistance to carbon-based commensuration, thus also to carbon commoditization, can be expected from industries that are most attached to carbon and at the same time not used to bear the costs of carbon dioxide emissions. It can also be expected

from economies where coal, or other highly-emitting fossil fuels, constitutes an important factor of production for reasons other than environmental – for example, because energy-supply security or employment considerations. Claims about incommensurability can thus be perceived as a kind of bargaining strategy (Espeland and Stevens 1998, p. 333) of actors who tried to reduce their cost of participation in the ETS.

Commensuration is also a mechanism of change and coordination (Espeland and Stevens 1998, p. 331). Espeland and Stevens (1998) claim that it “can change our relations to what we value and alter how we invest in things and people” (p. 318). Establishing carbon as a new currency for comparing companies, production processes, technologies, and what results from it, whole economic regions in the EU, ultimately leads to changes of relations between these places and conveys a new economic signal to the investors about what to invest, where to invest, when and how. This is the ultimate goal of carbon markets – to generate economic incentives to invest in low-carbon technologies. However, this process is not easy for all member states as for some of them, like the countries most intensively relying on coal in energy production, the introduction of carbon as a new currency leads to higher costs for whole societies and lower economic competitiveness. As Espeland and Stevens (1998) argue “[c]ommensuration can radically transform the world by creating new social categories and backing them with the weight of powerful institutions” (p. 323). Once inscribed in laws or bureaucratic rules, accounting for carbon in various places in the EU becomes increasingly real and fateful (Espeland and Stevens 1998, p.325). With the European Commission controlling ETS and monitoring carbon trade in the EU, carbon-based commensuration becomes political, as “it reconstructs relations of authority, creates new political entities, and establishes new interpretative frameworks” (Espeland and Stevens 1998, p. 323).

Espeland and Stevens (1998) point out that forms of commensuration vary in several dimensions. They depend on how technologically elaborate they are, how visible and explicit they seem, how institutionalized they are and who their agents are. Commensuration of carbon dioxide in the EU proved to be a technically highly elaborate task. This is reflected in the production of expert knowledge on

different allocation methods of carbon allowances on the 2013-2020 ETS. At the same time, however, the process has not always been transparent because the commensuration of various 'carbons' produced in the EU has been done by using the economic PRIMES model, which is based on assumptions that are not transparent to the European public.

Revisions of the EU ETS initiated by the European Commission turned carbon dioxide into a 'hot thing' - into a matter of concern (Latour 2005) - not only for environmentalists but also for companies, governments, trade unions, media and citizens. The entity, which so effortlessly flows out of industrial installations became visible - it stopped being a non-living object and became active (Latour 2005). The 2008 amendments to the EU ETS seem to be a European Pandora's box full of concerns, interests, values, inferiority complexes, inequalities and various demands. And the question remains open, whether opening Pandora's box has also given some hope (Latour 1999) for a better understanding of Europe's heterogeneity and for a more concerted process of re-composing the EU. This question should be answered in the course of an empirical investigation.

The Polish battle for the shape of the European Union carbon market and for what kind of carbon dioxide should be taken into account on that market did not end with these discursive strategies. In further chapters I examine how Polish actors organized lobbying against the Commission's proposal of the new ETS Directive and what alternative methods to allocate emission allowances they proposed. However, the media appearances of Polish power sector experts against full auctions in the power sector, give a good idea about the process of re-constructing the European Union's carbon market in 2008. It was a highly political process and a collective endeavor in the course of which it was decided what kind of carbon dioxide will be traded on ETS and what will not be traded.

Chapter 4. Poland in the New ETS: Mobilizing Networks Across Fields

Introduction

The Polish government and businesses reacted to the Commission's proposal relatively late – in July 2008. This chapter tries to look for various explanations of this late response. However, once Polish actors had realized the possible consequences of the proposed legislation, they set out to mobilize actors and resources for lobbying against it. This chapter examines networks of actors that were established in the course of lobbying activities in Poland and in the EU arena. This analysis is based on interviews with Polish lobbyists and governmental officials, and on an official report of the lobbying project *Green Effort Group*. The report is a diligent documentation of all the lobbying meetings and their participants. The analysis of the network of relations provides a good overview of the heterogeneity of actors coming from various fields, the structure of this network and the dynamics of lobbying activities over time.

The network of events has two main components. The first one consists of four meetings organized by the European Commission (EC) in 2007 to consult different stakeholders on the proposal of the new EU ETS Directive. During these meetings the European Commission officials gathered state officials, representatives of the European industry, environmental NGOs, think tanks, research and academic institutions and other organizations, such as for example the European Trade Union Confederation.

The second component of the network consists of events organized by representatives of the Polish industry and power sector after the European Commission announced the proposal of the EU ETS Directive in January 2008. These events compose a lobbying campaign called the Green Effort Group (GEG), which was launched by the Polish actors after having realized the negative impact of the proposed emission reduction rules on the Polish economy. Polish actors proposed an alternative methodology for the EU ETS to lower the costs of reducing CO₂ emissions in Poland. The structure of this combined network will be examined in the last part of this paper to point to the central actors and events.

Organizing Polish Lobbying

Works on the new ETS Directive were already on the European Commission's agenda throughout the whole 2007. Prior to the announcement of the Directive proposal in January 2008, the European Commission consulted a wide range of stakeholders within the European Climate Change Programme (ECCP) in Brussels in 2007. Four meetings were held and attended by a number of actors representing governments, industries, NGOs, think tanks and academic institutions. These meetings were also attended by Polish governmental representatives. However, when the method of allocating emission allowances was discussed, the Polish representatives did not raise any concerns about the impact of full auctions on the Polish economy. In this way Poland missed the opportunity to influence the content of the proposal of the new ETS Directive within this open forum. One of Polish governmental officials claimed that the best time for participating in any work on European legislation is before the directive text is written:

This is the best time to talk about particular problems, interests and to try to secure solutions that best serve national or business interests. And I have an impression that between March and December 2007 nothing was done in this matter. The main reason for that was, in my view, that nobody in Poland took it [ETS - A.L.] seriously. Everyone thought it was just a theoretical debate about different theories of global warming, while in fact, it was a totally serious, pragmatic debate with material consequences for all of us. (Interview, Warsaw, January 2009)

In 2007, the Polish Minister of Environment put great emphasis on forestry problems, leaving carbon markets as a side issue (Interview, Warsaw, February 2009). One of my interviewees, a high level official from DG Environment confirmed that, according to his knowledge, Poland was not much present during the 2007 works on the new ETS:

According to my knowledge they were not much present in this process. It's hard to say why... Maybe because this was the time of government change in Warsaw... The proposal was presented after the Parliamentary elections. (...) There were accusations coming from Polish officials that the Commission was not transparent during the consultation process. However, we think that the Commission was totally transparent. (Interview, Brussels, July 2009)

The Minister of Economy in the government that collapsed at the end of 2007 pointed out that, in 2008, the new government was still occupied with allocating emission allowances to Polish companies for the trading period 2008-2012. The government's attention was focused on negotiating with the Commission higher quotas of emission allowances for Polish companies for 2008-2012. As a result, both governments paid little attention to learning more about the new ETS project (Phone interview, October 2010). According to one of my interviewees from the new government, at the beginning of 2008, the Polish power sector seemed not to have cared much about the proposed ETS Directive either. The Polish power sector was at that time mostly concerned about the IPPC Directive – another Directive dealing with pollution from industrial companies.

At the same time, the year 2008 was conducive to talking about climate change in Poland. In December 2008, Poznań played host to the biggest yearly event of global climate negotiations – the 14th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC). This was an opportunity for the Polish NGOs to become more visible, promote the problem of climate change in Poland and attract more funding. This opportunity was used by the Climate Coalition – a group of NGOs established in 2002 to undertake climate action in Poland. Two main organizations active in the Climate Coalition are old, well-established Polish NGOs: the Institute for Eco-Development (InE) and the Polish Ecological Club (PKE). The Climate Coalition also includes Polish units of WWF and Greenpeace. The main purpose of establishing the Coalition was to influence the government's decisions to on climate policies and to attract more funds (Interview, Warsaw May 2009).

The organization of the COP-14 brought Polish NGOs closer to the Ministry of Environment. The 2008 Minister of Environment has a reputation for keeping good relations with NGOs. The Climate Coalition has therefore moved closer to the center of the Polish political scene. However, in mid 2008 the Polish Prime Minister shifted the responsibility for amendments to the ETS Directive from the Ministry of Environment to the Ministry of Economy and to the Office of the European Integration Committee (UKIE). The Ministry of Environment was put aside to take care for the COP-14. In this way the Climate Coalition was also slightly pushed away from the ETS problems.

On 11 July 2008 a meeting in Warsaw took place, during which business people and government officials, trade union leaders and environmental activists discussed Poland's situation with respect to the legislation proposed by the European Commission. After that meeting, the power companies: PGE, Enea, Energa and Tauron, and two industrial program platforms: FORUM CO2 and the Forum of the Energy and Gas Consumers established the Green Effort Group (GEG) lobbying project. Krzysztof Źmijewski was appointed coordinator of the GEG and Tomasz Chruszczow, the Forum CO2 became vice-coordinator.

Źmijewski found himself well positioned to bring together the Polish power sector and industries into a common lobbying effort. He is a well-known figure both in the power sector and industrial circles. He has been promoting energy efficiency in Poland for years and has also been the President of the national power grid company PSE Operator. Chruszczow has been active within the Forum CO2 for years and has developed a good understanding of the impact climate policies have on industries. The costs of the project were shared among the four power groups and the two industrial platforms. The strategy of the lobbying campaign was to act on different fronts but to make sure that 'all voices coming from Poland regarding the ETS were the same' (GEG 2008). As Chruszczow noticed:

In fact, even our greens spoke along similar lines because we did not propose anything controversial. We said: "We have to reduce emissions, we want to reduce emissions because global warming is a fact, but if we implement all the policy instruments proposed by the

Commission then we will have the European economy, and in particular the Polish economy, collapsed". (Interview, Warsaw, February 2009).

During the summer of 2008, Żmijewski organized an informal meeting with the four biggest power sector companies in Poland and Polish industries. As Chruszczow could recall, representatives of the private power sector companies – EDF, Vattenfall and RWE – operating on the Polish market joined that meeting as well. They talked about the possible ways to prevent high increase in electricity prices in Poland. Chruszczow pointed out that the power sector and industries had to put aside old animosities.

According to his view, it was neither obvious nor easy to ally industries with the power sector. Power producers always try to make as much money as possible on electricity supplies to industries. And while industries are interested in reducing their electricity consumption, the power sector does not welcome energy efficiency measures because they lower the demand for their product – electricity. Industries and electricity producers have no ‘natural’ common interest but there is strong mutual dependence. They need each other to carry on their businesses. Therefore, they cannot exploit this dependence too much (Interview, Warsaw, February 2009).

Moreover, there has been fierce competition between industries and power producers over the share of emission allowances for the trading periods 2005-2007 and 2008-2012. The negotiation of EUAs quotas for the 2008-2012 trading period on the ETS were exceptionally harsh, and particularly, when the Commission cut the overall quota for Poland by almost 30 percent. These negotiations continued in 2008. Therefore, in the context of these struggles, it was difficult to bring industries and the power sector companies together to fight for a common cause.

But the threat of an excessive rise in electricity prices and the threat of industries closing their factories in Poland convinced both sides to work together. If industries moved out from Poland, utility companies would lose their customers. As Chruszczow claimed: "It was time to forget about the second allocation plan for emission allowances (2008-2012) and move on to secure our

interests in the third trading phase on the ETS” (Interview, Warsaw, February 2009). Tension between industries and the power sector eased once attention was focused on the common threat posed by the new ETS. The threat was framed as affecting ‘Polish economic interests’.

The GEG lobbying project was also assisted by Jerzy Buzek, at that time Member of the European Parliament. Jerzy Buzek, a Polish MEP and the President of the European Parliament (2009 - 2011), opened many doors to Żmijewski and Chruszczow. Buzek was the only Polish MEP familiar to people from the European environmental movement whom I met in Brussels - from Greenpeace, WWF, the Friends of the Earth to the Climate Action Network-Europe. In the 2004-2009 term of the European Parliament he was active in the Parliament’s many committees³⁶. He served as a rapporteur on the EU's 7th Framework Programme for Research and Development, a multi-billion euro spending programme for the years 2007-2013.

The biggest organizations of the Climate Coalition, InE, PKE and WWF also stayed in touch with Żmijewski, Chruszczow and Buzek. The Climate Coalition tried to contribute their ideas to the lobbying campaign. The leader of InE, Andrzej Kassenberg participated in some of the GEG’s meetings to represent the green point of view on the ETS, emphasizing its opportunities for the Polish economy. Although, the Climate Coalition supported the allocation method through full auctions for the power sector, as proposed by the European Commission, it was also aware of the future costs for the Polish economy. Consequently, they became less vocal in their criticism of the allocation method and paid more attention to the need for energy efficiency measures and development of renewable, local and decentralized energy sources in Poland.

All of these actors were important in defining the ‘Polish economic interest’ and in mediating it between industries, the power sector, the government, the Polish and international media, the European Parliament, the European Commission, and

³⁶ He was a member of the Committee on Industry, Research and Energy, an alternate member of the Committee on the Environment, Public Health and Food Safety, a member of the Delegation to the EU-Ukraine Parliamentary Cooperation Committee, and an alternate delegate for the delegation for relations with the countries of Central America.

other European governments and non-governmental actors. Chruszczow unveiled how those different actors – industries, power sector companies, experts, governmental officials and trade unionists – came to a conclusion that with regard to ETS, Poland should speak with one voice:

The most euphemistic description of the situation we found ourselves in is that it was a „dramatic situation”! In the middle of 2008, both the power sector and the government decided that we – Poland – had to start lobbying for changes in the proposed Package of legislation in the EU. We came to the conclusion that if the government started lobbying on its own it would be laughed at by the Commission: “Dear government, where have you been last year?!” And to explain that there was a different government, a different Prime Minister, the same President but the negotiation instructions were different – that would look silly. No one would care. If the power sector went to Brussels alone, nobody would talk to them either. They would say: “Of course you are protesting because you will have to change your bad habit of burning gigantic quantities of your easily accessible coal and of letting it out through your chimneys! We are changing the European economy! We are changing the whole paradigm of the economic development!” And trade unions... they would go to Brussels, they would make a lot of noise and would come back home to Poland. Brussels is used to unions’ protests. The shopping-windows would be repaired and that’s it. So what to do? And we thought we should lobby all as one. This would be something new. And so we started thinking of finding a way to show that the Polish economy as a whole felt threatened by the new legislative proposal and that these threats have been precisely identified. In this way we wanted to show that we not only had a “sense of something wrong going on”, but that we knew exactly what was going wrong because we drew our knowledge from reliable economic and technical expertise. We also thought it was very important to say in Brussels: “Yes, we should reduce emissions! Of course we have

to achieve the targets of the Climate Change and Energy Package! We can even think of ways to reduce more emissions! However, we have to do it in a way that will not destroy our economy!" Because nobody had ever said that the system proposed by the European Commission was the only possible one, we needed to have an alternative proposal that would allow reducing emissions at a much lower economic cost. (Interview, Warsaw, February 2009)

In that moment businesses and governmental actors realized that they needed to mobilize a larger and heterogeneous network of actors that could stand up for 'the Polish society' and 'the Polish economic interest' in the EU. Problematization and mobilization required good framing and at that time the 'Polish economic interest' seemed to be a good strategic choice. And the 'Polish economic interest' stood for the competitiveness of the Polish economy and low electricity prices.

In July 2008 Piotr Serafin, the Office of the European Integration Committee (UKIE), was assigned by the Prime Minister to coordinate negotiations of the ETS Directive between Warsaw and the Representation Office of the Republic of Poland in Brussels. At that time he was disappointed with low awareness of the stakes involved in the proposed directives among Polish elites. During our conversation, he argued that the European climate policy seems to have caught the whole Central and Eastern Europe by surprise:

When our President was signing the conclusions of the European Council in March 2007... in fact everything that was to be said about the European climate policy, had been said in that document. And he signed it without hesitations because there had never been any debate about climate policies in our country. (Interview, Warsaw, January 2009)

Talking to me in January 2009, he also expressed irritation about the fact that, during the COP-14 in Poznań (December 2008), and during ETS negotiations, Polish elites still wanted to debate whether the globe was warming up or not. He pointed out, with a bit of sarcasm, that Polish actors 'more advanced in climate

change debates' were asking whether global warming was an anthropogenic phenomenon or not. He claimed that Poles seemed to have not realized that Western Europe had already been over with those debates (Interview, Warsaw, January 2009). Poland seemed to have been far behind in discussing climate change as an area of politics, economics and societal changes. And this, according to Serafin, also had a great influence on how various European interest groups approached the ETS negotiations in 2008 (Interview, Warsaw, January 2009). In July 2008, Serafin also started closer cooperation with Jankowski from EnergSys³⁷ – Poland's only research and consulting center for the power sector.

His opinion testifies to what has been written about Central and Eastern Europe's approach to climate policies. Emission reductions and the ETS seemed to have chiefly been the problem of the Western Europe – of the old fifteen, which strove to comply with the Kyoto targets. Central and Eastern European countries, which had exceeded their Kyoto targets by far at the beginning of the 1990s, assumed that this effort could exempt them from any further commitments to emission reductions. This conviction was to a large extent sustained during the first two trading periods on the ETS when national governments took care of their industries and allocated ample quotas of emission allowances to their domestic companies. In several cases, governments sued the Commission in the Court of Justice of the European Union under accusations of unfair or groundless treatment of sectors by the allocation of allowances. However, in 2008 when the Commission proposed full auctions for the power sector and partial auctions for industries – the real game seemed to have begun for the new EU Member States. Emission trade was to take place on a much bigger scale. The ETS became transformed from a passive intermediary, which could have been pacified by national governments' interventions, into an active mediator (Latour 2005).

As a result, after a long period of ignoring the plans for amending the ETS, business and governmental representatives mobilized to lobby against the Commission's proposal of full auctions. They mobilized under the common frame (Snow et al. 1986) of the 'Polish economic interest'. In the following chapters we

³⁷A research institute on systemic analysis of environmental policies and the power sector in Warsaw.

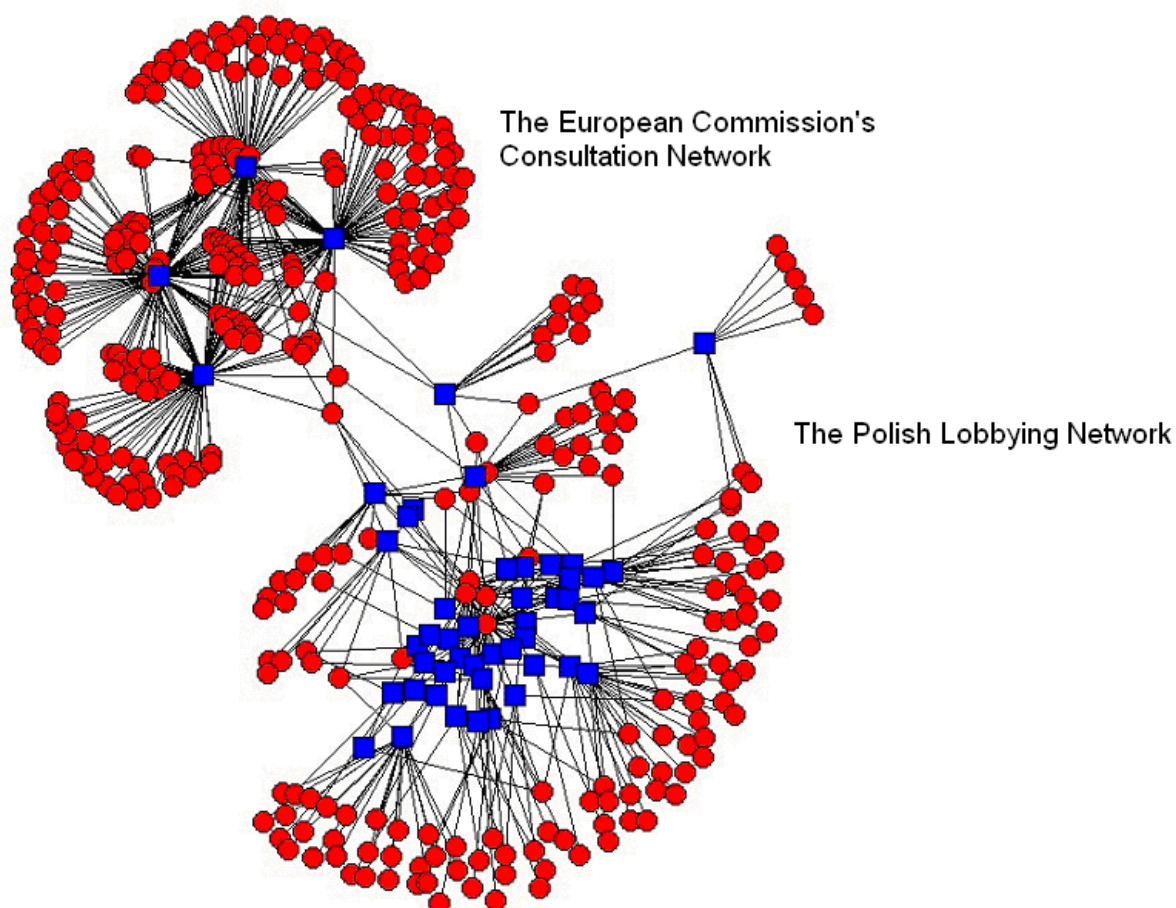
will see that this frame has not always been very efficient but for the time being, for the domestic mobilization it sufficed. It was also a good starting point for approaching actors from the EU arena, which had to be persuaded that the lobbying was organized not on behalf of a particular interest group but to represent ‘the Polish society’.

Interestingly, Polish actors also knew that “without figures, without data and numbers” they would not persuade anyone in the EU into supporting their position (Interview, Warsaw, January 2009). Therefore, they mobilized Polish experts to produce expertise, which could mediate communication between Warsaw and Brussels. This points to Rose’s and Miller’s (1992) observation that modern government is primarily a problematizing activity. Governing is about defining problems and finding solutions to them within heterogeneous networks of expertise. Problematization is carried out within discursive frames and certain political rationalities. The Polish actors have defined their problem as a problem of competitiveness of the national economy.

Dynamics and Structure of the Polish Lobbying Network

In this section, I examine the structure of events that took place in 2007 and 2008 to negotiate the Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2003/87/EC so as to improve and extend the EU greenhouse gas emission allowance trading system (EU ETS Directive, 2008). The network has two distinct parts. The first part of the network (top-left) consists of actors gathered at four consultation meetings organized by the European Commission and the second part (bottom-right) comprises actors gathered at events organized by the GEG. These two main components of the network are linked through actors who participated in both components. While the first component can be considered an ‘EU component’, the other one is dominated by Polish actors. On the graph below the events are represented by blue squares and the actors by red circles.

X. An event-actor network of the EC’s consultation meetings (March, April, May, June 2007) and the Green Effort Group lobbying campaign (June-December 2008).



Source: Network created on the basis of participation lists issued by the EU http://ec.europa.eu/environment/climat/emission/review_en.htm and of the Green Effort Group Final Report (2008).

The four events organized by the European Commission, gathered about 210 actors representing different Directorates of the European Commission (DG ENV, DG COMP, DG ECOFIN, DG TREN, DG ENTR), representatives of the Member States, the European Economic Area, industry (including the power sector), NGOs (WWF, FIELD, Greenpeace, T&E, CAN-Europe), academia and think tanks (IIEP, CEPS, Öko-Institut), other institutions and organizations (EEA, EFTA Surveillance Authority and ETUC). Each meeting was held in the form of a conference with several panels and ca. twenty presentations. A full report from each meeting can be found on the European Commission's website³⁸. The network created by the European Commission was therefore quite extensive. It involved various actors who often participated in more than one of the four meetings. Each meeting served as a platform for debating concrete issues related to the European Union

³⁸ http://ec.europa.eu/environment/climat/emission/review_en.htm

Emission Trading Scheme (ETS). During the March conference, participants discussed possible ways of reviewing the EU ETS. The April meeting concerned robust compliance and enforcement of the EU ETS and the meeting in May dealt with further harmonization and increased predictability of the EU ETS. At the last meeting held in June, participants discussed possibilities of linking the EU ETS with other countries and making it globally effective.

The network created by the Polish lobbying campaign – the Green Effort Group – is much more loosely spread out. Around 151 actors met at 44 events. The leader and main organizer of the GEG, Prof. Krzysztof Źmijewski, was a ‘Sphinx-like actor’ (Pagett and Ansell 1993), former President of the Polish Power Grid company (PSE) and a strong promoter of energy efficiency. He was therefore perceived as ‘our man’ both by the power sector and the industry, and also recognized as legitimate to represent both these usually competing sectors. Within the network created by the GEG there were also representatives of the Polish government, Polish and foreign Members of the European Parliament, trade union and business representatives, high level officials from the European Commission, representatives of the French Presidency in the EU and other national governments, members of the Polish and international environmental NGOs, experts from a Brussels-based public communication company and journalists. This network is therefore less dense and it spreads out across various fields of policy making, journalism, expertise and various market fields in Poland and the EU.

The two parts of the network are therefore quite distinct as to the way they were mobilized. The European Commission gathered a wide range of voices and interests in one place in the course of four meetings, while Polish actors were gradually put together into a mosaic of actors to lobby for changing the new ETS proposal. While the mobilization of the first component was a part of an institutional process of the European Commission’s work, the component was created by Polish lobbyists in a way resembling a social movement. The first component of the network was inscribed in an institutional process of expert debates and institutionalized in the form of final reports from the meetings, recommendations to the Commission and, finally, the *Impact Assessment* study,

which accompanied the proposal of the EU ETS Directive as a legitimizing, expert document. The *Impact Assessment* report triggered mobilization of interest in Poland as, according to Polish actors, it failed to adequately represent 'Polish economic interests'. Polish actors, mobilizing their own network between June and December 2008, tried to reach some actors present in the network created by the European Commission in 2007.

In this section I examine the reconstructed 2-mode network composed of 48 events and 366 actors to look for elements of the network which are most distinct - the most central actors and events - and those who are most similar to each other - pairs of actors and pairs of events with a high correlation result. After Granovetter (1983) and Burt (1995) I look for actors who join distinct and often distanced parts of the network. As Burt (1995) puts it, a hole in a network is a buffer as a result of which two actors provide network with resources that are in some degree additive rather than overlapping. Therefore, an actor that spans this chasm as a bridge may be able to transmit new or rare information between separated parts of the network.

In my analysis, therefore, I will look for actors who are central in relation to the two main components of the network and served as bridges between the institutionalized consultation processes organized by the EC and the Polish interest network. The bridging actors or the bridging events were important mediators between Polish policy objectives and the European ones. They were also places where the mobilization frame of Polish actors - the 'Polish economic interest' - was challenged and actors had to legitimate it or innovate with it. The bridging events were also moments of extensive knowledge exchanges.

The other part of my analysis in this paper aims at identifying the most similar actors and events by correlating pairs of each of them and modeling them into blocks. By correlating actors, I look for those who met at the same events, and by modeling them into blocks I look for larger groups of actors who attended the same meetings. I assume that these actors may be important for the identity of the whole network by providing some continuity of its agenda and knowledge exchange. I also look for events, which brought similar actors together. It is

interesting to see if there were, for example, events gathering similar people at the beginning of the lobbying campaign – in order to work out a common position and a further lobbying strategy. Along with identifying similar actors and similar events, it will be analyzed what these similarities implied for the whole interest representation process.

Betweenness centrality of events

Betweenness centrality is the most commonly used centrality measure in network analysis. Events that occur on shortest paths of actors participating in other events have the highest betweenness centrality. The most central event (0,269), according to the betweenness centrality measure, is the fourth meeting organized by the European Commission in June. It was on the shortest path of over a quarter of actors participating in other events of this network. Other meetings organized by the European Commission have the highest betweenness centrality as well (1st meeting = 0,239, 2nd meeting = 0,211, 3rd meeting = 0,200).

Those meetings gathered actors representing various Member States and various policy and market fields. These were moments of intensive and organized exchange of opinions and knowledge on the ETS. The organizers of these meetings, officials from the DG Environment authored the proposal of the ETS Directive. As a result, voicing concerns, exchanging ideas, proposing solutions during those meetings could have had a real impact on the final text of the Directive. As it was shown above, Polish actors did not contribute to the organization of the ETS during the four meetings with the European Commission. They only addressed an important point, but a marginal one to the organization of the ETS, the issue of forest protection.

According to a report from these meetings, included as Annex 1 to the *Impact Assessment*, the most vocal participants of the first meeting on “The Scope of the Directive” were: Urban Rid, a representative of Germany and Anders Wijkman, the Swedish MEPs who called for harmonization of ETS rules in the EU and transformation of ETS into a global scheme. The expansion of the ETS to other sectors, gases and regions occupied most of the discussion during the first EC meeting. Experts from CEPS, EcoFys, EFMA were in favor of further inclusions

into the ETS for the sake of improving its economic efficiency. On the other hand, representatives of industries – CEFIC, EAA and Euracoal – expressed doubts about it. At the end, a representative of the Climate Action Network-Europe emphasised that any change to the EU ETS must make it more reliable in ensuring absolute reductions in emissions. He identified a number of sectors suitable for inclusion into the EU ETS. Speakers from the European Commission were also in favor of expanding ETS for the sake of improving its environmental efficiency.

The second meeting concerned the “Robust Compliance and Enforcement” and focused mainly on the technical improvement of the monitoring, reporting and permitting procedures. During the session on “Compliance and Enforcement Issues in Relation to Expansion of the EU ETS”, a Polish official from the Ministry of Environment presented the Polish forest management system, where stated that responsible forest management would contribute to the achievement of EU reduction goals. As a main challenge, he identified conserving and increasing carbon pools through afforestation and reforestation and sustainable management. This was the Polish representation’s main and strongest contribution to the discussion on the ETS during the four meetings organized by the European Commission.

The third meeting regarded “Further Harmonisation and Increased Predictability.” This session was crucial for debating the allocation of emission allowances. Felix Matthes, the German Öko-Institut, claimed that an EU-wide common approach differentiated by ETS activities would be necessary, appropriate and feasible. The analysis he provided showed that sufficiently robust and precise criteria for national caps based on EU-wide methodology could be formulated. This idea became the organizing principle of the ETS in the proposed Directive. During this session, experts from CEPS and the European Commission criticized national organization allocations and the burden-sharing agreement for producing distortions on the ETS. EU-wide allocation rules were perceived as improving the working of the ETS.

During the last meeting organized by the European Commission, prospects of linking the ETS with emission trading schemes of third-party countries were discussed. Particular problems with linking the ETS to other schemes were identified and the debate showed that it was too early for a fully-fledged linking. Also, the prospects of offsetting were discussed.

In the Polish interest network, the highest betweenness centrality was identified for the meeting organized with the high level European Commission officials from DG TREN, DG Environment and DG Enterprise at the beginning of September 2008 (0,185). During this meeting, representatives of the Green Effort Group handed the *Report 2030* over to the EC's officials and presented their alternative policy proposals. According to the "GEG Report" (2008), the main goal of the meeting was to inform DG officials about threats posed by ETS to the Polish economy, which were identified by Polish experts.

The GEG agreed with the emission reduction targets but did not agree with the reduction measures at the expense of the efficiency of Polish economy. Seventeen people from PGE, Tauron, Energa, Enea, Forum CO2 and the Forum of Electric Energy and Gas Consumers attended this meeting. It brought together various actors: EU officials, representatives of the Polish power and industrial sectors and Polish experts. It was also a strategic move to organize this meeting at the beginning of September when the work of EU officials started after the August summer break. The GEG was assured by the Commission officials that a dialogue between them and the officials would be maintained.

According to the data available, the Europower International Conference also has high betweenness centrality (0,127). This is one of the most important annual events for the Polish power sector. The GEG used this forum to present its approach to the ETS in front of Polish governmental officials and energy experts.

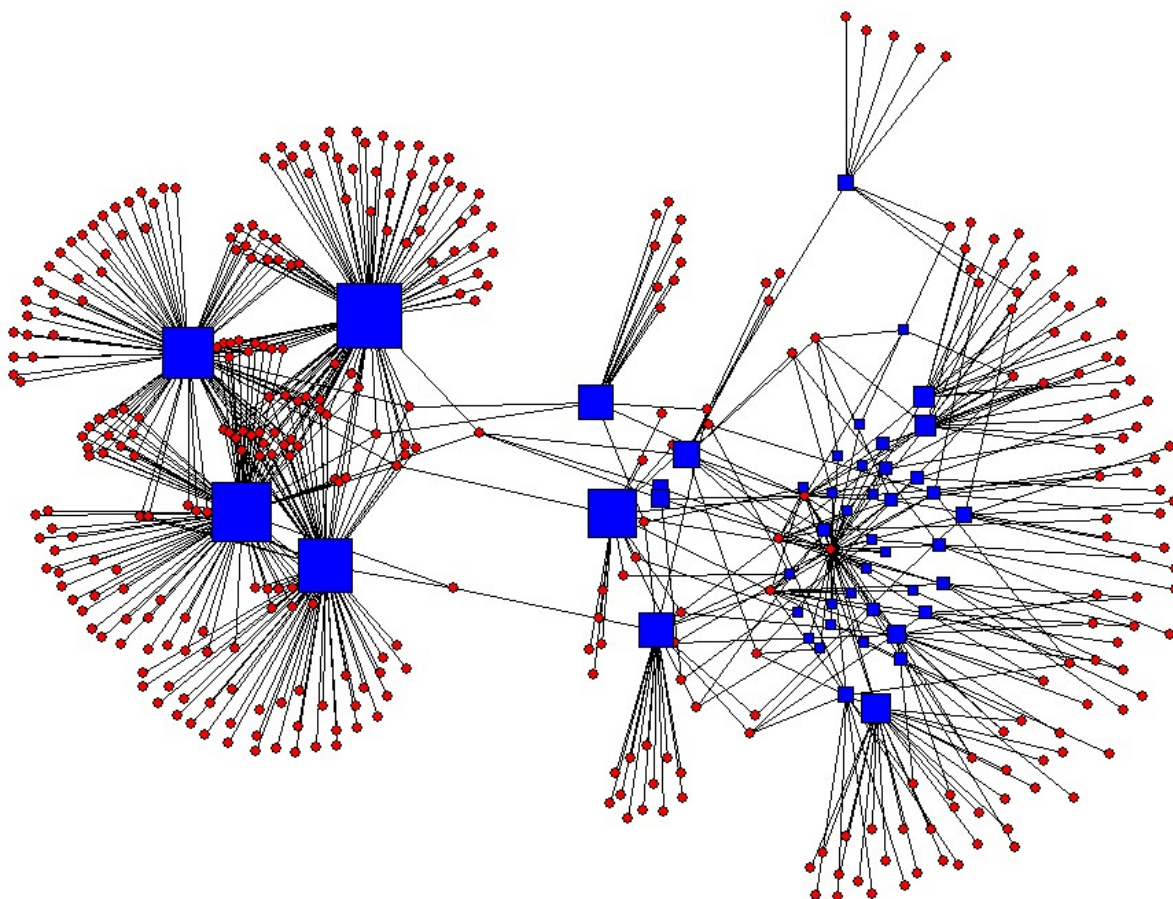
The other meeting, organized by the Secretary of Mine and Energy Workers *Solidarność* in Katowice in November, has high betweenness centrality (0,121). This was a bridging event in many respects. It brought together Polish trade union representatives from the power and energy sectors, sectoral trade union representatives from other EU Member States, officials from the European

Metalworkers, Chemical and Energyworkers' Federation and the European Trade Union Confederation, Polish officials from the Ministry of Environment, a representative of the *Green Effort Group* and a representative of the WWF European Policy Office.

The WWF representative and the representative of the European Trade Union Confederation were also members of the European Commission's network. The meaning of this meeting will be discussed in more detail in the last chapter of the thesis on trade unions' position in the ETS debate. But it is crucial to say that this meeting was one of the most challenging for the 'Polish economic interest' frame and it revealed cleavages within the labor movement according to sectoral lines.

Among the events organized by the GEG, the round-table meeting of industry, government, trade unions and Members of Parliament in Sophia in 2008 has high betweenness centrality (0,099). The goal of this meeting was political. Bulgarian and Polish officials and lobbyists tried to establish a blocking minority for the vote on the ETS. There were also representatives of Polish, Hungarian, German, Estonian and Greek embassies - from countries with high dependency on coal in the EU. There were also representatives of the French Embassy. It was, therefore, a moment when the 'Polish economic interest' frame had to become revised again in order to mobilize other countries to support the 'pro-coal movement'.

5. A 2-mode network indicating betweenness centrality of events



7. Events with betweenness centrality above 0,09

Fourth EC meeting	0,269
First EC meeting	0,239
Second EC meeting	0,211
Third ECmeeting	0,200
September Meeting of EC Officials	0,185
Europower International conference	0,127
International trade unions meeting in Katowice	0,121
Round-table meeting in Sophia	0,099

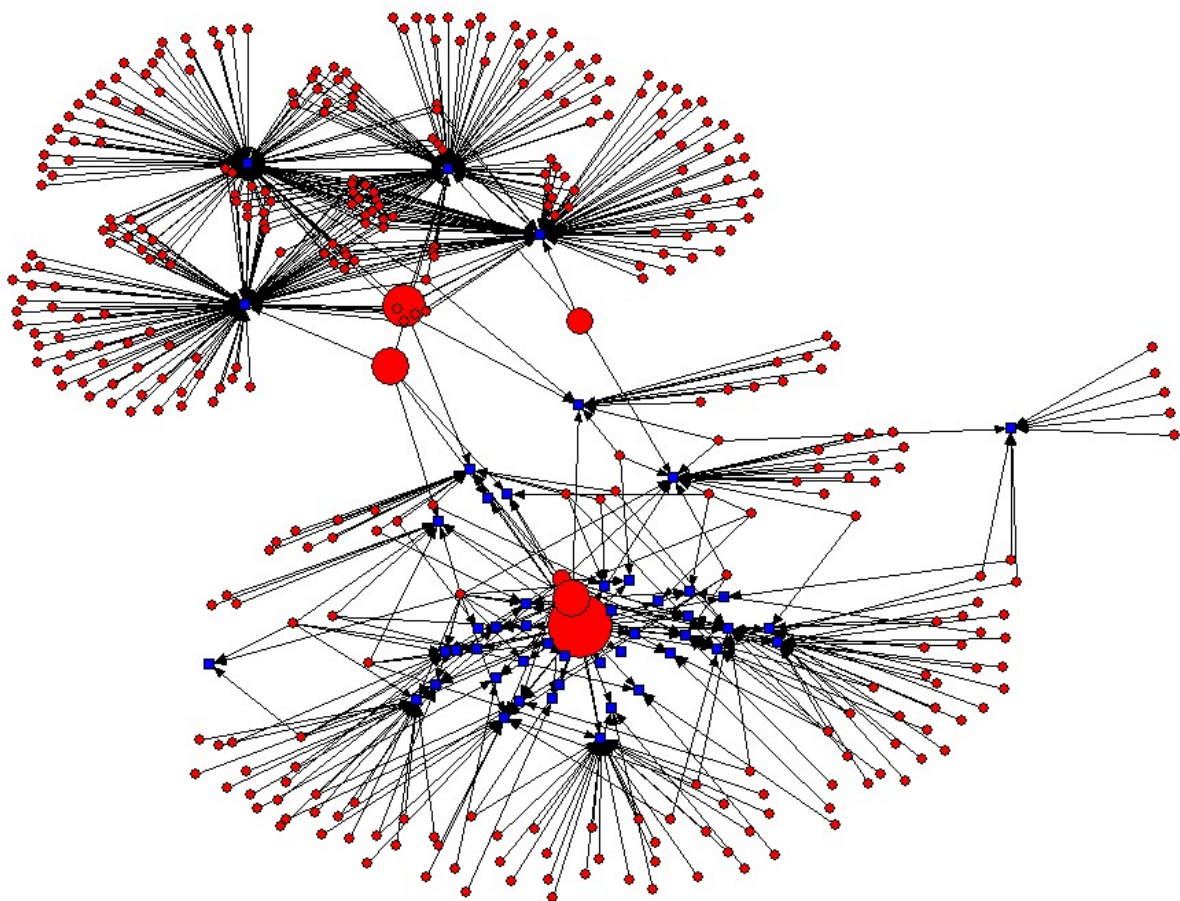
Betweenness centrality of the actors

Actors on the shortest paths of other actors moving between events have the highest betweenness centrality. Prof. Żmijewski was the actor who occurred most often on the shortest paths between other actors participating in the events. His betweenness centrality is 0,296. Jose Delbeke is right behind him (0,171). The other four actors with high betweenness centrality are: Marina Coey (Żmijewski's

wife and business partner) (0,149) and the Swedish MEP, Anders Wijkman (0,142).

This shows that, despite the fact that the ETS involved representatives from various fields, countries, markets; actors who have physically been between those fields can be identified. Those actors in between have carried out most of the 'translation work' (Latour 1987) in order to present some actors' goals and objectives in front of other actors and confront their objections. Those actors had access to diverse points of view and engaged both in the exchange of expert knowledge as well as in political and normative arguments.

6. A 2-mode network indicating betweenness centrality of actors



6. Other actors with betweenness centrality above 0,1

Prof. Krzysztof Żmijewski	0,296
Jos Delbeke (DG Environment, Director)	0,171
Marina Coey	0,149
Anders Wijkman (Swedish MEP)	0,142

Similarities between events

In this part of my analysis, I am looking for similarities between events. I proceed by correlating pairs of events in order to find those attended by the same actors. I will select pairs with correlation higher than 0,5 and indicated by my interviewees as significant for the whole lobbying campaign. In the next step I will model correlated pairs of events into binary blocks in order to look for larger groups of similar events.

In the table below I present some of these important events with their correlated pairs. Several findings seem quite interesting here. First, Prof. Krzysztof Żmijewski had two partners who accompanied him during the meetings: Prof. Jerzy Buzek and Tomasz Chruszczow. The three men seem to form the core of the Polish lobbying campaign. Second, almost the same people met in July 2008 with Olaf Kopczyński, the main negotiator of the ETS Directive on behalf of the Polish government, and prepared the list of technical questions for the Polish negotiators some days later. Third, two meetings held with the Swedish MEP Anders Wijkman and the assistant of a Bulgarian MEP, Stefan Manev, were accompanied by an expert from a Brussels-based public communication company.

These findings point to the existence of a small core of the lobbying campaign – Żmijewski, Chruszczow and Buzek. These actors represented three different fields: energy, industry and policy-making, still in fact it is difficult to position each of them in one of those fields exclusively. All of them were somewhere between those fields because of their past experience and jobs. The analysis also shows that the same group of people was involved in crafting the position of the GEG and in presenting it in the Polish Representation Office in Brussels. And none of those meetings was attended by representatives of Polish green NGOs. Polish environmentalists were totally excluded from the expert work of the GEG. They participated in several meetings where they voiced their arguments but they

were not let into the policy core of the GEG network. They did not contribute to its expert position.

The presence of the public communication consultant during two meetings with foreign MEPs shows that representatives of the GEG had problems with a more 'international' framing of their cause. This was confirmed by my interviewee from the public communication company hired by the GEG. This also points to the fact that there are actors who specialize in mediating between fields - in providing actors with wider, more encompassing frames and in helping translate problems and objectives between various domains of action.

Event	Participants
<u>Correlation</u>	
Parliamentary Presentation, Nov. 2008	Prof. Krzysztof Żmijewski Tomasz Chruszczow
Press conference, Dec. 2008	Prof. Krzysztof Żmijewski Tomasz Chruszczow Antoni Pietkiewicz
0,815	
Meeting w/Stefan Manev, Nov. 2008	Prof. Krzysztof Żmijewski Marina Coey Stefan Menev Piotr Bonisławski
Meeting w/Anders Wijkman Nov. 2008	Prof. Krzysztof Żmijewski Marina Coey Anders Wijkman Piotr Bonisławski
0,747	
Meeting w/Olaf Kopczyński, July 2008	Prof. Krzysztof Żmijewski Tomasz Chruszczow Tomasz Zadroga (PGE) Andrzej Werkowski Olaf Kopczyński Tauron Energa Enea
Working out technical questions, July 2008	Prof. Krzysztof Żmijewski Tomasz Chruszczow Tomasz Zadroga (PGE) Prof. Jerzy Buzek FOEEiG Tauron Energa Enea
0,709	

Dinner Debate by Prof. Buzek, Sept. 2008	Prof. Jerzy Buzek Prof. Krzysztof Żmijewski Tomasz Chruszczow Kazimierz Grajcarek
Hearing in the House of Lords, Oct. 2008	Prof. Jerzy Buzek Prof. Krzysztof Żmijewski

0,705

In order to model correlated events into a binary similarity matrix I dichotomized the matrix of correlations by giving a value of 1 to events whose correlation value was greater than or equal 0,5. I carried out a hierarchical cluster analysis to find clusters (with an option 'complete link') in the dichotomized matrix. The cluster analysis produced 2 columns of events - one with all events belonging to one cluster and the other where all events were clustered into 36 single-event and three-, two-event clusters. I proceeded to transform this partition matrix into a block model, which gave an interesting result of two three-events blocks.

Block I.

Event 5 - a meeting with Olaf Kopczyński, July 2008
 Event 9 - working out technical questions for the Polish negotiation team, July 2008
 Event 31 - presentation of the Polish negotiation position to the Polish Parliament, Nov. 2008

Block II.

Event 29 - Hearing in the House of Lords, Oct. 2008
 Event 16 - Bilateral talks: Prof. Buzek and Prof. Żmijewski, Sept. 2008
 Event 7 - Expert meetings in Bussels, July 2008

The first block consists of events attended by Żmijewski and actors from PGE, Tauron, Enea, Energa, Forum CO2 and the Forum of Electricity and Gas Consumers. This was the core of the GEG network at the time of its creation and prior to its greater exposure to more diverse, international arguments. Once again, it is interesting to notice that the initial 'Polish economic project', the definition of the 'Polish economic interest' were devised within a fairly homogeneous, business environment without representatives of the environmental movement or trade unions. The second block shows that during

international meetings, Żmijewski was usually assisted by Buzek as a mediator between the EU policy field, the Polish policy field and the Polish energy sector. He had been Poland's Prime Minister and in 2008 he was a member of the then ruling party *Platforma Obywatelska* (Civic Platform). He also used to work as an academic at the Technical University of Silesia and the Technical University of Opole. He was also a member of the *Solidarność* movement, and thus a reliable contact for Polish trade unions. During an interview, Żmijewski admitted that he was very proficient and felt comfortable in navigating within Polish politics and business domains but much less comfortable in the EU and needed Buzek there.

The analysis has also generated seven two-event blocks with one or two people in common: Prof. Żmijewski; Prof. Żmijewski and Prof. Buzek; Prof. Żmijewski and Tomasz Chruszczow; Prof. Żmijewski and Marina Coey. The results of block modeling underscore the centrality analysis carried out in the previous part of this thesis. The GEG lobbying network was extremely centralized, relying primarily on the activities of one person: Prof. Krzysztof Żmijewski who most closely cooperated with three people: Buzek, Chruszczow and Coey. These people made up the core of the whole campaign and assured its identity and continuity. Interestingly, the GEG did not manage to include any foreign actors into its 'core team'. There were only a couple of foreign actors whom Prof. Żmijewski met more than once. These were all Members of the European Parliament: Anders Wijkman, Bijana Raeva, Avril Doyle and Stefan Manev.

Similarities between actors

In this part I reproduce the analytical procedure applied for events. However, I skip the analysis of correlated pairs. I also provide a block model for the dichotomized correlation matrix data. In order to model correlated actors into a binary similarity matrix I dichotomized the matrix of correlations by giving the value of 1 to actors whose correlation value was greater or equal 0.5. Then I carried out a hierarchical cluster analysis to look for clusters of similar actors (with an option 'complete link'). I received a partition matrix with two columns -

one with all actors belonging to one cluster and the other with actors grouped in 45 clusters. I proceeded to create a block model.

The analysis gave interesting results, which support the conclusions made on the basis of previous analyses in this section. There is a distinct cluster of four Polish power sector companies, which have similar profiles of event attendance.

1: PGE, Tauron, Enea, Energa

There are also five clusters of power sector-related experts and governmental officials. They all include only national actors.

- 2: Jacek Sawicki, Henryk Jacek Kaliś, Maciej Burny, dr Mariusz Maciej Swora, Wojciech Jaworski, Janusz Moroz
- 3: Paweł Urbański, Mirosław Niewiadomski, Jerzy Janikowski, Roman Szyszko, Przemysław Goldman, Andrzej Zielaskowski, Bolesław Jankowski (EnergSys)
- 4: Stanisław Tokarski, Krzysztof Hajdrowski, Andrzej Werkowski, Kazimierz Szynol
- 5: Waldemar Pawlak, Marcin Korolec, Adam Szejnfeld, Jan Bury, Maciej Nowicki, Piotr Serafin (UKIE)
- 6: Ministry of Economy, Ministry of Treasury, UKIE, Senate

There are also three clusters which include Polish power sector representatives, EU officials and other foreign actors:

- 7: Tomasz Zadroga, Krzysztof Noga, Mogens Peter Carl, Caroline Demoyer
- 8: Hanna Trojanowska, Krzysztof Zborowski, Joanna Rudnicka, Pasqual Dupuis, Rafał Czaja
- 9: Bernard Błaszczyk, Maciej Pyrka, Wojciech Graczyk, Kazimierz Grajcarek, Marek Kulesa, Piotr Ciżkowicz, Miroslav Řehoř, Rudolf Vojvodik, Krzysztof Rogulski, Radosław Dudziński, Grzegorz Onichimowski, Jerzy Obrębski, Janusz Lewandowski, Andrzej Szymański

Representatives of the Polish environmental NGOs are grouped in a separate cluster:

11: Andrzej Kassenberg, Grzegorz Wiśniewski, Dariusz Szwed

There is a cluster of actors who participate in the Sophia round table:

- 14: Lubka Katchakova, Stefan Dishovsky, Lubomir Zlatanov, Vladimir Stariradev, Denis Samson, Philippe Rombaut, Politimi Paunova, Dimitar Brankov, Krassimir Dachev, Yoncho Pelovsky, Pencho Tokmackchiev, Miriana Evtomova-Misheva, Simeon Yordanov, a Representative of the Polish Embassy, a Representative of the Hungarian Embassy, a Representative of the French EAmbassy, a Representative of the German EAmbassy, a Representative of the Estonian Embassy, a Representative of the Greek Embassy, Bulgarian Members of the Parliament, Prof. Dieter Helm

There are also trade union representative who took part in the Katowice meeting in November 2008:

15: Anabella Rosenberg, Reiner Koch, Peter Kerckhofs, Michael Wolters, Mateo Auriemna, Ioan Feurdean, Emil Gheorghe, Pencho Tokmakchiev, Alexander Kanev

Several clusters contain actors who participated in four consultation meetings at the European Commission (those who participated in only one of them, in two or in three of them). And there are also actors who make up single-unit clusters: Krzysztof Żmijewski, Tomasz Chruszczow, Olaf Kopczyński, Jerzy Buzek.

The block model transformation carried out on the dichotomized data, revealed striking groups of actors forming nationally homogeneous and heterogeneous clusters. It is interesting to see representatives of the power sector and environmental NGOs clustered separately. It shows that the two groups are quite far from each other in terms of interests and concerns, and that there is no will on the side of businesses to include the green point of view into their programs. This segregation contributed to the perception of the Polish lobbying campaign as a business (or even power sector's) campaign with stakes defined in economic not environmental terms.

Conclusion

This chapter examined mobilization of Polish actors into a lobbying network. Several conclusions may be drawn from this chapter. First, the Polish lobbying enterprise was mainly driven by economic objectives of the power sector and industries. Environmental NGOs were excluded from it, in particular, from processes of knowledge production, selection of arguments and frame-building. Second, the Polish lobbying campaign was centralized and it is possible to distinguish a core group of actors shaping its strategies and debates. The core was Polish, but thanks to Buzek and the Brussels-based public communication company, foreign actors were included into this core component on occasional basis.

This analysis also aimed at identifying actors who managed to locate themselves between various fields of action: national and EU policy fields, power sector,

industries, environmental NGOs. Network analysis may therefore help operationalize the concept of spaces between fields particular positions in the network. These may be bridging position but also positions in structural folds (Vedres and Stark 2010), in the events which bring together diverse actors. Knowing the composition of networks and the actors' backgrounds in terms of their fields of action, it may be possible to identify actors who positioned themselves between those fields, or who are rather able to act across them. Interestingly, some actors occupied positions in between because of their diverse portfolios of activities within various fields of action (e.g. Buzek, Żmijewski, Chruszczow). Others may be specialized in mediating between various fields, like e.g. the Brussels public communication company.

Chapter 5. Methods of EUAs' Allocation: Negotiating the Project of the European Carbon Market

Introduction

This chapter examines a controversy over the method of allocating European emission allowances (EUAs) to European companies taking part in emission trade under the European Union Emission Trading Scheme (the ETS). Allocation method is a crucial device of the ETS as it partially determines the number of EUAs that will be traded, and the people and places of trade. In other words, an allocation method organizes a relationship between supply and demand and may be called a calculative technology (Callon and Muniesa 2005). It is a technology, which defines relations between various actors, as well as between actors and the ETS's commodity (EUAs). On the European carbon market it relates companies to carbon dioxide. As such, an allocation method is political. It entails distribution of power and spaces of control on various markets.

The analysis provided below examines networks of actors in Poland engaged in negotiating various methods for allocating emission allowances (EUAs) during the revision of the ETS in 2007 and 2008. As the analysis unveils, the network of Polish actors becomes more and more heterogeneous and internationalized. The Polish government and lobbyists have not only engaged in communication with officials from the European Commission, the French Presidency and the European Parliament but they have also allied with European industries, German power sector companies, and governmental officials from other Member States. Many of the actors present in this analysis have not been mentioned in the GEG report. Therefore, some of them cannot be found on the network charts in the previous chapter. The GEG recorded only formal meetings of the GEG network and communication examined here took place mainly in an informal way. Therefore, this chapter has been primarily based on interviews.

The events analyzed can be understood as a process of 'enrolling actors' (Callon and Law 1982) into various projects of emission allocation. It is also a process of

interest transformation. Interests may be derived from actors' positions in a wider social structure but they are also actively constructed in the course of pursuing concrete projects (Callon and Law 1982). By examining how actors propose projects, what they propose, when and to whom, I study processes of interest transformation, of their formulation within conditions of various constraints and opportunities. In the course of mobilizing a greater number of actors behind a project, interests are defined, simplified, allied, funneled, juxtaposed, contradicted, silenced and sometimes stabilized so that in the end they result in a new institutional order.

More precisely, the negotiation of the allocation method may be seen as a process of 'translation' and 'purification' (Latour 1987). While building international and intersectoral networks to support a given method of allocation, actors were engaged in purifying these networks. Polish governmental officials and business lobbyists moved on from the strategy of constructing 'the Polish economic interest', to 'the Central and Eastern European economic interest' to finally come up with a category of 'a common European economic interest'. While proposing various methods for allocating European Allowances (EUAs), the GEG network became heterogeneous – it involved companies, governments, trade unions, state and European agencies, the Commission and the MEPs. Interests of those various actors were translated to become common interests and expertise was the devise, which helped to achieve it. However, when justifying their projects of emission allocation, actors engaged in constructing bounded spheres of politics and economics, of markets and bureaucracies. They justified their choices by referring to the concept of economic and environmental efficiency, at the same time constructing these concepts in various ways.

Actors' engagement in purifying interests and spheres of action resulted in new divisions of spheres within which actors could act in a legitimate way. It was a struggle over boundaries of terrains over which actors' could have exerted their influence and which they could have dominated. It was also a struggle to legitimize their own practices on the ETS and de-legitimize the practices of others. Further in the analysis, I show how European industries negotiated with the Commission the extension of their control over the European carbon market.

They wanted to have more influence over the way emission allowances would be supplied to them on the basis of their own performance. But the Commission wanted to keep its administrative control over the supply of emission allowances as well. The result was a hybrid system with different set of rules for European industries and European power sector companies.

This struggle also shows that while negotiating the ETS, actors tried to inscribe logics of their fields of action into the logic of the market operation. This was in particular visible when industries argued for tying allocation of emission allowances to the actual industrial production, and the Commission argued for organizing allocation of emission allowances based on historical emissions in an administrative process controlled by the Commission itself. While the industries' proposal seemed to have generated uncertainty for the administration, the Commission's proposal was perceived as generating uncertainty for industries. This shows that certainty and uncertainty are categories, which are differently understood in various fields of action and translation between them may not always succeed.

Therefore, the main goal of this chapter is to show the constructed and organized nature of markets, of market devices, of supply and demand, but also of the commodity's value. However, 'the constructed' does not stand for 'socially constructed'. This analysis shows very clearly that 'social construction' is never 'purely social' since actors have to account for material, often physical characteristics of various entities they represent and which help them construct realities of markets (Latour 1897, 1999, 2005, 1999, Callon 1998, Callon and Muniesa 2005, MacKenzie 2006, 2008). For instance, different fuels emit different volumes of carbon dioxide per the same amount of energy generated. And this cannot be changed in a 'discursive', 'social' way. Some regions in the EU are connected through electricity grids and some are not. It takes time to construct a grid connector, losses of power are expected when transporting electricity over long distances. Materiality of various markets, which the ETS came to govern put constraints on its possible solutions and also onto actors' justifications of those solutions.

Also calculative devices, which organize market exchanges, put some material constraints on how the ETS may function and they tie operations on other markets to the ETS in a material way (Callon and Muniesa 2002, MacKenzie 2008). While the allocation method through full auctions would tie every tonne of carbon dioxide produced by electricity utilities to the ETS, the method based on benchmarks would only tie some of the carbon emissions according to technological and production performance criteria. The benchmark method would differentiate allocation of allowances according to technologies used in a given sector and their parameters. Such and other material, technical criteria for emission allocation have become elements of actors' negotiation networks. They could not have been easily 'socially deconstructed', they resisted trials in various material ways.

Alternative Allocation Methods and Internationalization of the Polish Network

From July till the end of August, the newly appointed lobbyists of the Green Effort Group set out to engage in arguments with various European actors. Equipped with the *Report 2030* and other information materials, the GEG launched its activities in Brussels. Till the end of the summer 2008, the position of the Polish government was to ask for derogations from full auctions of EUAs for the power sector. This idea was also endorsed by Buzek who was the main authority for the GEG in the ETS negotiation. He was regarded by many of my interviewees, also from environmental NGOs in Brussels, as "the only Polish MEP who really understood what the new ETS was about".

From the phase of problematization when the Polish actors refused the Commission's diagnosis of Poland's economic development under the new ETS and defined the 'Polish economic interest', they moved on to the phase when they started proposing solutions to the identified problems. They proposed to allocate free emission allowances to the Polish power sector companies. The origin of this proposal for the power sector is not entirely clear for me. It seems that this was a Polish know-how worked out in one of the Polish Ministries -the Ministry of Environment or the Ministry of Economy. Initially, the Polish government

proposed opt-outs from full auctioning for the existing power plants. However, interestingly, the solution was soon transformed by the German power sector companies to extend free allocation to coal-fired power plants built in Poland in the future.

Satu Hassi, a Finish MEP and the Vice President of the Committee on the Environment, Public Health and Food Safety, also a member of the Committee on Industry, Research and Energy and a member of the Temporary Committee on Climate Change from the Environmental Committee, pointed out during an interview that the idea to extend the derogation to coal-fired power plants built in the future came from the German power sector companies:

One of the key issues in the review of emission trade was that from 2013 all emission permits for the power sector would be auctioned. And that was very widely accepted. And Poland was the main opponent of this proposal and initially the Polish counter-proposal was that for the old power stations there must be derogation. But then quite late in the process this proposal turned into a proposal of derogation also for new coal-fired power stations. And we've heard from German MEPs that this idea actually came from RWE and some other German power companies. This was lobbied by Poland but came from Germany. We've heard from Germans that this formulation first appeared in a text by RWE because RWE and some other German power companies wanted to invest in Poland in new coal-fired power stations and then they convinced the Poles to demand also this but that was defeated during the December Summit. (...) Maybe for the Polish people it's interesting to know that there was not only a Polish interest but that there was also a German power sector interest to demand these derogations – an interest of the future investors. (Interview, Brussels, April 2009)

The information coming from Satu Hassi is very interesting. It tells that the 'funneling' (Callon and Law 1982) of 'the Polish economic interest' went beyond

the network of national actors. Also foreign companies, those with an aspiration to launch operation in Poland by taking a bigger share of the Polish electricity market, took part in constructing 'the Polish economic interest'. They joined the network by proposing a solution for 'the Polish problem' – a solution that would be beneficial for their own interests. At the same time they remained fairly invisible in this process as RWE's involvement in proposing free allocation of emission allowances to power companies has not been covered by media or by the *GEG Report*.

The proposal of derogation for the power sector companies stayed on the Polish negotiation agenda till the end of 2008, but since mid 2008 another proposal took shape. This was an alternative method for allocating emission allowances (EUAs) and it was based on technological benchmarks with an ex post adjustment. One of the governmental officials admitted during the interview that the allocation method based on benchmarks, intensively lobbied for in Brussels by the Polish government, by the Green Effort Group and by the European industries, was not a Polish expertise. It has been worked out by the European Federation of Industrial Energy Consumers (the IFIEC) and positively reviewed by the EcoFys (Interview, Warsaw, January 2009). The positive review by the EcoFys was an important factor that contributed to taking the IFIEC-method seriously within the EU policy-making arena. The EcoFys is one of the most renowned consulting companies in the area of environmental governance closely cooperating with the DG Environment. It works on policy solutions for the ETS and develops market-based tools for environmental governance. It is one of the main non-governmental expert bodies in Europe on emission trade. Therefore, a positive review by the EcoFys legitimized the IFIEC-method and strengthened it. One could say that the EcoFys's positive review was an important element in the actor-network of the IFIEC-method making it more 'durable' (Latour 2005, Callon and Law 1982).

In July 2008 Jankowski from the EnergSys presented the UKIE with a strong recommendation to support the IFIEC-method and to include it into the Polish negotiation position. This method was recommended to the Polish Ministry of Environment by a German affiliate of IFIEC – the VIK – as early as in February 2008. However, as one governmental official told me, at that time, the Ministry of

Environment did not find the VIK's presentation of the IFIEC-method relevant for the Polish interests. Irrespective of that, Jankowski, present at that meeting, contacted the IFIEC himself. In July Jankowski convinced Serafin from the UKIE and Żmijewski from the Green Effort Group that the IFIEC-method could be beneficial for Polish power companies and industries. It could lower their cost of participation in the ETS. The Polish Ministry gave the IFIEC a phone call. During the interview, Jankowski explained:

I tried to point out that the Ministry's proposal to postpone full auctions for the Polish power sector was not a good one. Different countries are in different situations and this proposal makes it difficult to come up with general arguments that would have a Europe-wide out-reach. This was not a proposal that could be beneficial for a larger group of countries. After the VIK's presentation I was suggesting not to stick to the proposal of derogation for the Polish power sector but to emphasize that Poland wanted a solution that would have less impact on the level of electricity prices and thus show that Poland was open to alternative allocation methodologies – just like the one worked out by the IFIEC. (Interview, Warsaw, February 2009)

The IFIEC-method was above all a project of lowering electricity prices in Europe. The Polish problem identified in the *Report 2030* was that due to full auctions electricity prices would be 'killing' industries (Interview, Warsaw, February 2009). As the UKIE official told me, the interest of 'the Polish economy' was to keep Polish industries globally competitive. The term 'carbon leakage', coined by European industries, was also used by the Polish negotiators. The IFIEC-method, according to Jankowski, opened new opportunities for allying other European actors. While the proposal to allocate free EUAs to Polish power sector companies made 'the Polish economic interest' congruent with the interest of the German RWE, the IFIEC method made 'the Polish economic interest' congruent with the interest of European industries. The Polish lobbying network was therefore extended, the frame for mobilizing support to the Polish arguments expanded. Moreover, the IFIEC-method, operating with a more general, technical and less

country-specific language of arguments could have helped to extend the Polish network even further. It could have attracted other Member States interested in saving their industries from high electricity prices caused by full auctions for power sector companies. It gave a potential to coin 'the Polish economic interest' into a 'European economic interest'. The IFIEC-method became an 'enrollment device'. If adopted as the allocation method for the European power sector, it could lower electricity prices not only in Poland but in the whole EU. And all this could have been achieved at the rate of emission reductions planned by the European Commission and the European Council in March 2007. The IFIEC-method was able to provide the Polish actors with a substantial shift in their strategies. They could move away from their strategy of exoticizing the Polish national economy as a unique spatio-temporal assemblage of actors, technologies, fuels and historical developments – to a strategy of incorporating the Polish economy into the European context. Since the IFIEC allocation method was based on technological benchmarks, the Polish actors could start enrolling more actors, more governments, not only according to their common historical experience of being a part of Central Eastern Europe – but also according to technological commonalities among them.

The IFIEC-Method: Industrial Project of the ETS

The IFIEC-method was based on an ex-ante product benchmark allocation. Such a benchmark would be determined by the lowest achievable emissions from the best technology in a given sector (e.g. electricity). Free EUAs would be allocated to all companies in a given sector up to the emission level of the best available technology. In other words, all companies with more emitting technologies, or using more emitting fuels would have to purchase EUAs on the market above the level determined by the best available technology. The benchmark level would be established before the trading period.

However, EUAs allocation would take place after a given production period which would be determined in the new ETS Directive. In practice this would mean that companies would auction EUAs for emissions exceeding the emissions for the best

available technology in a given sector but would be able to do it after their production performance was known for a given period of time (the GEG, The ETS Dictionary 2008, p. 3). This way the cost of participation in emission auctions would be much lower, simply because companies would be buying less EUAs. Also windfall profits would be eliminated, because EUAs would be allocated only for emissions resulting from the actual production.

The IFIEC represents energy intensive industrial consumers – companies for whom energy is a major component of operating costs and directly affects their competitiveness. The IFIEC represents industries in fifteen EU countries: Austria, Belgium, Czech Republic, Denmark, France, Finland, Germany, Hungary, Italy, Netherlands, Poland, Portugal, Spain, Switzerland and United Kingdom³⁹. In 2006 the IFIEC expressed its concern about windfall profits that went into the pockets of power producers and burdened industries with higher costs of electricity consumption. A press release issued in September 2006 stated that severe problems with the EU ETS “were endemic in the design” and they presented “a serious threat to the competitiveness of EU energy intensive industry”⁴⁰.

As early as in 2006, the IFIEC criticized allocation of emission allowances based on historic emissions and urged to consider ex-post adjustments of the allowances’ allocations “as business is constantly adjusting against forecast and external factors affect the ability to trade as predicted”⁴¹. While in 2006 the European Commission perceived an emission cap based on historic emissions as a device for boosting green investments in a predictable way, the industries criticized it as an example of an administrative relict, which prevented them from operating on global markets in an efficient way.

On the next day after the European Commission’s presentation of a proposal of the amendments to the EU ETS Directive (2003/87/EC) on 28 January 2008, the IFIEC published its initial response “Challenging climate change targets require cost-efficient solutions”⁴². In the first few paragraphs of the note the IFIEC

³⁹ IFIEC Press Release 29 September 2006.

⁴⁰ IFIEC Press Release, 28 September 2006.

⁴¹ IFIEC Press Release, 28 September 2006.

⁴² IFIEC Press Release 29 January 2008.

acknowledged the need to introduce strong emission targets and underlined the crucial role played by industries in this process. However, the IFIEC's President, Hans Grünfeld, expressed his concern about cost-efficiency of the proposed measures:

Climate change abatement at the pace and with the targets set by the EU can only succeed if cost-efficiency and avoidance of competition distortions to the EU economy are at the heart of the proposed measures. President Barroso explicitly promised to protect Europe's energy intensive industries, but the methods proposed don't remove the doubts about their effectiveness.⁴³

His concerns were regarding the cost of partial auctions for industries and the uncertainty caused by an arbitrary assessment of industries' exposure to global competition by the Commission in advance of the launch of the new EU ETS. The IFIEC's argument was that in globalized and volatile economic markets it was difficult to assess, through an administrative process, which industries would be able to include the cost of auctioning in their product prices. Blaming the method proposed by the European Commission for causing uncertainty in the EU ETS, the IFIEC claimed that "with this degree of uncertainty, the investment climate for energy intensive industries over the next years will certainly suffer"⁴⁴.

The IFIEC also criticized the Commission's proposal for introducing full auctions for the power sector:

Furthermore, the EU ETS allocation rules in the 1st and 2nd trading periods caused and still cause, immense revenues for electricity producers, making electricity unjustifiably expensive for consumers. The EU Commission believes the only way to avoid the present flaws is to move to full auctioning of the power sector. This only further damages IFIEC's member companies, which have to pay the resulting high electricity prices.⁴⁵

⁴³ IFIEC Press Release 29 January 2008.

⁴⁴ IFIEC Press Release 29 January 2008.

⁴⁵ IFIEC Press Release 29 January 2008.

The IFIEC pointed out that ‘windfall profits’ – the phenomena, which prompted the Commission to propose a new allocation method – would not be out ruled (29 January 2008). Hans Grünfeld stated that “enhancement of market concentration in the power market won’t be solved. It will continue to work – supported by the EU ETS rules - primarily to the benefit of the large players, and most of all those with nuclear power capacities”⁴⁶. This point was congruent with arguments made by Polish actors. Jankowski (2008) warned against windfall profits coming to the pockets of nuclear power plants as well. Żmijewski, on the other hand, emphasized that the biggest power players would dominate the European carbon market and thus also the European electricity market.

Having pointed out its main arguments, the IFIEC came up with an alternative proposal of free allocation of allowances based on benchmarks related to actual production⁴⁷. On 17 April 2008, the IFIEC issued another press release. It was titled: “ECOFYS report supports economic and climate policy merits of an IFIEC alternative to auctioning”. In opening paragraph IFIEC states that after a thorough investigation of the alternative proposed by IFIEC, ECOFYS, a research and consultancy company with broad experience and a clear mission to promote sustainable energy supply has concluded: ‘Applying the IFIEC-method in the electricity sector can save €billions for all EU consumers, while setting equal incentives for low carbon technologies and thus ensures the achievement of the CO2 reduction target’⁴⁸. The IFIEC-method would build on an allocation of free allowances based on a benchmark. Windfall profits by power producers would be avoided by linking the allocation to actual, not historical production. With this small change, windfall profits would be set to zero. Adjusting the benchmark in later years would mean the overall CO2-cap was ensured⁴⁹.

⁴⁶ IFIEC Press Release 29 January 2008.

⁴⁷ IFIEC Press Release 29 January 2008.

⁴⁸ IFIEC Press Release 17 April 2008.

⁴⁹ The IFIEC method was an allocation methodology based on benchmarks. Benchmark would be a yardstick for emissions for installations in the power sector as well as in the industries based on the best available technology in Europe. In practice it would mean that data about technologies used in given sectors would have to be collected in order to decide which among them is most efficient in terms of CO2 emissions (most output with least CO2 emissions). The most efficient technology would serve as a benchmark in a given sector. Companies which have the most efficient technology could even receive all CO2 emission permits for free (but this was a matter of negotiations). All other companies would have to buy additional permits calculated as a difference that keeps them apart from the technological champion. The system would be organized sector-wise, so one benchmark for cement, lime, glass, steel industries. Another rule proposed by IFIEC said that there would be an

The IFIEC stressed the efficiency of its method in eliminating windfall profits not only by the fossil fuel electricity producers but also by the nuclear energy companies:

While auctioning of carbon only affects fossil fuel generators, the ECOFYS report shows that the IFIEC-method can go further, as it also removes €20bn to €30bn a year of extra profits by nuclear power generators. IFIEC Europe believes that removing such extra profits would be to the benefit of a more competitive power market and would discourage further market consolidation by large incumbents.⁵⁰

During the launch of the ECOFYS study that day in Brussels, Hans Grünfeld, the President of the IFIEC in Europe, stressed that with these economic merits and reduction incentives, by using the IFIEC-method the EU ETS could avoid the real threat of competitiveness disadvantage for EU industry and resulting carbon leakage. The EU industry would be able to remain the global low-carbon leader, whilst further contributing to the EU's climate policy.⁵¹

The Commission's proposal was inefficient in the eyes of the IFIEC experts because it did not tie the supply of the EUAs (their allocation) to the actual production performance of the European companies. According to the Commission's proposal, irrespective of economic ups and downs, the supply of EUAs would be fixed for 2013-2020 by the Commission in 2008. As a result, the IFIEC suggested the Commission to connect the ETS with the actual yearly economic performance of emitting companies. To treat industrial companies equally meant for the IFIEC to account for huge differences between them and their exposure to rapidly changing conditions on global markets. Thus the IFIEC implied that fair competition and equal treatment couldn't be guaranteed without

ex-post adjustment of allocated EUAs to the actual production of a year $n-1$. This adjustment would be made for and granted in year $n+1$ (see EcoFys Report 2008). The major difference between the IFIEC method and the method of the European Commission concerned the rules of determining the supply of EUAs on the carbon market. While the European Commission proposed to determine the emission cap on historical emissions for the whole period between 2013 and 2020, IFIEC suggested adjusting the benchmark-related amount of EUAs on the market every year based on the actual production of a given company.

⁵⁰ IFIEC Press Release 17 April 2008.

⁵¹ IFIEC Press Release 17 April 2008.

giving more power and control over the allocation of emission allowances to industrial players themselves.

IFIEC Method vs. Full Auctions: Justifying Through Boundary Making

The European carbon market organized according to the IFIEC-method was thus a different project than the one proposed by the European Commission. The IFIEC-method tried to tie the ETS more to the global economy and to give more control over the supply of EUAs to companies. The allocation of the EUAs would be linked to actual production and the European Commission would have to rely on data about companies' performance provided by the companies themselves. This would mean for the European Commission not only a great yearly effort of analyzing data coming from industries but also a greater dependence on these companies for information about production.

While the Commission proposed to establish the cap, and the factor by which it would gradually be tightened, few years in advance for the third trading period 2013-2020; the IFIEC proposed to introduce a mechanism that would enable the Commission to adjust the cap according to the actual performance of companies. The IFIEC press release from 29 January 2008 clearly stated that "only a mechanism that would allow for adjusting emission allocation according to the actual performance of industries was regarded by the IFIEC as a true market tool"⁵².

The EU ETS as proposed by the European Commission in January 2008 did not qualify for the IFIEC as a true market. To support this judgment one of my interviewees from the IFIEC said, quoting Mark Lewis, the Director of Global Carbon Research at Deutsche Bank: "the EU ETS is the only big commodity market without supply response if you have it fully fixed ex-ante" (Interview, Brussels, May 2009). Decoupling the EU ETS from the actual demand of electricity in Europe was regarded by the IFIEC experts I interviewed as the major flaw of the system, which would not make it capable of responding to

⁵² IFIEC Press Release 28 September 2006.

potential fluctuations in Europe's economic growth. The IFIEC expert argued that:

Between now – 2009 – and 2020 it is quite likely that we will have at least one if not two other economic downturns, hopefully not as severe as now but we will have it. What could happen then is that we could get again an EUAs' price collapse. If the price in long term would be round fifteen, twenty or twenty-five Euro that would be such a low price that the effect of the ETS would not be big. So the environmental effect of the ETS would be low as well. (Interview, Brussels, June 2009)

The IFIEC-method, he explained to me, was an attempt to relate the supply of EUAs to the actual economic performance of the industrial and power producers – to the 'real economy'. However, he claimed the Commission officials would not listen to this argument. They did not follow his reasoning, he said. He referred to his meeting with one of the high level officials in DG Environment:

I said well Ivone, "listen, what you are doing is you try to freeze all the price signals for a decade. This is the same situation if Mr. Jos Delbeke was a bit of my age. Let's say he will retire maybe in a few years time. Now as a Director General he has a very high salary, maybe he doesn't pay taxes now, I don't know. But suppose he retires and he gets lower money, he is Belgian and he has to pay taxes and I tell you that he has to pay taxes till 2020 on his high income of 2006 and 2007." And then she says "that's completely something else. That's a European tax not free allocation." And then I say, "you know Ivone that's the same". "Anyway", she says, "we will do you a favor, we don't choose 2009 but we choose 2005-2007 so that will be quite ok". "That's no argument", I said, "if you do that then certain sectors may have too much for many many years. Take steel, if you base their emission rights on their emissions in 2009 then it is quite certain, since steel went down 40% or even more this year, that it would be killing for them. So you never do it

right unless you have it tied to the actual production, of course.”
(Interview, Brussels, May 2009)

Żmijewski also commented on the Commission’s reaction to the IFIEC’s proposal:

Obviously nobody really minds the costs and burdens which the European economy is going to face, and in particular its poorer participants. It is much more important to switch from coal to gas and create a new financial market worth 60 billion Euros a year. The more artificial this market is the better for the London City as nobody will be able to point out that the price of emission allowances is unjustifiably high – after all it is a “market price”. With the same argument, the European Commission rejects the “flexibility mechanism” (by the way, proposed by France) that would allow us to move reductions from the non-ETU to the ETS sectors. (...) There is only one argument against it: the price of EUAs would be “too low”. Another unarticulated flaw of the Polish proposal is that it would embed the EU ETS in the real economy, thus making it more difficult to engage in speculative actions.⁵³

Both Schyns from the IFIEC and Żmijewski from the Green Effort Group rhetorically constructed a sharp distinction between an ‘artificial carbon market’ and ‘the real global economy’. While the former is built up in an administrative process steered by the European Commission, the latter is a living organism – a natural space where actors ‘do real economy’. Żmijewski argued that there was a lot of ‘administrative engineering’ implied in the proposal of the Commission that would contaminate the market with politics. At the same time, the Commission resorted to the same rhetoric strategies. By calling the space for carbon trade – ‘a market’ – and the value of carbon – ‘a market price’ – the European Commission legitimized its own proposal as being a market.

⁵³ Krzysztof Żmijewski, Blog, 15-11-2008, 23:40, www.wnp.pl.

In another place on his blog, while arguing for building a real European electricity market, Żmijewski⁵⁴ proposed his own definition of what a 'real market' is:

Market – it is the only mechanism, which is capable of holding prices at the lowest possible level. A true market is a market on which competition, and not a regulator, cuts costs wherever it is possible and even where it seems impossible. Competition is not sensitive to 'unions' demands', 'social expectations' or 'salary demands', it boils everything down to a rational, that is accepted by the market (that is by the consumers), level. Such a market is not politically sensitive, there are no pressures, there is no corruption on such a market because a market is afraid of pressures and it is incorruptible – unless someone is able to corrupt 15 million consumers. (Żmijewski 2008)

In this paragraph Żmijewski constructed market as a 'quasi-natural sphere' (Callon 2009) – a sphere 'out there' governed by immanent laws of competition and a play between supply and demand. This sphere is outside of social pressures – beyond 'the politics'. Only such a market outside of politics and political influences is a 'true market'. This way Żmijewski also constructed a boundary between two realms, between economics and politics, between markets and bureaucracies, between 'the economy' and 'the society'.

The European Commission also justified its proposal by referring to the distinction between 'politics' and 'economics'. An official from the DG Environment, whom I interviewed in Summer 2009, explained the position of the European Commission on the IFIEC-method:

In our view an allocation based on production is a subsidy of emissions, it reduces the impact, the incentive coming from the price signal enormously. So that's what we were very much against. Also you don't know in advance how much allocations you will actually hand out, so then you also don't know how much

⁵⁴ Krzysztof Żmijewski, Blog 12-11-2007 09:31, www.wnp.pl.

you will auction or, even worse, it may trigger uncertainty on the cap on emissions. Therefore we have been very much against the ex-post allocation - any kind of allocation based on real production in the industry or in the electricity sector. That's really rubbish what they were saying. We are very much against it. (Interview, Brussels, June 2009)

For the Commission the IFIEC-method was flawed in two ways. First, it distorted competition by proposing subsidies to some companies. Second, it was counterproductive as it did not allow the European economy to achieve its environmental goals and become a low carbon economy:

Also the full price of carbon allowance would not be included in the cost, because you would still get allocation for free back, so then also in terms of consumption, nothing would change much. Whereas when you have an ex ante allocation, you have the certainty of the cap, you have the full cost of the carbon price signal, that would be a much more efficient system, which would also lead to a change in product prices to the extent possible and then reduce consumption of energy intensive products. And that would help us to achieve the cap at a much lower cost throughout the year. Benchmark does not give a clear incentive to upgrade technology. That's not true what they were saying. Of course the incentive for updating technology comes from the carbon price and not from the way to allocate. So under the ETS we have now the full carbon price which gives incentives to reduce emissions and apply the most efficient technology. In the system proposed by the IFIEC, it is only the difference between the benchmark and the carbon price, which gives that signal, which is much less. (Interview, June 2009, Brussels.)

In the above paragraph, the European Commission official explained to me the rationale behind his thinking. Full auctions were supposed to pass the whole cost of emitting carbon dioxide to companies' products. This way, carbon intensive

products would become very costly because their price would also include the price of emission allowances (EUAs). And this in turn would deter consumers from buying those goods. EUAs' price and the cost of EUAs' purchase by companies was therefore perceived as a 'prosthetic device' (Caliskan 2007) for furthering other goals - the governmental goal of climate policy to deter companies from producing carbon-intensive and energy-intensive goods. The IFIEC-method tried to lower the cost of emitting carbon dioxide; thus it would weaken the potential of the EUAs' price to become an efficient 'prosthetic device' facilitating transition to low carbon economy.

Justifications coming from the IFIEC and Polish experts, as well as from DG Environment officials, were based on an image of two separated spheres of politics and economics, markets and bureaucracies. But the boundary between them was actively constructed by both sides of this debate. While the expert from the IFIEC argued that fixing the supply side (the emission cap) in a political and administrative way was an example of a political and administrative interference distorting market efficiency; the official from the DG Environment argued that free allocation of EUAs, even if carried out according to technological benchmarks and adjusted ex post according to the actual production, were administrative subsidies distorting efficiency of the market and the carbon price signal.

Where is the boundary between politics and economy? It seems to be shifting together with actors' justifications, which employed not only different understandings of these spheres but also different interests and visions of relations between European actors. For the Commission, politics would start contaminating the carbon market when EUAs' allocations processes would be dependent on industrial interests. For the IFIEC, politics would start to contaminate the carbon market when EUAs' allocations would be fixed ex ante by an administrative and political body located outside of the economic market - by the European Commission. The President of the IFIEC interpreted the DG Environment's position in the following manner:

I think it is typical for public services to be afraid of that, because they are afraid of losing control. I think that's the real reason for objecting against this proposal [IFIEC method, A.L.] because from an intellectual point of view, from an economic point of view, it is clearly the most efficient one – there is no better solution than this one. I think it has a lot to do with the need to have control over things. I mean for civil servants, for the politicians, it is very important that they have an idea that they 'have things under control'. And they cannot control markets. And it is very easy for them to say, well you know, over the last couple of years, based on those years, now you get these emission allowances. That's it. If you are talking about actual numbers, it's probably a little more complex, it's more dynamic, it's less easy to control and it involves uncertainty and risk and that's exactly what civil servants despise. Uncertainty and risk these are the main things, their main problems. From a company's point of view, you are dealing, you are used to dealing with uncertainty. This is basically what business is about and the government is the exact opposite. Civil servants try to avoid uncertainty and risk as much as possible. I think what they are fearing, they are deadly afraid of introducing risk and that's the reason why they were so strongly opposed to the concepts of the IFIEC-method. (Interview, June 2009, Brussels)

A representative of the DG Environment commented on the IFIEC's position with a brief conclusion: "I see that from their point of view it helps them to avoid adapting to climate change, because you have much less of a carbon price signal, so it reduces very much incentives to reduce emissions" (Interview, Brussels, June 2009). These quotes show that organization of the European carbon market was also a struggle over power, not only understood as exercising direct influence by one actor over the other, but rather a struggle over power which rests on a capacity 're-configure' (Latour and Lépinay 2010) or 'translate' (Callon and Law 1982) reality according to actors' projects. To re-configure or to translate means to re-order the reality, problematize it, ascribe new identities and roles to objects, re-define relations between objects in a network and assure their loyalty (Callon

1986, Callon and Law 1982). The stake of the struggle between the IFIEC and the European Commission was the change of relations between companies and the European and national administration bodies.

The struggle between the DG Environment and the IFIEC was thus a struggle between two projects, which problematized the European carbon market and its efficiency in different ways. This debate, whether to fix the supply of EUAs *ex ante* or adjust it *ex post*, ended with the European Commission winning it. My interviewee from the IFIEC concluded this result with the following words: “we fix it *ex ante* and that’s it, said the Commission. We say that the Commission fixes it for 2 world wars. We don’t know what might happen during this period, what changes might happen, so this is a period of two world wars” (Project interview, Brussels, May 2009).

Both the European Commission and the IFIEC strived to make their own proposal legitimate by doing the purification work (Latour 1987). They argued that their own proposal was ‘economically more pure’, efficient and rational than the proposal of its opponent, which was ‘contaminated with politics’ (on purity Douglas 1991) and thus economically inefficient and irrational. Despite the fact that they participated in a strategic and highly politicized process of designing a carbon market, the Commission and the IFIEC referred to markets as to some kind of ‘quasi-natural spheres’ (Callon 2009) which could be more or less pure, true and undistorted. Actors essentialized markets in the way economic sociologists argue against (Callon 2009, Callon et al. 2002) and claimed that when markets are not contaminated with politics they work better, and above all, they produce an ‘undistorted price signal’ – the most efficient tool for regulating actors’ actions on other markets.

Polish Coal vs. Russian Gas: the IFIEC-Method Revised

Although the Polish government, power sector and industries in general accepted the IFIEC-method, the method did not exactly match the Polish project of low electricity prices. According to my interviewee from the Ministry of Economy, it was not exactly good for Poland because, the IFIEC-method defined allocation of

free allowances based on a general benchmark for the electricity sector. The amount of free allowances would be set according to the least emitting technology in the power sector – and this meant technologies using natural gas.

This was not welcome by the Polish actors because there was almost half less carbon dioxide emissions when 1MWh of electricity was produced from natural gas (1135 lb/MWh) compared to 1MWh produced from coal (2249 lbs/MWh). High efficiency natural gas-fired power stations can produce up to 70% lower greenhouse gas emissions than existing brown coal-fired generators. This meant that the general benchmark for the power sector would be in fact based on the emissions levels from gas installations. The Polish actors understood it as favoring gas over coal and they didn't like it because coal was 'domestic' and natural gas was 'Russian'. Therefore, the Polish government, together with Serafin and Jankowski, modified the original IFIEC-method and proposed in Brussels a fuel-specific benchmark for power sector companies (Phone interview, July 2009). Schyns from IFIEC commented on this innovation this way:

We had a long debate about it. Germans are also more or less on the fuel-specific side. But the Ecofys report carefully says that if you want to go to the low carbon technology then you must not have a fuel-specific benchmark because then you simply go on building coal-fired power plants. (Interview, Brussels, June 2009)

Schyns was aware that for the Polish government, power companies and for the Polish industries, a general benchmark was not the best option. At the same time, the fact the EcoFys recommended a general and not a fuel-specific benchmark was of significant importance for him. It meant that the fuel-specific benchmark, in terms of its environmental efficiency, was weaker than the proposal endorsed by the EcoFys. Schyns from the IFIEC recommended to Poles another idea – to go for the regionally differentiated benchmarks. He proposed to distinguish three or five areas. One area would be Eastern Europe with a large dominance of coal in the power production and a higher level of benchmark, then Germany, Benelux with another benchmark, and e.g. the UK another benchmark (Interview, Brussels, June 2009).

This way, Schyns, the IFIEC expert, retuned to the strategy adopted by Poland at the beginning of the debate on the EU ETS. He recommended a spatial division of the EU ETS, a division into auctioning rings, which would be based on the domination of a specific fuel in energy generation. Although Schyns was convinced that his Polish colleagues rejected the region-specific benchmark, this method was in fact included in the Poland's negotiation position and was also advocated by the GEG during its lobbying activities in Brussels, Strasbourg and other European cities.

Right after the proposal „to supplement the EU Emission Trading Scheme based on full auctions with a *fuel specific benchmark* for the electricity producers”, the GEG argued for “introducing *auction rings*” (GEG Report 2008). At the end of a long list of the GEG's proposals there was an idea “to gradually introduce full auctioning of CO₂ emissions in the power sector (as in the industrial sectors)” (GEG Report 2008). In the course of building up a lobbying network and a negotiation coalition, the Polish government and the business lobbyists decided not to drop any of the solutions. However, they promoted the idea of fuel-specific benchmarks the most (GEG Report 2008).

Poles had two justifications for preferring a fuel-specific benchmark. While Poland had poor geographic conditions for developing hydropower – *We have no Alps!* – exclaimed Żmijewski at the Hearing in the House of Lords in October 2008. *Poland is abundant with coal* – argued Buzek at the same meeting:

Q412 Lord Palmer: Is all the coal that you burn home produced?

Professor Buzek: Yes, 100%. We are also selling some coal. It depends on the year and on the activity of our coal mining industry 10%/5% and it was always the same a few years ago, 20 years ago and 30 years ago (...) From the point of view of production, about 100 million tonnes per year, 95 million-99 million tonnes per year. We had a big amount of lignite, first of all, and we did not use it until now at all, so we are waiting for the start, if it will be possible. For hard coal we also have a big amount today, for 30 or 40 years at least, and if we start to explore quite new parts of our country, it

could be even for 100 or 120 years. Underground gasification could bring it even for 300 years, because its depth is about 1,200-1,500 meters below the sea level. Then, if we develop underground gasification, it would be for 300 years, because there is an enormous amount of coal on this level. (House of Lords, October 2008, *original text*)

While coal is a domestic fuel, other fuels, except for wind power, solar and biomass, are not. Buzek concluded this part of discussion quite sharply: „Our political independence means nuclear, coal and the renewables” (House of the Lords, October 2008, *original text*). Why would only these three types of fuels be politically acceptable in Poland? Why was the natural gas excluded from this list? The answer to this question was given many times by Polish actors during the hearing in the House of Lords, at the meetings with the representatives of the Commission as well as in press.

Even earlier, *Die Zeit* article from July 2008 pointed out that there is a fear shared by Poland and other Eastern European states that “switching from coal to gas” would push them into new (old) political dependencies. The Russian energy giant Gazprom could increase its influence in the region. An official from the Czech Republic quoted by *Die Zeit* stated: „Of course, we could replace coal with a less polluting fuel such as Russian natural gas, but the question is whether we want to reduce emission by becoming more dependent from Russia?” (*Die Zeit* 10 July 2008). Żmijewski in his correspondence with the Commission official, Matthias Reute, referred to this issue as well:

I understand that the main goal of the 3x20 program is to guarantee emission reductions by 20 percent till 2020 (...) and not to „switch to less emitting fossil fuels” (in other words natural gas), which you have stated in your letter. According to the declaration of Member States, the latter can be treated only as an emission reduction tool – a tool among many other tools, such as energy efficiency, development of renewable resources, carbon capture and storage and nuclear energy. I am deeply concerned

that treating the goal of „switching from coal to gas” as the main one pushes Poland and other countries – for example Baltic states – straight into the claws of Gazprom.⁵⁵

A fuel-specific benchmark would therefore allow for treatment of coal and gas separately also because of their distinct ‘geo-political value’. Their meaning for energy security and political autonomy of whole regions was completely different. The Greenpeace report (2008) on the dirtiest fossil fuel – coal – did not account for these political factors. For representatives of the Eastern European states it was not enough to burn 1kg of coal and 1kg of natural gas and measure how much carbon dioxide each of them emits. This would be simple – for the Polish actors too simple. In Poland, establishing equivalence between coal and natural gas involved considerations about economic and political independence from the Eastern neighbor. The issue of security of energy supplies was not a trivial one and Poland together with six other new EU Member States – all former Communist countries – asked for “the security of energy supplies to be included in the bloc's planned climate strategy”⁵⁶. This time ‘political fossil fuels’ would become the base for new divisions in the EU.

These modifications suggest that the IFIEC gained only a partially devoted spokesperson in the Polish network. However, as Schyns pointed out during the interview, Germans were also favoring the fuel-specific benchmark; again, the Polish state went again hand in hand with the Germans. This time, they allied with German industries. While the IFIEC and the German VIK provided the Polish state with expertise, the Polish state acted as a mediator between Germans and other countries in the region making an international expansion of the IFIEC-method possible:

We were working together with the German Federation of Energy Intensive Industries (the VIK). We were working with them very closely to the extent that we were endorsing their activities in the region, we were not supporting them financially, but we were

⁵⁵ Krzysztof Źmijewski, Blog, December 9, 2008 www.wnp.pl.

⁵⁶ AFP “EU newcomers want energy security included in bloc's climate deal” 05.11.2008.

supporting them logistically in the region so that they could lobby for their solutions in several Member States in the region and outside of it. We played a role of a country, which enabled them to be active in Central Europe. Germans were not surprised by this. They also knew what the Commission's proposal would bring them in the future. They would have to say goodbye to their economic activity in the European Union. They would have to move to Ukraine or Russia to look for a "seasonal job". So they were serious partners for us. They were intellectually mature. In Poland the energy intensive industries know the new ETS is not good for them but they are not able to work out an alternative proposal. I think our cooperation with the Western European federations was most fruitful. (Interview, Warsaw, January 2009)

The proposal of ex ante benchmarks made headlines in November. The Agence Europe wrote "EU/CLIMATE: Poland wants benchmarking rather than energy auctions in revised EU carbon trading" (8.11.2008). In a response to Poland's pressure the Commission proposed that "power stations in Eastern Europe could receive millions of Euros of free carbon emission allowances to overcome opposition to a European Union climate pact"⁵⁷. According to Polish information portal the Virtual New Industry (WNP), Poland rejected the Commission's proposal.⁵⁸

On the next day Europolitics announced that "power stations operating on solid fuels in countries where they provide over 60% of electricity could benefit from a temporary exemption until 2016, according to a source privy to current negotiations on the energy and climate change package."⁵⁹ On the same day EU Observer wrote that "Poland has given the cold shoulder to concessions offered by the French EU presidency on how the union's power sector should reduce CO2 emissions"⁶⁰.

⁵⁷ *Financial Times*, "Poland offered a break on carbon emissions" 18.11.2008.

⁵⁸ WNP 19.11.2008 www.wnp.pl.

⁵⁹ *Europolitics* "CLIMATE CHANGE: France offers Poland ETS Exemption" 20.11.2008.

⁶⁰ *EU Observer*, "Poland rejects French CO2 compromise as summit looms" 20.11.2008.

This bargaining between Poland, the Commission, the French Presidency and other Member States lasted till the December Summit of the Heads of State in Brussels. The final decision was to be made there. Before, we reach that point, let us also take a closer look at how the European environmental movement reacted to the Polish proposals. This will also show what kind of carbon market project has been negotiated by the European environmental NGOs.

The Competition State vs. the Re-Distribution State

Poland's objections against full auctions for the power sector companies were condemned by the European environmental movement. The biggest environmental NGOs based in Brussels, like WWF, Greenpeace, Oxfam and Friends of the Earth⁶¹, as well as the environmental umbrella organizations like the Climate Action Network-Europe of the European Environmental Bureau, were against any free allocation of emission allowances to power sector companies. The CAN-Europe's officials were proud to tell me during an interview that their biggest moral success in the last two years was to convince the public that windfall profits for power producers were geared by free allocation of emission allowances and that they were immoral. By talking to MEPs, through various public campaigns and appearances, they colored free allocation of allowances to the power sector as unacceptable. Therefore, they welcomed and endorsed the Commission's proposal of full auctions proposed for the power sector.

When the Polish government started to ask for free allowances for power plants, the European environmental NGOs condemned this idea. They perceived the strategy of the Polish government as being manipulated by the power producers, not only by the Polish companies, but also by the biggest power companies like RWE, Vattenfall or E.ON. They argued that it was not in the interest of the Polish government to ask for free allowances for power companies. By asking for free allowances, the Polish government was depriving itself of revenues from full auctions, which could fund the national budget. Instead, the Polish government protected companies' from having to spend more money on climate protection.

⁶¹ Friends of the Earth are the biggest critics of emission trade as a policy tool for emission reductions among European environmental NGOs. However, when it comes to details of organizing emission trade in the EU, FoE were also against full auctions for the power sector.

This way, the NGOs argued, the Polish government decided to subsidize companies operating in Poland and the biggest European utility companies interested in gaining share in the Polish electricity market. This was the main argument of the European NGOs against Poland's proposals of free allowances and of benchmark-based allowances. During an interview, a representative of the Greenpeace European Unit commented on the implication of two options – full auctions and free allocation:

The only thing you can decide about here is who pays for this [emission reductions], will the government receive auction revenues or will companies receive these auction revenues. And now the Polish government has decided that the Polish companies would receive these auction revenues and it is not easy to grasp why. I would think that the Polish government wants to have some more money in its budget to spend on compensating consumers or, for example, on providing companies with energy efficiency measures. (Interview, Brussels, March 2009)

My interviewee found it illogical and incomprehensible that any government would be willing to give up on more budget revenues and would decide to lobby for more revenues for companies. My interviewee, as well as other representatives of the European environmental movement, imagined that the interest of each government was to have a big budget and to be able to redistribute the budget money to various groups and to various policies. In the eyes of the environmental NGOs, the Polish government was acting against its own interest and against the interest of Polish citizens. My interviewee from the Greenpeace office in Brussels pointed out that as the Polish electricity market would become privatized in the coming years, ultimately, revenues kept by the companies would flee to the pockets of the biggest power companies, like Vattenfall, RWE or E.ON. He openly said that “companies like RWE and E.ON are getting power sector derogation in Poland and other Central and Eastern European countries” (Interview, Brussels, March 2009).

These arguments were repeated in common reports published by European environmental NGOs. The report *Free pollution permits for the Polish power sector? How Polish households are filling the pockets of European energy giants* (2008) was published together by CAN-Europe, FoE-Europe, WWF and Greenpeace. In the report, the NGOs accused the Polish government of seeking to undermine the European climate and energy package. They questioned the validity of the Polish government's claims that the package would increase energy costs in Poland and harm Polish economy and that full auctions would be the main cause for the rise of electricity prices. In the introduction to the report they pointed out:

This briefing, based on independent economic analysis, explains how the proposal by the Polish government to continue the free allocation of pollution permits to the electricity sector will not reduce power prices and overall energy costs for Polish families and businesses. The briefing shows how free allocation could mean transferring significant amounts of money out of Poland to shareholders of utility companies, such as RWE, Vattenfall and E.ON. This will happen at the expense of labour tax relief, energy efficiency programmes or other measures that can help Polish families and businesses to reduce their energy costs. (CAN-Europe ... 2008, p. 1)

Further, they referred to the argument that free allocation would result in windfall profits for utility companies across the EU. They also touched upon issues sensitive for the Polish public and the government, and namely on the issue of power sector privatization. The report argued:

The Polish electricity sector is the largest in Central and Eastern Europe. The Polish coal and associated power-generation industry are in the process of major restructuring, because of market liberalisation and the prospect of old plants being retired. It's not a surprise that European utility giants, such as RWE, Vattenfall and E.On, as well as suppliers of power plant equipment, see the current Polish market situation as an opportunity for growth. (..) the major European utility

companies have ambitions to increase their activities in the Polish power sector by both investing in new generation capacity and through merger and acquisition activities. (CAN-Europe ... 2008, p. 2)

Further, they pointed out that the Polish utility companies were lacking capital for these substantial investments that were necessary to keep the Polish power sector on track (p. 2-3). Until the end of the second trading phase on the ETS (2008-2012), according to the report of the German Ökoinsitut, German utility companies would continue to profit from the EU ETS. These profits would amount to about 35 billion euros in the second phase of the ETS (2008-2012) due to the distribution of free pollution permits. In Germany, E.ON would earn about 11 billion euros in windfall profits, RWE 9 billion and Vattenfall 6.6 billion. According to the report, with European utility giants acquiring a larger market share in the Polish power sector, the windfall profits could end up in the pockets of the shareholders of RWE, Vattenfall and E.ON (CAN-Europe ... 2008, p. 3).

The report also tried to debunk Polish government's calculations of 100 to 300 percent increase of power prices in Poland due to the auctioning of pollution permits for the power sector. Referring to the report by the New Carbon Finance, they argued that further liberalisation of the market would make electricity trading more competitive by 2013. This would allow wholesale electricity prices to fully reflect short-run marginal costs which implicitly also include the value of carbon allowances. For this reason a change from free allocation of allowances to auctions should have little impact on wholesale electricity prices in countries like Poland. They argued that with free allocation, electricity prices would actually increase. Instead of fighting for free allowances for the power sector, the European NGOs recommended investments in efficiency and clean generation capacity (CAN-Europe ... 2008, p. 3)

According to their calculation, the proposal of full auctions would generate approximately 2-9 billion euros in revenues for the Polish budget. The revenues could be spent on concrete measures to increase purchasing power, to lower fuel costs and decrease dependency on fossil fuels. They recommended labor tax reduction to decrease labor costs, spur employment and make the economy less

energy-intensive. They also recommended efficiency programmes. According to a study by the DLR Institute of Technical Thermodynamics, Poland would be able to gradually reduce energy consumption. By the middle of the century, primary energy demand would be 37% lower than in a business-as-usual scenario. The report has also pointed to investments in clean energy generation capacity. According to DLR, Poland would be able to cover 26% of electricity demand with renewable energy by 2020 and as much as 80% of demand by 2050. Half of the electricity demand could be supplied by wind power plants. (CAN-Europe ... 2008, p. 3)

Also the report for WWF by New Carbon Finance “The impact of auctioning on European wholesale electricity prices post-2012” (2008) argued that full auctions would result in the same increase in electricity prices as free allocation:

Table 3: Polish price projections

Price scenario	Projected electricity prices €/MWh	Indexed (100)
2008	57	63
2013 no EU ETS	37	42
2013 + EU ETS, existing regulatory structure, free allocation	71	78
2013 + EU ETS, expected regulatory structure, free allocation. (base case)	91	100
2013 + EU ETS, expected regulatory structure, full auctioning	91	100

Source: New Carbon Finance “The impact of auctioning on European wholesale electricity prices post-2012” (2008)

However, these calculations have been questioned by Jankowski from EnergSys. In September 2008, Jankowski produced an expertise for UKIE where he analyzed the phenomenon of windfall profits on the Polish electricity market. In the conclusions he pointed out that there has not been any correlation between electricity prices and prices of emission allowances between 2004 and 2007. Also in the first half of 2008, windfall profits did not occur or were insignificant for the average price of electricity in the wholesale. However, due to liberalization of the electricity market, according to Jankowski, windfall profits might occur in the trading period 2008-2012. Among the solutions to this problem, Jankowski pointed to the proposal of ex-post allocation of emission allowances, which have

been proposed by the IFIEC. He argued that windfall profits appear always when non-production gives an opportunity to sell emission allowances. If allocation of emission allowances is tied to the actual production in a given period of time, there is no opportunity for selling emission allowances, and thus also no windfall profits (Interview, Warsaw, May 2009). And this method – the ex-post allocation – has been lobbied for by the Polish government. Jankowski (2008) also criticized that for the Commission it was more important to promise additional income for State budgets than to lower the cost of emission trade for companies (p.21).

Therefore, while green NGOs pictured an opposition between keeping revenues in the State budgets or keeping them in companies' pockets, Polish experts and the Polish government as well, argued that this opposition was wrong. The IFIEC-method, which they supported, would indeed reduce revenues for states budgets, but it would not increase revenues for the power sector companies. It would only make the cost of emission trade lower. Żmijewski (2008) pointed to the 'real' reasons why the Commission was against the IFIEC-method: it did "not generate super high prices (sic) needed to produce new, economically not viable technologies" and it did "not generate high income, which could be spent by the Commission and States outside of the EU." This way he accused the Commission of showing "an impatient drive for developing new technologies and carrying out big civilizing programs." He pointed out that these motivations would "not necessarily be endorsed by EU citizens, especially those working their way up" (Żmijewski 2008).

Therefore, Polish experts countered some of the arguments put forward by the environmental NGOs. In particular, they claimed that the IFIEC-method they stood for, would not generate windfall profits neither to Polish nor to foreign power companies. However, despite invalidating this point of the European green movement's critic, as a matter of fact, the Polish government and the Polish experts did not endorse the idea of additional revenues from full auctions funding the State budget. And this is an interesting fact as it points to a different conception of the State and State's role. While the European green movement, saw it as natural that governments would like to gain a bigger share of revenues from emission trade, the Polish government decided to fight for lower electricity

prices in Poland at the cost of gaining less revenues from emission trade. While the European environmental movement wished to see governments organizing and funding climate policy measures and having control over re-distribution of emission trade revenues, the Polish government tried to maintain the competitive advantage of the Polish economy as an economy with cheap electricity. Therefore, the Polish government defined its role mainly as a guarantor of national economic competitiveness. The Polish state was an industrial, 'competition state' (Fougner 2006), competing with other states for investments, trying to keep industrial companies within its borders and to attract more investors and producers in the future. Poland was a neo-liberal state taking up a role of an organizer of favorable conditions for economic activity within its borders (Brown 2009).

Due to this perspective, the position of the European environmental NGOs was pictured in Poland as 'green socialism' (Teluk 2009). This produced a perverse discourse about emission trade in Poland. This market-based mechanism of climate change governance, born within circles of liberal think tanks having support of the Wall Street and many big companies like e.g. BP, was in Poland labeled as a 'socialistic' instrument. Some of my interviewees alluded to similarities between socialist central planning and emission trade in the EU (Interview, Warsaw, February 2009). The idea of emission quotas allocated to companies for several years ahead and based on the chosen base year, the orchestration of emission trade by the European Commission and a compulsory character of participation – and all this for a pre-defined common good – all of these bring back images of the previous regime into the Polish debate. 'Eco-socialism' – this was the term coined in the Polish media.

Interestingly, at the same time, Polish experts and commentators pointed out that the Commission's idea plays into hands of financial actors. Full auctions would make the ETS more attractive to the financial sector. It would increase the volume of financial transactions on that market and make it possible to create new financial products based on emission allowances. Polish experts, like Jankowski, Żmijewski and governmental officials like Serafin, alarmed the Commission and the Presidency about potential speculations on the ETS. Therefore, the new ETS proposed by the European Commission in January 2008,

appeared as a strange chimera to the Polish actors. It appeared to them as a socialist instrument to centrally control industries, and a neo-liberal instrument to propel development of the financial sector in Europe, mainly the London City.

From Expert to Political Negotiations: the October to the December 2008 EU Summits

In October 2008, international media reported that Poland with other new Member States (Hungary, the Czech Republic, Slovakia, Lithuania, Latvia, Estonia, Bulgaria and Rumania) obstructed a decision making process at the European Council Summit in October 15-16, 2008 and they forced to postpone the final decision on the Climate change and energy package for the December Summit where it would be adopted unanimously. However, one of my interviewees from CAN-Europe drew a slightly different picture of the October Summit:

You had many Central and Eastern European Member States who were upset with the 2005 baseline (...). You also had the power sector with full auctioning which was the main issue in the Baltic States, Poland and the Czech Republic and then you had Germany coming in which had an issue with auctioning for the industry as a whole and also with regard to auctioning for the power sector more and less but they were then again pushed by RWE for getting that out there and those companies, on their own term, were lobbying CEE governments. They were playing a very dirty game and that created in October 2008, right after the vote in the European Parliament, this tremendous uprising at the first State Head and government meeting where Sarkozy was faced with an opposition he didn't expect. And he said ok we can deal with some CEE MSs where, he said we would buy them at a certain point with more revenues, but then he had Italy joining and he had Germany acting and that was not solvable. So what he did in the end was to say ok, we see there is a problem, I'm gonna take it in my hands. The Environment Council and also the Parliament were

not really going to look at them but if there is a deal it will be done at Heads of State and Government level and also it will be done by unanimity – all big decisions are going to be taken by unanimity. (Interview, Brussels, March 2009)

This above excerpt from an interview shows that except for the unsatisfied Central and Eastern European countries, among which Poland was the most vocal, there were also Western European countries fighting for their interests – Italy and Germany. And interestingly, while, according to my interviewee, the Central and Eastern European countries seemed easier negotiators, easier to be bought by a promise, a dissatisfaction of the Western European countries like Italy and Germany constituted a real problem to the French Presidency.

Interestingly, the CAN-Europe expert pointed out that the French Presidency wanted to buy the CEE states with more state revenue and that this easy solution would not work with the old Member States. Did they not need more budget revenues? Was there some other logic of persuading Western States to accept the proposal made by the European Commission? So far, the analysis has shown that the East-West divide has been constructed by actors coming from the Central and Eastern European Member States, like Poland. This exert shows that the East-West construction has also been made by the Western actors. The East represented the needy part of Europe, which can be easily satisfied by fulfilling one of its many needs. The West represented the developed part of Europe, which could not be bought by promised money.

My interviewees also pointed out that for Sarkozy “his agenda was not to have ambitious climate policies” but to have a successful Presidency. And the biggest thing under his Presidency, except for Georgia, was that climate change package with the new ETS Directive. The failure of the package would mean the failure of his Presidency (Interview, Brussels, March 2009). This was one of the views on Sarkozy’s motivation but this shows again how actors’ interests are enacted through actors’ projects. Some of my interviewees pointed out that Sarkozy was fighting to save the package and full auctions for the power sector because this was in particular favorable for the French power sector – nuclear utility

companies would not be auctioning emission allowances because they do not emit carbon dioxide. However, they would enjoy additional revenues as electricity prices in Europe would increase due to the rule of full auctions for fossil-fueled power generators. This shows how interests may coincide in one project, how various actors may stand behind a project and push it forward despite the fact that before the project took its shape, these actors seemed to be pursuing different goals.

A Polish governmental official whom I interviewed also commented on the impact of the new Member States on the decisions made during the October Summit this way:

We have not officially raised this issue but in the then abiding Treaty in the article 175, paragraph 1c or 2c there is a line that legal initiatives significantly changing the structure of Member States' energy mixes should be made unanimously. We even had some legal expertise with us but we were not telling the Commission that they were doing it against the law and that they were trying to push the decision on the Package through in the co-decision procedure. But we framed our arguments in a political way saying that this legal act is of great importance. We were saying that it is strategic for the power sector, for the economies, for the future position of the European economies globally. And at this point there was a really strong coalition of countries, not only the new Member States but also Italians and, surprisingly, even Germans were afraid that a decision made during the October Summit would not be good for them. Germans were mainly afraid of carbon leakage. And also Sarkozy's ambition to have the Package adopted by the end of his Presidency was an important factor. When he encountered opposition towards the co-decision procedure in October then he decided the final vote will be cast during the meeting of the European Council in December. (Phone Interview, July 2009)

The October decision to postpone the final vote on the Package of directives till the December Council meeting was an important moment in the negotiations. According to my interviewee from the government's office UKIE, this has improved the negotiation position of Poland. And this was due to a simple arithmetic. Before the October decision, the proposed directives (among them the EU ETS Directive) would be voted in the qualified majority procedure. Poland had only 27 votes. The blocking minority was 94 votes. Till the middle of October the absolutely key question addressed to Poland was: have you already built a qualified majority to block the Package? After the October Summit the question was: are you already satisfied with the Package? The governmental official told me "this has fundamentally changed the character of our work - of the negotiation process" (Interview, Warsaw, January 2009).

Since the October meeting, the Polish Ministry of Economy set out to look for more allies and to build a stronger coalition of countries. An official from the Ministry told me that based on the analysis the government has about the impact of auctions on electricity prices, they managed to persuade Italians, Bulgarians, Romanians, Hungarians and the Baltic States that they would face similar problems as Poland. They also organized meetings with business representatives from these countries. They met with MEPs and the Polish government contacted other governments. And they tried to make them act by saying: "Look, what are you waiting for? You are a Chamber of Commerce, you are a business council so move on and go talk to your Ministers, go and talk to your Prime Minister, to your President, to your Ambassadors and tell them what the situations looks like." (Interview, Warsaw, February 2009).

However, the coalition was in fact much weaker than it seemed after the series of more or less formal meetings. And despite these efforts to build up a coalition, the shape of the ETS Directive and of other legislative proposals of the Package was under question till the last moment of negotiations. The December Summit was the arena where the final decision was to be taken. The UKIE official told me that the final decisions were still made in the lobbies of the December Summit. The Polish negotiation team tried to "smash this Summit several times... once on Thursday and once on Friday" (Interview, Warsaw, January 2009). He told me:

“We were simply saying: these are our conditions for taking the unanimous decision. And we were saying in a straightforward manner that the proposals of the French Presidency do not fulfill our expectations” (Interview, Warsaw, January 2009).

Despite this attitude, the reality looked more mundane. An official from the Ministry of Economy told me that in the end Poland managed to persuade some countries that the benchmark proposal was a good one. The coalition, called in the international press as – ‘the coalition of the unwilling’ – was much weaker than the one presented in the media. Openly, in the negotiation process in December Poland was supported by the Lithuanian Energy Minister and by a Bulgarian Minister. A wide number of countries were opting for a gradual introduction of full auctions. And there was a large group of countries against full auctions. However, there was a cleavage within this group. And then, as my interviewee from the Ministry of Economy told me:

We came up with the proposal of fuel-specific benchmarks and gained a support of a couple of countries. The rest were saying: ok but we don’t think this can go through, thus, it’s better that we hold on to the gradual introduction of full auctions. And in fact, in December we were sitting down to the negotiation table quite lonely as to the alternative benchmark proposal. Maybe that was not even such a bad thing to make an impression on those observing the negotiations that there was a strong coalition but such a strong coalition did not exist in fact. (Phone Interview, July 2009)

While Poland sought to enroll other Member States into its project of the fuel specific benchmarks, the French Presidency was proceeding with its counter-enrollment activities:

The French Presidency was lobbying intensively for the full auctions. Their main argument was that there would be huge revenues from auctions and that this money could be spent by governments on modernization of the grid and the power sector infrastructure. They promised Estonians, for example, an easier

access to public funds. Therefore, most of the countries, while sitting down at the negotiation table were ready to accept full auctions – accept for Poland. And thanks to the decisions made during the October Summit where with a considerable input of our negotiators we managed to change the decision making procedure for the Package from a co-decision to a unanimous decision at the European Council. There we had this advantage of not being at a completely lost position and we managed to get this derogation in the end. As we have learnt later from the Czechs, Slovaks, Bulgarians or Romanians they are all going to use the right for opt-outs from the full auctions. So this was not a strong coalition – there was no one to play with. (Phone Interview, July 2009)

In December again, as during the October Summit, it mattered whether the opposition came from the new or old Member States:

There is such a rule in the EU that if you want to make a deal, you have to have at least one big country from the old Member States on your side. Then you may have a chance to win something over. Our coalition was coalition made of new, let's say, weak Member States – states that were easy to influence... and thanks to various maneuvers of the Commission and the of the French Presidency they sat down at the negotiation table „pacified”... well, right, Hungarians were still raising their voices and arguing for taking into account the reduction effort made under the Kyoto Protocol. So Poland and Hungary, these were the only two countries fighting for their interests openly. The rest was completely “pacified”... (Phone interview, July 2009)

Italy, an alleged ally of the new Member States, was in fact not pursuing the same goals as the benchmark coalition:

Italians made a lot of noise but in fact they only cared about the Cars Directive. Media was reporting that the Italians would block the Package but once the Cars Directive was finalized according to

their interests, they didn't care about anything else. (Phone Interview, July 2009)

Interestingly, while RWE and other German companies were interested in extending the derogation for the power sector to coal-fueled power plants built in the future, during the December Summit the German governmental representation was very much against it. It opposed extending derogation beyond the already existing power plants. Therefore, in the last moments of negotiations, Poland proposed to extend the derogation to the power plants of which the investment process has already been physically initiated:

An investment physically initiated by the end of December 2008 was a Polish idea. We wrote it into the ETS Directive. Some half an hour before adopting the final conclusions of the European Council the Directive was saying that only the existing power plants would receive free allowances. So in fact, if we closed half of our existing power plants till 2013 or 2014, well at least some 10-20 thousand MW, then we would be in a situation where the derogation covers only a very limited number of our power plants. On the other hand, Germans were pressing hard to cover only the existing power plants with this derogation so it was difficult to prolong it beyond 2008. That's how we came up with the concept of a *physically initiated investment* in order to extend the derogation also to the initiated power plant projects. This was a considerable success because there was a huge pressure from the Commission and Germany to prevent any kind of extension of this derogation. (Phone interview, July 2009)

In the final phase of negotiations Poland pushed through the fuel-specific benchmark allocation as a solution which could be applied by countries covered by the derogation period between 2013 till the end of 2019 (Phone interview, July 2009). The final win-overs of Poland during the December meeting where:

- a gradual inclusion of the Polish power sector into the system of full CO₂ emission allowances auctions within the EU ETS (70% of free emission allowances in 2013)
- exclusion of free emission allowances for the Polish power sector from the emission trading scheme
- a revision clause: a possibility to prolong free emission allocation for the Polish power sector in 2018
- a larger share in the EU CO₂ emission allowances for Poland
- flexibility in choosing the base year for emission reduction (emissions from 2005 or average emissions from 2005-2007).

Conclusion

This chapter followed construction of the ETS as a market and governance structure, which came to regulate and transform production patterns on the existing markets for electricity and industrial goods. The proposal of the new ETS Directive generated reactions of representatives of these markets who joined policy-making process and asked their governments and experts of the ETS for support. The latter engaged in actively defining opportunities and threats posed by the proposal of the new ETS Directive and proposed alternative ways to the ETS organization. This analysis focused on the negotiation of the method for allocating emission allowances.

This analysis also showed that interests may well be grasped in moments when actors actively pursue their goals, and propose and negotiate new institutional orders. One can derive interests of actors from their positions within their original fields of action, but one can also study them by following actors' actions with regard to certain problems. Reaction of actors examined in this chapter point to the fact that interests are "built out of actively constructed constraints that are recognized as limiting available options" (Callon and Law 1982, p. 617) and that they may undergo shifts and changes through processes of selection, simplification, and juxtaposition of preferences and identities.

This chapter also pointed to the constructed, negotiated and political character of the ETS rules. The case of the IFIEC-method showed how expertise may become a device for translating interests between fields, but it also showed limits of its translation potential. While the IFIEC-method was efficient in translating interests of European industries into interests of coal-based and gas-based power sector companies, it was not efficient in translating interests of industries into those of the European Commission. While the coal-based and gas-based power producers were satisfied that the IFIEC found a way to make them pay less for emission allowances on the ETS, the Commission was not happy about it. Industries and power sector companies were primarily driven by their search for profit and they wanted to inscribe the ETS into their economic logic of action. The European Commission, pursued primarily its governance, environmental objectives and tried to inscribe the ETS into the bureaucratic logic of their action. In order to justify its opposition, the Commission used the mechanism opposite to the 'translation' - it resorted to the mechanism of 'purification' (Latour 1987).

Therefore, the studied case shows that the potential of expertise as a 'translator' between interests of various fields is not an inherent or immanent characteristic of expertise. This potential also depends on the underlying logic of action of the fields it tries to connect, and on the way these logics and rules of the game define interests of actors acting within those fields. The work of translation is never successful in an *a priori* way (Callon and Law 1982). It can fail at any time, not only because some actors may 'betray the translation network' (Callon and Law 1982), but also because actors may construct limits of the expertise by classifying it to certain fields of action.

Chapter 6. Trade Unions: Confused in Climate Action

Introduction

The previous chapters examined responses to the project of the ETS proposed by the European Commission coming from industries, power sector companies and governmental officials, particularly in Poland. The analysis has shown that the initial framing of Polish economic interests according to the East-West divide has been difficult to hold. In fact, 'the Polish economic interest' has been defined and re-defined in close cooperation with German industries and power sector companies. The former were fighting a European battle to keep industrial production in Europe and the latter had vested interests in expanding onto the Polish electricity market.

This chapter examines reaction towards the new ETS project coming from the European labour organizations. Again, the Polish trade unions played a significant role in this debate taking a position of strong opponents to the proposal of full auctions for the power sector within the amended ETS Directive. They were also harsh critics of how the European Trade Union Confederation backed up the Commission's proposal of the ETS Directive. In this case I examine how the initial fight for 'Polish jobs' launched by Polish trade unionists gradually was reframed into a fight for 'European jobs'. We can clearly see that the logic of interest representation in the EU, as well as the need for coalition building and for expertise, made it necessary for Polish unions to launch cooperation with the European Mining, Chemical and Energy Workers' Federation (the EMCEF) and re-define 'the Polish economic interest' into a 'European economic interest'. We can clearly observe here a process of learning about domestic policy implications and, due to membership in European labour organizations and communication with them, about policy implications of the new ETS on economies of other European member states.

At the same time, the 2008 debate on the new ETS Directive has shown a relative weakness of European labour as an actor in EU decision-making processes.

Postulates made by the European Trade Union Confederation⁶² (the ETUC), the main umbrella organization representing all unions in Europe, have not been met by the European Heads of States at the Summit in December 2008. And the ETUC asked for a European fund to be set up for financing employment programs in sectors badly affected by emission reduction measures and for establishing a permanent consultation body for European social partners on climate policies. Climate change and climate policies have posed challenges to the European labour movement. On the one hand, taking climate change seriously in the EU gives hope for a more radical turn toward a responsible way of doing business in Europe. However, emission reduction targets, based on recommendations by the IPCC concern environmental impacts of GHGs. And while the environmental integrity of the ETS is guarded through European Commission's proposals of allocation methods, its social integrity becomes an issue of additional budgetary and redistribution mechanisms.

It becomes challenging to inscribe social concerns, e.g. concerns of employees, into algorithms and calculative devices of the ETS. Auctioning of emission allowances proposed a straightforward translation of volumes of carbon emissions into money spent on emission allowances. Benchmarking, on the other hand, proposed to translate efficiency of various technologies into the cost of emission trade for companies within the ETS. None of these proposals; however, took into consideration skills of workers, employment impact of those companies or their adherence to labour rights. And this became problematic for labour organizations. Consequently, one of the challenges was, how to inscribe the value of labour and values shared by trade union organizations into the ETS organization.

A relative weakness of European union organization was deepened by lack of

⁶² The European Trade Union Confederation (the ETUC) was set up in 1973 to promote the interests of working people at European level and to represent them in the EU institutions. At present, the ETUC has in membership 83 National Trade Union Confederations from 36 European countries, as well as 12 European industry federations, making a total of 60 million members, plus observer organisations in Macedonia, Serbia, and Bosnia and Herzegovina. Other trade Union structures such as EUROCADRES (the Council of European Professional and Managerial Staff) and EFREP/FERPA (European Federation of Retired and Elderly Persons) operate under the auspices of the ETUC. In addition, the ETUC coordinates the activities of the 44 IRTUCs (Interregional Trade Union Councils), which organise trade union cooperation at a cross-border level. The ETUC is one of the European social partners and is recognised by the European Union, by the Council of Europe and by EFTA as the only representative cross-sectoral trade union organisation at European level. See: <http://www.etuc.org/r/5>

expertise on emission trade and climate policies. This resulted in fragmentation of the European labour movement. For expertise and the lobbying know-how the ETUC turned to environmental NGOs and international trade union organizations like, the International Trade Union Confederation⁶³ (the ITUC) and the Trade Union Advisory Committee⁶⁴ (the TUAC). And European Industrial Federations, European umbrella organizations representing interests of sectoral trade unions, turned for expertise and lobbying know-how to federations of industry employers. A breach within the European labour movement became visible during the 2008 debate on the ETS amendments when the ETUC and Federations, European Metalworkers' Federation⁶⁵ (the EMF) or the European Mine, Chemical and Energy Workers' Federation⁶⁶ (the EMCEF), differently defined their positions towards environmental problems and problems of employment. While the ETUC put a strong emphasis on general obligations of Western and Northern societies in reducing GHG emissions, the industrial trade union federations emphasized their obligation as representatives of employees to defend jobs in European industries.

One of the consequences of these debates and of unions' reflection on climate policies has been the relativization of labour's value. Industrial or mining jobs

⁶³ The International Trade Union Confederation (the ITUC) was created in 2006. It represents 168 million workers through its 311 affiliated organizations in 155 countries and territories. Its Work Programme, adopted at its Founding Congress, underlines the need for the international community to implement an overarching strategy for sustainable development with the linkages between labour and environment to be strengthened. See: <http://www.ituc-csi.org/>

⁶⁴ The Trade Union Advisory Committee (TUAC) to the OECD is an interface for labour unions with the OECD. It is an international trade union organisation which has consultative status with the OECD and its various committees. See: <http://www.tuac.org/en/public/index.phtml>

⁶⁵ The European Metalworkers' Federation (the EMF) was founded in 1971. It is the umbrella organisation representing 65 metalworkers' unions from 30 countries with a combined total of 6.5 million affiliates. The EMF acts on behalf of representative metalworkers' unions from all the Member States of the European Union as well as from Romania, Bulgaria, Turkey, Norway, Iceland, Croatia, Serbia and Switzerland. The EMF is therefore the representative body defending the interests of workers in the European metal industry. The EMF acts on behalf of representative metalworkers' unions from all the Member States of the European Union as well as from Romania, Bulgaria, Turkey, Norway, Iceland, Croatia, Serbia and Switzerland. The EMF is therefore the representative body defending the interests of workers in the European metal industry. See: <http://www.unitetheunion.org/default.aspx?page=1592>

On 16 May 2012, the EMF, EMCEF and ETUF-TCL formally merged to become IndustriALL-European Trade Union, a new union federation representing seven million workers. See: <http://www.icem.org/en/78-ICEM-InBrief/5019-IndustriALL-European-Trade-Union-Born-Today-with-Merger-of-Three-Federations>

⁶⁶ The European Mine, Chemical and Energy Workers' Federation (EMCEF) represented 2.5 million workers in 35 countries and 128 national trade unions. See: <http://www.emcef.org/about/structure8.asp?job=GEN>

were been qualified as dirty. Services and jobs related to renewable energies have gained a qualification of clean, green jobs. Beneath these qualifications lay two projects of the European Union's economy: a project of the industrial Europe and of Europe of services. The postulate of greening Europe in its most radical form meant turning the EU into an economic zone of services. In the milder form it implied an effort of 'greening' industrial and coal-related jobs.

This chapter examines controversies and breaches within the European trade union organization in relation to the Climate change and energy package proposed by the European Commission in 2008, particularly in relation to the new ETS Directive. It focuses mainly on activities of the Polish unions, which have been most vocal and most 'emotional' – as my interviewee from the ETUC pointed out – in their opposition toward the ETUC's position. The analysis will follow Polish unions, their strategies to represent their 'local' interests, their alliances with German unions and close cooperation with the EMCEF.

However, this chapter makes another important point that climate policies pose a real challenge to the European trade union organizations. National trade union federations and the ETUC, the unions' umbrella organization, seem to perceive climate policies as an opportunity-issue, which may position them closer to the center of the European policy-making. They welcomed NGOs and politicians' call for climate action and forged cooperation with European environmental NGOs. At the same time they invested time and effort in coining and promoting the concept of a 'just transition to low carbon economy', hoping for including employment concerns into the mainstream of climate policies and politics. The 2008 debates have shown a double weakness of unions, their necessity to rely on experts outside of the labour movement for the expertise on climate policies and emission reduction instruments, and their weakness as political actors within the EU arena who have to ally with other actors in order to make their claims heard in the EU.

The European Trade Union Confederation Responds to the Commission's Proposal

In March 2008 the European Trade Union Confederation (the ETUC) supported the European Commission's proposal of the Climate change and energy package

with its goals of 3x20 by 2020 (20 percent of emission reductions compared to 1990, 20 percent of renewable energy production and 20 percent increase in energy efficiency by 2020). It published an official position paper called *ETUC's position on the Climate change and energy package* which was adopted by the Executive Committee of the ETUC at its meeting of 4 March, 2008 in Brussels. The ETUC's support was given under certain conditions. Already in the first paragraph of the position paper, it was stated that the European Union must take the lead in the climate change combat and "transform emissions reduction into an opportunity to create quality jobs and lessen social inequalities" (ETUC 2008, p. 1). This way the ETUC gave a clear signal that, although it stood hand in hand with the Commission in fighting global warming, it would push for including social and employment concerns into the European climate policy agenda.

In order to make sure that the interests of workers were well represented in climate debates, the ETUC asked "for the establishment of a consultative committee of the European social partners on the energy-climate change package" (ETUC 2008, p. 1). The ETUC argued for regular and binding consultation with European social partners, which would be "obligatory, under the Emission trading directive" (ETUC 2008, p. 2). And the stakes the ETUC were fighting for were high. Emission reductions would result in the closing of factories, power plants and coalmines. Technological changes would make re-skilling of workers necessary. Those who did not keep up with changes would be laid off. Also a slow phase-out of coal in electricity generation would result in closing down coalmines or reducing employment. In other words, the cost of GHG emissions would make some companies unprofitable and people employed there would start losing their jobs. Climate policies were meant to result in a transition to low carbon economies in European member states and this transition would also have an impact on the employment structure in the EU.

Having anticipated this transition, the ETUC emphasized the need for setting up programs to facilitate it. Together with the ITUC and the TUAC it called this transition a 'just employment transition to low carbon economy', which would provide people in Europe and worldwide with green and decent jobs. The ETUC asked for financial support for programs, which would allow for mitigation of

negative impacts of climate action on employment patterns. The ETUC predicted that many workers and their families would lose their livelihood due to emission reduction in the EU (ETUC 2008, p. 1-2). The ETUC was making it clear: climate action would lead to unemployment in some sectors and employment in others. It would make some people better off and better fit for the low carbon development paradigm, and would leave others poorer and unadjusted. Research to define needed new skills, and training to develop them, would be crucial in the near future. And since the ETS was a pan-European and fairly centralized system, funding for the just transition should also be raised at the European level.

In the search for funding mechanisms, the ETUC proposed that “the Globalized Adjustment Fund be enlarged so as to limit the negative consequences for workers of measures to combat climate change” and a “European financial initiative for sustainable growth” be launched in the EU (ETUC 2008, p. 2). The need for finance mechanisms was justified by the necessity to launch the ‘just transition’ programs quickly, far ahead from the third round of emission trade on the ETS between 2013 and 2020. Revenues of auctions on the restructured the ETS would come too late, only after 2013, to prepare society for changes induced by the cost of auctions and investment in new technologies. With regard to auction revenues earned by states on the ETS, the ETUC recommended to pre-allocate a significant part of the money to “investments in energy savings and public transport so that less favored households could reduce their dependence on costly energy and transport” and “to assistance for workers displaced as a result of the transition to a low carbon economy” (ETUC 2008, p. 4).

Another strong point in the ETUC’s position was made to defend competitiveness of the European industry. It demanded that the European Union introduced border tax adjustments for products imported from countries without any GHG reduction policies. The logic behind this request was two-fold. First, the ETUC wanted to keep European goods globally competitive against goods produced in „dirty regions,” like e.g. Asia, and prevent Europe from being flooded with cheap and unsustainably produced goods. Second, the ETUC was afraid that given the prospects of industries receiving part of allowances (EUAs) for free after 2012, some of them would sell EUAs on the ETS and move their production out of

Europe to regions where GHG emissions were not costly. Moreover, the ETUC pointed out that industries might be scared away from Europe not only by the cost of auctioning emission allowances but also by the cost of electricity consumption, which would increase as a result of full auctions of EUAs for the power sector.

As the ETUC pointed out, electricity prices have not only posed problems for European industries. The high cost of electricity consumption could burden many households in European member states. Increased electricity prices would broaden areas of energy poverty in the EU and thus condemn many people to lower living standards. In the last point of its position paper, the ETUC called “for measures to prevent negative social impacts of rising energy prices” (ETUC 2008, p. 5). Energy efficiency became the ETUC’s priority together with securing “universal access to essential energy services” to all people living in Europe “notably through the provision of social tariffs” (ETUC 2008, p. 5).

The ETUC has added an important social dimension to the Commission’s market-based climate mitigation policy. It proposed various distributional and loan-based measures to compensate for negative externalities foreseen to be generated by the European emission market (the ETS). However, at the same time, the ETUC tried to position itself as an important actor within the picture of a new European economy – a low carbon economy. It has reiterated claims that a low carbon economy would generate social costs for the citizens of Europe unless European programs and European funding for making this transition just would be set up.

The text of the ETUC’s position was negotiated in the course of several meetings of the ETUC’s Working Group on Sustainable Development led by Sophie Dupressoir, an advisor to the ETUC Confederal Secretary Joël Decallion. The Working Group was open to all union members of the ETUC, and also to the European industry federations⁶⁷ representing particular trades and sectors in the EU. The only obstacle to mass participation was the rule that the ETUC

⁶⁷ A European industry federation is a trade union organisation operating at European sectoral level, comparable to and sometimes part of the global union federations. They are the social partners recognised by the European Commission as acting on behalf of employees in their sectors for the purposes of European social dialogue. There are twelve industry federations functioning in Brussels. On 16 May 2012 EMF, EMCEF and ETUF-TCL merged into one organization IndustriAll. See: http://en.wikipedia.org/wiki/European_industry_federation

reimbursed travel and accommodation costs for one unions' representative from each country. Representatives of all European industrial federations were invited to the meetings as well. As Dupressoir told me, there has always been only a small group of representatives – around fifteen people at each meeting – participating in the meetings. Poland was represented by a person from the *Solidarność* – Agnieszka Dojlido. However, people from other new member states were not coming to the meeting, even though they had been invited and costs would have been covered for them as well. Dupressoir did not understand why they were not coming.

The Working Group often hosted guest speakers. Dupressoir liked to invite representatives of the ITUC, directly involved in the post-Kyoto negotiation, and experts from environmental NGOs. Debates within the Working Group (WG) were often heated. Dupressoir pointed out that competitiveness of European industries was one of the crucial concerns for most of the WG's members. There was a general agreement that free allocation for industries based on the best available technology benchmarks was a good idea. However, there was no agreement as to the need for border tax adjustment measures. Representatives of the European industry federations, especially from the EMF, were against it.

The ETUC's position on the Climate change and energy package was adopted by the Executive Committee of the ETUC at its meeting of 4 March 2008 in Brussels. It was accepted and signed by all national affiliates of the ETUC, including three Polish national union organizations: the Trade Unions' Forum (FZZ), the All-Poland Alliance of Trade Unions (OPZZ) and the Independent Self-Governing Trade Union *Solidarność* (NSZZ *Solidarność*). At that meeting, the *Solidarność* was represented by Andrzej Adamczyk from the National Commission in Gdańsk. In an interview with me in November 2008, he said that the ETUC's position paper, according to him, "had all it needed". He agreed with the ETUC's strong support for European climate policies. He pointed out that greenhouse gas reductions had to be undertaken as quickly as possible, unless we wanted to face a global disaster. According to him, climate change was a real and burning problem calling for a responsible and urgent action of richer societies, like the European ones.

Adamczyk said he was not optimistic as to social consequences of the Commission's 2008 legislative proposals. Achieving long-term low carbon growth could come at a high cost of a short-term competitiveness loss of European economies. Staggering European economy could be easily overtaken by China and India, which did not burden their industries with costly emission reductions. 'Carbon leakage' – that is a massive flow of industrial production from Europe to those regions would result in more industrial production in places where labour rights were not respected. And even if some industries decided to stay in Europe, they might be forced to cut salaries to compensate for the cost of emission reductions to stay competitive globally. A threat of increasing electricity prices and energy poverty in Europe were also referred to by my interviewee. As he pointed out, apart from social tariffs, a real and fast transformation of European electricity production systems was necessary.

However, not all members of the ETUC, and not all members of the Solidarność shared the ETUC's position. Despite an early and unanimous (no veto vote) adoption of the ETUC by its Executive Committee, some unions did not approve of the way the ETUC supported the Commission's proposal. The main actors reinvigorating this debate were the EMF, the EMCEF, German unions representing mining, chemical and energy workers (e.g. IG BCE) and Polish unions representing miners and energy workers (SGiE Solidarność and ZZG). Unions representing workers in European industries feared 'carbon leakage' which would also mean 'employment leakage' from Europe to 'dirty' regions. Unions representing workers from power and mining sectors feared unemployment due to a gradual phase-out of coal from electricity generation in Europe and the closing of coal-fired power plants.

Contention within the European Union Movement

The harshest critique of the ETUC's position came from the leader of the Secretariat of the Mining and Energy workers of Solidarność in Katowice (SGiE), Kazimierz Grajcarek and the expert of the National Commission in Gdańsk working in the Working Group on Sustainable Development, Agnieszka Dojlido.

Also Domik Kolorz from the miners' union Solidarność (SKGWK) was a prominent figure criticizing the ETUC and European climate policies in general. Outside of the Solidarność, Andrzej Chwiluk from the miners' union ZZG⁶⁸, and at that time the vice-President of the EMCEF, was critical of the proposed climate legislation. They criticized the ETUC for rushing too quickly with endorsement for the new Package of legislation, and in particular for supporting full auctions for the power sector. While, as it was mentioned above, the ETUC proposed free allocation based on technological benchmarks for industries, it accepted full auctions for the power sector as a fair solution. Grajcarek's and Dojlido's critique reflected the Polish government's and businesses' claims to account for the early emission reductions from the 1990s in Central and Eastern European countries. Emission reductions from 1990s cost Polish society massive job losses and poverty in the de-industrialized regions. And this, according to Grajcarek and Dojlido had to be taken into account within the ETS.

The critique of Polish trade unions was more general, less technical than the critique exercised by the Polish government, experts and business lobbyists. Polish mining and energy union leaders questioned emission reduction goals proposed by the Commission as well as the scientific basis for these goals. During my interviews with Grajcarek, Dojlido and Kolorz, one argument was always repeated: EU Member States cannot be forced to reduce emissions at the same pace. They should be allowed to enter reduction paths individually.

The other argument was that the European Union should be more strategic in proposing its reduction goals and first make sure other regions would follow its example. Europe would not be able to solve the problem of global warming on its own because its share in global emissions was around 13 percent. In short, 20 percent reduction of 13 percent of global emissions would give something around 2-3 percent of global emission reductions. This individual reduction goal, according to my interviewees, was not worth the cost, which would have to be paid by the European economy and workers in many carbon intensive industries.

⁶⁸ ZZG is a miners' trade union associated in OPZZ, which is the post-socialist union, which has been in conflict with NSZZ Solidarność over property issues since 1980s.

Finally, my interviewees challenged climate science and IPCC as the ultimate authority in reviewing research on climate change. They all questioned the thesis about anthropogenic global warming and referred to alternative theories about solar impact on global temperatures promoted in Poland by Professor Zbigniew Jaworowski⁶⁹, a medical doctor and a radiologist who died in November 2011. This way Polish union leaders from the mining and energy sectors not only positioned themselves against European climate policies but they also displayed their skepticism with regard to climate science.

However, apart from several moments when Polish mining and energy unions asked for the establishment of alternative committees for reviewing the latest climate science and the IPCC reports, they adopted a pragmatic language of defending employees in Poland. One of their main accusations against the ETUC was that it was too keen on accepting environmental goals of the Commission's proposal while forgetting about its constituencies – employees. Grajcarek argued that instead of having said “we support the Commission's proposals but we want...”, the ETUC should have said “we do not support the Commission's proposal unless the following demands are met...” There was a general feeling of disappointment among my interviewees from Poland that the ETUC behaved more like an ‘environmental organization’ than a trade union organization.

Similarly, as in cases of the Polish government, industries and power sector, Polish unions' action with regard to the proposed package of climate policies came only in the second half of 2008, at least four months after the ETUC's March vote on the position paper. When the SGiE identified potential threats to Polish economy and Polish workers, it took up actions on two levels – the European and the national one. Between June and July 2008 the SGiE turned to the ETUC to warn it about a potential damaging impact of the proposed legislative package on Polish economy and asked for a revision of the ETUC's position on the package. It

⁶⁹ Zbigniew Jaworowski was chairman of the Scientific Council of the Central Laboratory for Radiological Protection in Warsaw and former chair of the United Nations Scientific Committee on the Effects of Atomic Radiation (1981-82). He was a principal investigator of three research projects of the U.S. Environmental Protection Agency and of four research projects of the International Atomic Energy Agency. He has held posts with the Centre d'Etude Nucleaires near Paris; the Biophysical Group of the Institute of Physics, University of Oslo; the Norwegian Polar Research Institute and the National Institute for Polar Research in Tokyo. See: http://en.wikipedia.org/wiki/Zbigniew_Jaworowski

demanded various levels of economic development and specificities of countries' energy mixes to be taken into account. It argued that Poland, depending extensively on coal, would have to pay the highest price for a transition to a low carbon economy. At the same time, the SGiE issued a common position on the Climate change and energy package together with representatives of the coal sector and the government within the Tripartite Commission for the Mine Workers Social Security in Poland. The position stated that:

Proposed directives and regulations of the European Commission lower competitiveness of coal as a fuel used for power generation. The European Commission concentrates only on the environmental aspect of this issue, totally neglecting issues related to energy security in the European Union and the vitality of the access to coal in the member states as a factor of price stability of electricity⁷⁰.

Members of the Commission underlined that “adopting of the Climate change and energy package in its present shape will have a negative impact on the Polish economy by reducing its competitiveness and might lead to losing energy sovereignty by Poland. Poland and other poorer countries of the EU will pay the highest cost of introducing the Climate change and energy package, unlike the old EU-15” and urged to “take up every possible means within the European Commission to change the content of the Climate change and energy package directive and regulations, so that they took into account specificity of Polish power generation and economic system”⁷¹.

Since the ETUC refused to revise its position on the Package according to the wishes of Grajcarek, the SGiE set out to look for support of his demands within the European industry federations. He turned to the EMCEF, of which the SGiE and ZZG are members. The EMCEF had already been working on the Climate change and energy package and had also already asked the ETUC to revise its position. Between June and September Grajcarek was not aware of the fact that

⁷⁰ Position regarding a proposal of the European Commission known as the Climate and Energy Package, July 2008.

⁷¹ Position regarding a proposal of the European Commission known as the Climate change and energy package, July 2008.

the EMCEF shared his views and that German members of the EMCEF had already worked on a position defending employees in European industries. In the course of mobilizing allies and building up an alternative position to the one of the ETUC, what was primarily perceived as a 'national interest' had to be reframed into a European matter and put within a wider European context of economic and workers' concerns.

On September 2nd, a meeting was held in Katowice where the Secretary General of the EMCEF, Reinhard Reibsch, took part in the Coordination Council of the EMCEF Poland. The Coordination Council put forward a motion to summon the Executive Committee of the EMCEF about the climate change and energy package. On September 6th and 7th, Grajcarek participated in three meetings in Brussels. Two of them were attended by representatives of a lobbying project, the Green Effort Group, created in July 2008 to represent interests of the Polish power and industrial sectors in the negotiations of the Climate change and energy package.

The First one was organized by the main negotiator of the EU ETS Directive from the Permanent Representation Office of the Republic of Poland in Brussels, Olaf Kopczynski, who was representing Poland at the European Commission concerning the project of the EU Climate and Energy Package. The second one was held by the Polish MEP Jerzy Buzek, who was not only an authority in the debate on the Package but also facilitated meetings and dialogue with high level officials at the EU level to many Polish actors involved in the package debate. Grajcarek also met with a Polish Secretary of the ETUC, Józef Niemiec, and with the Brussels local authorities and police to discuss security issue concerning a planned protest action.

This shows that Grajcarek cooperated with the Polish government and the industrial and power sector lobbyists from the Green Effort Group. He communicated closely with Buzek. Grajcarek was also introduced to alternative solutions proposed by the Polish government, like partial free allowances for the power sector, and later on, ex post benchmark allocation for the power sector (the IFIEC-Europe method). In Solidarność, the IFIEC method was known as 'Buzek's

allocation idea' (Interview, Gdańsk, November 2008) and was widely supported. Buzek, the MEP with a 'Solidarność past', served as a crucial link for Grajcarek to national and EU experts.

On September 8th and 9th, Grajcarek participated in a conference on the Polish position in negotiations of the Climate change and energy package organized by Buzek and met with Jan Tombiński, the Ambassador of Poland, the permanent representative by the European Union, Mieczysław Janowski, Polish MEP, Marian Krzaklewski (EESC) and Maciej Nowicki (Ministry of Environment) and Krzysztof Żmijewski, the initiator and the main lobbyists of the Green Effort Group. This way Grajcarek and Solidarność became a part of a larger Polish lobbying project in 2008. Also due to Buzek's assistance, on September 16th, Kazimierz Grajcarek, met with the Commissioner for Employment, Social Affairs and Equal Chances, Vladimir Spidla to talk about the impact on employment of the proposed legislation.

A crucial visit to Brussels took place at the end of September. It was preceded by letters sent to Polish MEPs with a request for support of workers' protest against the European Commission's proposal. Letters were also sent to the Commissioners, Stavros Dimas, the Commissioner for Environment, and Andris Pielbalgs, the Commissioner for Energy with a request to support amendments to the Climate change and energy package proposed by the Polish government.

A protest of Polish mine and chemical workers took place in front of the European Commission on 25th September (260 participants). The same day a meeting with Stavros Dimas, the Commissioner for the Environment and Guenter Verheugen, the Commissioner for the Industry and Enterprise, took place. It was also attended by Buzek. During this meeting, Guenter Verheugen expressed his satisfaction with the conversation and shared a similar dose of uneasiness about the potential threats to the European economy posed by the proposed Package. He hoped that workers' protests would strengthen his position within the Commission in this debate.

In early October, two positions on the Climate change and energy package were issued. The first one was written in Katowice by the Coordination Council EMCEF

attended by Erik Macak, the Secretary of the EMCEF and Józef Niemiec, the Confederal Secretary of the ETUC and the representatives of the EMCEF Coordination Council Poland: Kazimierz Grajcarek (SGiE), Krzysztof Stefanek (Porozumienie ZZ Kadra), Andrzej Chwiluk, Mine Workers Union in Poland (ZZG w Polsce), Józef Woźny, the Federation of the Chemical Trade Unions (Federacja Związków Zawodowych Przemysłu Chemicznego). The signed unionists warned the Climate change and energy packages would lead to:

- A rapid increase in the electricity and heat prices in Europe;
- Closing down of the European power industry based on coal;
- Import of electricity from outside of the European Union;
- Auctions for CO₂ emission allowances after 2012 for the cement, lime, smelting, coke and glass industry, which will lead to mass import of these products from outside of the EU and to the cease of investments in these industries within the EU;
- Mass layoffs of the workers in the European industry (1000000 lost jobs)

The last two paragraphs urged

The EMCEF and the ETUC to solicit for legislative solutions in the Climate change and energy package that will include the specificity of the economies in the countries, which energy production to a large extent depends on coal (in Poland 95% of electricity is produced from coal).⁷²

There was also a clear appeal to the European Commission and the MEPs

to better secure interests of the European Union's economy when working on the Climate change and energy package. At the same time we declare assistance by this work. In case the worked-out Package will not secure the interest of the European economy, unions

⁷² Position of the Coordination Office of the EMCEF – Poland about the Climate change and energy package, October 2008.

associated within the EMCEF should appeal to their governments to veto this document.⁷³

Three days later the National Congress of Solidarność took place in Wadowice. A decision was made to assign Grajcarek a representative of NSZZ Solidarność in the climate package debate. Yet another position on the Climate change and energy package was adopted. Arguments included in the Coordination Office of the EMCEF Poland were reiterated; however, with regard to the Polish economic interests. The Climate change and energy package would inevitably lead to:

- The rise in electricity prices up to 60-160% in Poland compared to the European Commission's prediction of 10-15% rise in the average electricity price in the EU
- 200 000 lost jobs in Poland
- Weakening of Poland's energy sovereignty
- Closing down of coal-fueled power plants in Poland
- Lower investments into clean coal technologies in Poland
- High costs for Polish society
- Loss of competitiveness of Polish industries

The position stated that

Today, it is practically impossible to reduce emissions without reducing production of these materials, which are used in Polish economy. Introducing new technologies, on the other hand, requires great financial and time investments.

Introducing auctions of CO₂ emission allowances after 2012 for the chemical, cement, lime, smelting, coke, oil and glass industry will lead to mass import of these products to Poland and abandonment of investment in these industries in Poland.

⁷³ Position of the Coordination Office of EMCEF - Poland about the Climate change and energy package, October 2008.

All these actions will lead to mass layoffs of workers in Polish industry, which our union does not give our consent to.⁷⁴

At the same time the Solidarność appealed to the government of Poland

to solicit for legislative solutions of the Climate and Energy Package that will account for the specificity of Polish economy and in particular for the fact that Poland is in 95% dependant on coal in its electricity production. We appeal to the Polish government and MEPs to secure Polish economic interests by the negotiations of the Climate change and energy package. At the same time we declare our social and substantive assistance in achieving this goal based on the available expertise. In case the negotiated Package will not secure interests of Polish economy, we call the government to veto this document on the base of the Article 175 of the Accession Treaty.⁷⁵

The two above cited positions, one adopted at the Coordination Council of the EMCEF in Katowice and the other adopted three days later at the National Congress of Solidarność in Wadowice reveal an interesting shift in framing of workers' concerns related to the proposed Climate change and energy package. Workers' arguments are framed accordingly as national or European interests depending on which arena they address - the European or the national one. Also, similarly as in the case of Polish industries and governmental officials, it is interesting to observe how the definition of the situation, the definition of unions' interests and the development of potential solutions to coming challenges, have been formed within heterogeneous networks of communication. Grajcarek, the most active unionist participating in the debate on the ETS in 2008, admitted in an interview with me that he was able to better articulate potential problems stemming for the Commission's proposal after a conversation with Żmijewski from the Green Effort Group. Talking to Buzek also helped him a lot and, with time, a closer cooperation with the EMCEF and common coordination of positions and

⁷⁴ Position 10 of the XXII the National Congress of Solidarność concerning the Climate change and energy package, October 2008.

⁷⁵ Position 10 of the XXII the National Congress of Solidarność concerning the Climate change and energy package, October 2008.

protest actions made it possible for him to better understand various consequences of the ETS for Polish and European employees in the mining, industrial and power sectors.

Between Environmental Goals and Labour Interests: an International Meeting in Katowice

On 13 November SgiE, together with the EMCEF Coordination Office Poland, organized an international conference in Katowice to prepare the unions for a bigger protest at the beginning of December 2008, before the final vote in the European Parliament on the ETS Directive. It was attended by thirty people, most of whom were from the Polish mine and energy sector unions. Apart from twelve representatives of the Polish union organizations, ten representatives from other national and European union organizations arrived: Anabella Rosemberg from the international trade union federation, the ITUC-TUAC, Reiner Koch from the German union Ver.di, Peter Kerckhofs from the sectoral umbrella organization the EMCEF, Sophie Dupressoir from the European union federation the ETUC, Michael Wolters from the German IGBCE, Matteo Auriemma from the Italian CISL, Ioan Feurdean and Emil Gheorghe from the Romanian FNME, Pencho Tokmakchiev and Alexandra Kanev from the Bulgarian FNSM. The meeting was also attended by Bernard Błaszczyk, an official in the Polish Ministry for Environment, Marina Coey, the administrator of the lobbying project the Green Effort Group and Sanjeev Kumar from the WWF EPO (GEG 2008).

The presence of three people seemed strange to my interviewees. The Polish unionists found it strange to see that Kumar from the WWF participated in the meeting. As a representative of a powerful international green NGO, in the eyes of my interviewees from the EMCEF, he had nothing to do with problems of employment. Dupressoir and Kumar were, on the other hand, surprised that the international unions' meeting was attended by business lobbyists from the Polish Green Effort Group. Why would trade unions want to ally with business and support their interests? – they were asking.

Kumar was invited by Dupressoir to provide the union representatives gathered in Katowice with an alternative vision of economic development and to elucidate financial gains to national budgets coming from auctioning emission allowances. After the official event, he stayed for a longer discussion with Grajcarek and Dupressoir. Grajcarek hoped to persuade Dupressoir to change the official position of the ETUC on the Climate change and energy package (including the ETS Directive). He thought that, especially at that moment, when unions had learnt more about implications of the Package for employment in their sectors, the ETUC should have officially taken it into account. He hoped that the moment Dupressoir heard a number of union representatives expressing the same fears, she would have understood their situation and would have started working within the ETUC to change the March position.

Grajcarek invited the GEG lobbyist and the ministry official because he agreed with their critique of the proposed ETS Directive and because the GEG had alternative proposals on how to organized emission trade in a way alternative to the Commission's idea. Grajcarek also hoped to gain more support for the proposal of benchmark allocation for the power sector (the IFIEC-method). Grajcarek and other union leaders from the energy and mining sectors, but also e.g. from the paper industry found this method relevant for their interests.

And while the ETUC Working Group on Sustainable Development had already had an extensive discussion on benchmark allocation for industries, it never discussed benchmark allocation for the power sector. First, because, according to Dupressoir, there was a common agreement that power companies misused free allocation to gain 'windfall profits', which was immoral. The only way to heal the situation, according to her, was to introduce full auctions for the power sector. Second, the IFIEC-method with its positive review from the EcoFys came too late to be discussed within the ETUC before the March 2008 vote in the ETUC.

During the meeting in Katowice, some of the union leaders from Poland and other countries, in particular Germany and Bulgaria, expressed their open support for benchmarks for the power sector. However, Dupressoir, as a representative of the ETUC did not give her consent. The idea of benchmarks would lower the cost of

emission reductions for industries and power sectors, but it did not account for issues of employment in those companies in any way. Even my interviewee from the EMCEF, which officially supported the IFIEC-method, had some reservations against it, irrespective of whether they were implemented in industries or in the power sector companies:

From what I understood this benchmarking is a good thing from a perspective of the cost of the CO₂ reductions and from the innovation perspective because it's going to give encouraging signals to industries to invest in clean technologies. But we are representing workers and trade unions in all companies and it is not fair that we are going to take a position in favor of those who are by accident... or rather simply fortunate to work in a company, which had invested in clean technologies. We also have to take care and think about employees and trade unions in companies, which had not done it, because we would like them to keep their jobs as well. So from the perspective of trade unions in the paper sector this whole fight for integrating employment, for sustainability of employment, is simply not included in this benchmarking proposal. (Interview, Brussels, March 2009)

According to my interviewee, free allocation of emission allowances based on the technological performance of companies did not account for the value of labour. Technological benchmarks erased workers from production processes and simplified production into a purely technological process. In the benchmark proposal there was no place for considering the work of people and their dependence on companies for their living. Benchmarks were not sensitive to the quality of labour skills, regional levels of employment or respect of labour rights.

During our conversation, Kumar also said he could not have believed that unions had supported the benchmark idea – an idea, which came from the industry lobby. 'The benchmark talk', was according to him a typical 'industries' talk' and not a 'unions' talk'. Contrary to my interviewee from the EMCEF, he did not try to theorize why 'the benchmark talk' could not have been a 'unions' talk'. For him, the 'benchmark talk' was simply a talk exercised in a different organizational field

and by actors, which had structurally different interests from trade unions and employees in general.

However, my interviewees from the Polish unions did not perceive this structural opposition. For example, Dojlido was aware of Kumar's surprise but she said he did not understand that in Polish companies, especially in the state owned companies, unions considered themselves landlords. They felt responsible for good performance of their companies because it meant jobs for them. "We are in the same trolley with the employers," commented Dojlido "and we negotiate issues important for our companies straight with Polish ministers" (Interview, Brussels, June 2009). She also pointed out that Polish unionists felt responsible for people working in their companies.

The idea that money for 'just transition programs' would solve the problem of unemployment foreseen in Poland due to the ETS, according to Dojlido, was silly. Polish unions were fighting save the existing jobs, for keeping the employment situation the way it had been before the ETS. Dojlido also referred to the legacy of *Solidarność* as "something more than just a trade union, which did not forget about the general principle of social solidarity and responsibility" (Interview, Gdańsk, November 2008). She was disappointed with Kumar's attitude:

We are fighting for fair rules. But we are fighting for rules, which make sense and not simply for more money to be distributed from budgets. Because we know that money does not grow on trees and that first you have to take this money from someone to be able to give it to someone else. So the point is not to increase re-distribution in the EU - we are also paying into the EU budget. But when we propose alternative solutions, like the benchmark allocation, people like the guy from the WWF question "authenticity" of our proposal, because the "benchmark talk" is not a typical "trade unions' talk". (Interview, Gdańsk, November 2008)

And while defending the unions' right to propose alternative allocation methods, she rhetorically asked whether demands made by the ETUC with regard to the Climate change and energy package were met. But they were not. During the

meeting in Katowice, such questions were asked directly by Grajcarek to Dupressoir, who was not able to answer them positively. By the time of the meeting, the consultative committee for social partners concerning the package had not put in place. There have not been any decisions made as to launching a special fund for the just transition support programs. Grajcarek criticized the ETUC for having taken a wrong strategy. According to him, the ETUC should have had first put forward demands and only once those demands had been met, it should have endorsed the Package of Commission's legislation.

Dupressoir commented on the Polish unions' domestic strategy in a similar way. During our conversation, she wondered why Polish trade unions so eagerly supported the government and industries without making any demands. They did not ask for anything, for any kind of financial support, which could be used for skills' training programs. She was surprised that Polish unions' support for its government and businesses was so unconditional. She also found it surprising that Polish unions had not been interested in funding opportunities she hoped would soon open in the EU for trade unions:

I don't know exactly what was the purpose of the meeting. For sure for us it was to listen to their concerns. Which was interesting because we had quite a good number of presentations from the industry, government, Kazimierz, etc. But it was also for them to listen to us, I think. And I don't know if we moved a little bit forward. I think it was really each one on its own position and that's it. This was not helpful and what was difficult was that even when we came with new arguments, new ideas, saying ok, you know there is a fund which will be set up for that, you know that CCS will be a key technology for Poland, you have to make sure that at least one is in Poland. They were not able to hear it. So it was difficult, because for sure there is a problem but there will be opportunities, there will be some financial means to help them, the business as usual scenario is not very pink for Poland. They could also look at the positive sides and they were not able to look at the positive sides. (...) They backed up the government and the industry, and they didn't get anything in return (...) and they

are always the first ones to complain that social dialogue in Poland is very weak, that they are not consulted, etc. But they focused only on achieving a lower target of emission reductions for Poland. (Interview, Brussels, June 2009)

In the eyes of Dupressoir and Kumar, Polish trade unions took a position close to industries. Using justifications referring to social justice and principles of solidarity, they supported a technocratic solution without contributing much to making it more 'socially or employment sensitive'. They have also showed little or no interest in securing funding for labour re-skilling programs or any kind of support programs for those who would have to change their jobs if the Polish economy was to become low carbon. In other words, they got enrolled into the government's and the GEG projects of the ETS without having introduced labour-sensitive innovations to it.

At the same time, they strengthened this project by supplying new kinds of justification – the justification of social fairness, solidarity and social justice. Apart from justifications referring to economic efficiency, thanks to the engagement of the Polish trade unions, the IFIEC-method started also functioning in a different realm of values – of social values. Polish trade unions seem to have fought for the status quo and supported the Polish government's and the businesses' neo-liberal project of Poland as a 'competition state' against the project of a 're-distribution state' strongly supported by the ETUC and environmental NGOs. This has not been the first time when Polish unions supported neoliberal solutions (Gajewska 2008, 2008a).

However, Polish unions were not exactly unique in their allies with business actors. While the ETUC allied mostly with green NGOs, the European Industrial Federations, like the EMF and the EMCEF, worked closely with industrial federations at the European level as well. The platform for achieving common statements was provided by the institution of the European sectoral Social Dialogue. The EMCEF, for example made common statements with the Confederation of European Paper Industries (the CEPI) supporting benchmark allocation. With time, cooperation between the two organizations with regard to

Climate change and energy package went beyond the framework of the Social Dialogue. CEPI hired professional lobbyists, which made an action plan for both organizations. My interviewee from the EMCEF gave an account of this cooperation:

We had a meeting with their lobbyist from the paper industry, their advocacy officer. He made a presentation and we had a discussion. They said what the problem was, what they were going to do. We said ok, we can do three things. We can try to have a meeting with somebody from the European Parliament. I thought about the old General Secretary of the Building and Woodworks Federation, he is now a Dutch member of the EP. He knows very well what trade unions at the European level are concerned about, so he was, I think, a very good person to go to. So we said to the industry, look we can do that, we can support a little bit the lobbying, we can develop some kind of a joint position and go with that to people who understand our viewpoints, and we can also have somebody at our Executive. I prepared a presentation together with this lobbyist from the CEPI. Next we sent it out to all our affiliates in the paper sector. This lobbyist also prepared for us a time plan and this was very helpful because in May that we had our first discussion and in June we got this from the CEPI and then we had a very good overview of important moments of decision-making so that we could interfere with certain actions. (Interview, Brussels, March 2009)

The EMCEF relied strongly on expertise and organizational resources of the CEPI when it came to launching action against the Commission's proposal of the new ETS Directive. They also provided European paper industries with their own organizational resources and contacts. Similarly as in the case of the Polish unions, when it came to action at the EU level in this debate the interest of employers and employees was equalized – a shared vision was negotiated. In other words, in the search for better means of interest representation, the EMCEF got enrolled into the project of the CEPI, since as my interviewee from

the EMCEF explained, interests of the EMCEF and the CEPI were much closer in that debate than interests of the EMCEF and the ETUC.

The meeting in Katowice was the biggest event organized by the SGiE and the EMCEF Coordination Office in Poland during negotiations of the EU Climate change and energy package. Since the final vote in the European Parliament was postponed till mid December, after the European Council, the protest action lost its purpose and was canceled. However, 13th November showed the SGiE's capacity to mobilize actors and bring them together. Tensions and heated debates, especially between Polish unions, the EMCEF on one side, and the ETUC, the ITUC-TUAC and the WWF on the other side, showed to the Polish unions that they were not fighting their own Polish battle but that the fight was a European one. My interviewee from the EMCEF commented that:

For us it is not a matter of this country or another one. For us it was a more a European thing where we should work together with employers and with government actors and work together on the European basis.
(Interview, Brussels, March 2008)

Despite all the tensions, the meeting in Katowice concluded in a common statement signed by all participants. Once again an appeal was made to the European Commission to launch negotiations with social partners about the Climate change and energy package. Participants of the meeting in Katowice stated that:

The Climate change and energy package should be introduced. However, introducing the Package in its current state may result in closedown of hundreds of thousands of workplaces in the EU and at the same time the CO2 emitting industry and investments connected to it might move outside of the EU. These possible consequences will shatter the goals of the Climate change and energy package.⁷⁶

⁷⁶ *Appeal to the European Commission to launch negotiations with the social partners about the Climate and Energy Package*, November 2008.

The meeting participants also drew attention to a “threat of making the EU dependant on the carriers of energy coming from outside of the EU” (*Appeal...* 2008). This would substantially reduce its energy security. They asked the European Commission for another round of negotiations with social partners. At the same time, they declared participation in such negotiations and presentation of their own proposals. The problem identified by the SGiE in the middle of 2008 was framed not only as a national but also as a European one. Although it was obviously Poland’s heavy dependence on coal in power generation which gave the first impulse for calculating costs and benefits of the proposed ETS Directive, the competitiveness of industrial sectors were similarly important. Whereas an argument referring to future losses in the mining sector would be able to mobilize support from a limited number of countries which also relied on coal to a large extent (like the Czech Republic or Germany), an argument about the loss of competitiveness in industrial sectors, due to their internationalization and dependence on global competition, had a strong mobilizing effect.

Negotiation Failure and the Fragmentation of the European Labour Movement

During the December Summit of 2008, final decisions concerning the Climate change and energy package were taken by the European Heads of State. This included decisions on the new ETS Directive. Apart from the benchmarking allocation of emission allowances for European industries, none of the ETUC’s postulates was met. A requirement of regular consultation with social partners was not included in the text of the ETS Directive. A separate fund or a finance mechanism for the just transition programs was not established. Border tax adjustments on goods produced outside of the EU in regions were not introduced either (ETS Directive 2009). In other words, the ETUC did not gain anything substantial in this round of negotiations.

This was a setback for the ETUC but, in a way, it was not a big surprise. All of my interviewees, including Sophie Duppresoir, admitted that the ETUC had had a weak position within the EU arena for a long time already. The Commission was willing to listen to industries but usually ignored the stance of the unions. Apart

from the Commissioner for Employment, Vladimir Spidla, who, according to my interviewees, was not a strong fighter for unions' interests anyway, no one was interested in pushing through the unions' agenda. Externalities produced by the ETS carbon market were left to be dealt with by national governments. Dupressoir told me that she had seen some chances of getting what the ETUC had asked for in 2008. Unfortunately, somehow, none of the promises ever turned into concrete decisions:

I think we were quite close to having something or at least some reference to our language [of establishing the Just Transition Fund. A.L.] in the Directive thanks to the French Presidency who was very confident that they could help us. We had very close contacts, we really pushed them hard and I think we lacked some critical mass of Member States to support it. And always when you talk about money, it is complicated and some say: why a new fund, no problem, we put a budget line in the Globalization Fund... Others say: yes, but it is complicated, difficult, etc. so I think the fact that it was about money, made it problematic. (Interview, Brussels, April 2009)

The weakness of the European labour movement is even more visible when one realizes how much businesses managed to win in the 2008 ETS negotiation. The business lobby from the Zero Emission Platform which associates oil- and coal-related companies, producers of equipment for those sectors and research institutes, managed to insert a line into the ETS Directive which said that an equivalent of 300 million emission allowances would be put aside to finance construction of carbon capture and storage (CCS) demonstration installations in the EU. This meant allocation of auction revenues to companies for the sake of developing a technology which is still not economically viable, and, more importantly, not necessarily environmentally friendly. Money from auctioning 300 million emission allowances would be allocated to particular CCS projects in the EU. This finance mechanism even got its own name - NER300. Applicants for this money would be companies.

While getting actual money allocated to ‘just transition’ in the EU seemed like a big challenge for the European trade unions, they were more optimistic about chances of having an official consultative body established to discuss climate policies. Dupressoir commented on the unions’ failure in this issue in the following way:

And the other one was this consultative committee of social partners, which was probably easier to have. We have experience with that in Europe, e.g. in Spain, where social partners gather together at a social dialogue table to look at the employment part of the implementation of the Kyoto Protocol. This helps them to make the transition. I think it smoothes difficulties, which arise when they have to take strong decisions. And we said to the Commission – we want something like that – because at the moment trade unions are not really involved in it. You have an easy relationship with the industry, NGOs are very close to you, but unions are not really involved. And then we have got informal and oral commitments from two commissioners Dimas and Spidla. We had a meeting with John Monks, the President of the ETUC, and the two commissioners where saying “we are going to set up a small group of people to explore what we can do, how we can set up this, etc.” and this never happened. The working group was not set up. And all the civil servants, from the DG Environment in particular said that they opposed this idea. (Interview, Brussels, June 2009)

I asked Dupressoir why would all the civil servants from the DG Environment be against that idea and she answered:

Because there was this European Climate Change Program group and they were convinced that the consultation in the DG Environment was working well. They don’t need us. To be frank, they don’t see why we are ... or they need us only when they want us to support the package. So it was seen as a burden, an additional consultative body. And when the French Presidency pushed for it, they opposed it. The Commission said: no, no, no, this is too complicated. And frankly, they wanted to

have this package adopted very quickly and they didn't want to be slowed down by something they didn't find essential. (Interview, Brussels, April 2009)

However, unions faced a more general challenge in the 2008 debate on the ETS. The subject of debate - emission trade - was not making it easier for unions to become widely heard in the EU. It was a new thing for the unions, which required expert knowledge and they lacked it. This was a real challenge for the unions. Dupressoir commented on this as well:

The problem is that this is a new subject for trade unions. I don't know how many unionists in Europe really understand what was at stake. And I was not able to see all implications of this instrument myself. And even here, the public servants of the Commission are still learning. So maybe it took some time as well to understand the implications for the coal-based power plants. But at that time we had to go quickly, because if we wanted to have an influence on the process, we had to act very quickly. It was difficult for us to be on time, to be able to have a lobbying advocacy process. (Interview, Brussels April 2009)

According to Dupressoir, the ETUC had to make a compromise. It could have invested in learning and waited with its position on the ETS. But this way it would have deprived itself from influence on the debate. Or it could have positioned itself within the debate but risked that problems of employees would not have been represented well. This was a dilemma but the conviction that emission reductions should be made in Europe and globally was stronger. And this conviction was widely shared among European trade union organizations. In the end, even Grajcarek and Dojlido expressed such opinions many times during our conversations - that emission reductions have to be made. However, the issue which has apparently not been discussed enough within the ETUC was how to represent labour in the European climate politics. The important question was how to balance between a general human responsibility as European citizens of the rich and polluting North to reduce emissions, and the statutory obligation of

trade union organizations to protect European citizens' workplaces. And while my interviewee from the National Commission of Solidarność in Gdańsk did not see any contradictions between the two goals, Dojlido and Grajcarek had problems with understanding the kind of position the ETUC adopted toward climate action and its impact on employment. Dojlido put it in this way:

When you talk to people informally, you can hear from some members of the ETUC, e.g. Germans that they think the ETUC behaves like yet another environmental NGO and not a trade union organization. They fight in the name of some general, global interests instead of dealing with issues they were created to deal with – that is to defend their members, the working people. We understand and agree that natural environment should be protected and that we have some international obligations. But if the ETUC does not feel well defending the employees, maybe it should change its profile completely. (Interview, Gdańsk, November 2008)

The same kind of critique came from two European industry federations – the EMCEF and the EMF. I had a long conversation with an EMCEF official who had been involved in the debate on the ETS. He was also present in Katowice and was communicating with the Polish and German unions with respect to the ETS Directive in 2008. He talked about the position of the ETUC with a dose of irony, calling it “yet another European environmental NGO” (Interview, Brussels, March 2009). According to him, for the ETUC the organizational field of NGOs was its playing field. For him, the problem was that “in the ETUC they were speaking much more the language of the guy from the WWF than of industrial trade union organizations” (Interview, Brussels, March 2009). He complained that the ETUC was not willing to reflect in any way on discussions and interests voiced within the EMCEF's organizational structures.

Communication between the EMCEF and the ETUC about the new ETS Directive was problematic throughout the whole 2007 and 2008. Dupressoir complained that before the March 2008 vote on the ETUC's position, the EMCEF had not been present in the Working Group's debates. It started voicing its claims only in

September when it invited Dupressoir to a meeting with the General Secretary of the EMCEF. Only then did the EMCEF present its position. Consequently, a number of letters presenting the EMCEF's position were sent to the ETUC but they were met with the ETUC's refusal to revise its March position. The meeting in Katowice was a moment when the EMCEF could raise objectives towards the ETUC's ignorance of its concerns in front of a larger union's audience. My interviewee from the EMCEF gave me a brief account of his presentation at that meeting:

I said: "Sophie, I am really a bit surprised now, because you were present at our Executive Meeting on September 11th. You gave your presentation there. You saw the presentation of our General Secretary. You heard what our affiliates thought about it. And now it is November and you are giving exactly the same presentation as you did on 11 September. So I am a little bit worried, if you actually understood what our affiliates were saying then. You are from the ETUC, we are affiliated to the ETUC and if there is a clear message coming from your affiliates, I would suppose that in your next presentation you would include it somewhere. But in your today's presentation, not even marginally have I found any reflection of that day, of the 11 September." (Interview, Brussels, March 2009)

During our conversation, he also made it clear that green NGOs were not the EMCEF's allies. He said that NGOs, when looking at an industrial company, would in the first place see a polluter which should be closed. And the EMCEF would in the first place see a workplace of its members. However, as my interviewee recalled, at the beginning of the 2000s, due to a failure in dialogue with the BusinessEurope, the ETUC decided to get closer to NGOs and learn more from them in terms of representation strategies. It was also the time when the ETUC realized that in the European Parliament, apart from the socialist fraction, also the green fraction was willing to listen to the unions' concerns. However, he was critical of these developments. He didn't like the new strong orientation of the ETUC and its research institute, the European Trade Union Institute (the ETUI) onto environmental issues.

He told me about one case when he had to defend two factories in Germany and one in Poland where asbestos was used for production against the Commission's plans to close them down. He recalled that it was a difficult situation for him. On the one hand, he was aware of health and environmental risks associated with using asbestos. On the other hand, in front of him, he had piles of companies' expertise proving that there was no alternative to the use of asbestos in the production processes of those companies.

Documentation delivered by the companies also gave evidence of all sorts of safety measures adopted to protect employees and environment from damaging impacts of asbestos. He recalled that a representative of the ETUI, who took part in solving this case from the health and environmental perspective, did not have such dilemmas. In an emotional speech he pleaded for the factory to be closed down because of the risk reasons. He did not want to be persuaded and he refused to read documents provided by the industries. My interviewee from the EMCEF concluded that when he listened to the ETUI expert, he thought there was a growing number of people in the European labour organizations who imagined Europe as an economy of services with no industries. And he concluded that he would prefer to have this asbestos plant in Europe where its use was protected, regulated and controlled (Interview, Brussels, March 2009).

The EMCEF, as well as other European industry federations, like the EMF, started getting closer to European employers' federations. It was institutionally facilitated through the sectoral social dialogue. Meanwhile, the ETUC has become a co-founder of a Spring Alliance comprised of the European Environmental Bureau and the Social Platform. The Spring Alliance is a platform for addressing employment, environmental and social problems before each European Spring Summit. Dupressoir from the ETUC commented on this initiative in the following way:

Yes, I think it was really a strategy of the ETUC to start working on sustainable development. I was not there at that time but it started with the conference on the windjobs. There was a conference, a common position paper. So yes, this is how it started and then it

remained quiet for some years and it only recovered when I was hired and Joël Decallion who was in charge of the Sustainable Development. The ETUC really contributed then to the debate and we started again with this small yearly declaration and it never stopped. And even though we did not have any really big campaign like that one we launched in Dublin around sustainable investments, afterwards we continued to adopt common statements prior to the Spring Council in March. (Interview, Brussels, April 2009)

I asked Dupressoir why would the ETUC need cooperation with the environmental movement and what kind of benefits it brought:

The environment is not an issue of our natural competence so we need the environmental movement to be credible, to learn, to broaden our audience. Social movement is also very useful because they bring some expertise and legitimacy on issues like poverty, on energy poverty, housing, sustainable housing. So it is really an alliance you need when you say: sustainable development. We need to broaden our scope and we need to include other points of view, other issues. It was natural to cooperate with them. It never raised any difficulty within the ETUC. I'd say it is easier to work with NGOs, to certain extent with those NGOs than to work with business organizations. We had experience within the European Partners for Environment, which brings together some companies, labour unions, NGOs but it is not very successful and each time we tried to come to an agreement it failed, because it was impossible to have common grounds with business organizations. (Interview, Brussels, April 2009)

The debate on the ETS seems to have been a culmination of these organizational reshufflings between the ETUC's and the industry federations' positions within a wider field of European policy-making. At some points, the language, the concepts, the loyalties, the playing fields and feelings of urgency were so different between the ETUC and the federations that communication became challenging. As my interviewee from the EMCEF pointed out, it was difficult to talk because

each side was convinced that the counterpart was fundamentally wrong. The ETUC thought that the EMCEF was making an error by allying with employers from particular sectors since they were supposed to be 'unions' natural enemies'. The EMCEF thought that the ETUC was making an error by getting so close to environmental NGOs because it started caring more for environment than for workers.

Conclusion

The 2008 debate on the ETS Directive has shown that trade union organizations in Europe are confused trying to find their best strategy to represent problems of labour with respect to the EU's climate policies. In 2005, three trade union organizations, the International Confederation of Free Trade Unions (the ICFTU/ITUC), the European Trade Union Confederation (the ETUC) and the Trade Union Advisory Committee to the OECD (the TUAC), issued a common statement to COP11 in Montreal, in Canada, on *Preventing Disruption & Enhancing Community Cohesion: Social & Employment Transition for Climate Change*. Union organizations called for 'green job' to be created, and for the creation of re-employment, training and education programs.

Since 2005, the concept of 'green jobs' has systematically been refined within trade union forums and meetings. It has also started to bring together unions and governments. In March 2005, in the UK, a national *GreenWorks* conference, addressed to trade unions from industries and services in the public and private sectors, was hosted by a joint government-trade union committee. The goal was to strengthen unions' workplace and policy engagement in sustainable development, including energy and climate change. The Trade Unions for Sustainable Development Advisory Committee (the TUSDAC) was set up in 1998 and is jointly chaired by a Government Minister and a Trade Union General Secretary. Spain⁷⁷

⁷⁷ "Spanish Trade Unions (CCOO & UGT), government and business organizations to prevent, avoid or reduce the potentially adverse effects that could result from compliance with the Kyoto Protocol, in particular those related to competitiveness and employment established a platform for tripartite social dialogue on climate change, bringing the three Parties together under an umbrella 'Dialogue Table'. Six follow-up tables, one for each industrial sector have been organised, along with the first meeting for the residential, commercial and transport sector. An in-depth study on social and economic effects of the National Allocation Plan on employment will be undertaken by

is another example of institutionalised dialogue on sustainable development and climate change between unions, the government and businesses.

The problem of 'green jobs' became widely researched, not only by trade union organizations but also by environmental NGOs, like e.g. the WWF. In 2009 the WWF published a report *Low carbon Jobs for Europe: Current Opportunities and Future Prospects*. The report states that evidence to date suggests that green jobs span a wide array of occupations, skill-levels, and salaries, potentially offering opportunities for a broad sections of the workforce. It points out that climate-friendly and energy-efficient industries, and products associated with those industries, tend to be more labour-intensive than products associated with conventional and fossil fuel-based industries or less energy-efficient products. In addition, saved fuels through energy efficiency not only contribute to energy security but they also increase the purchasing power of consumers. The report collected evidence of the already-existing green jobs and assessments of potential job growth in three core areas: the renewable energy sector, transport, and energy efficiency. The report estimated job losses in some countries while seeing opportunities for new jobs in others. For example, the WWF report calculated employment changes in the lighting industries:

The planned phase-out of inefficient incandescent lamps in the EU by 2012 will likely cost an estimated 2,000 to 3,000 jobs, mostly at factories in Hungary and Poland. In total some 50,000 people work in the EU lighting industry, but efficient compact fluorescent lights are mostly produced in China. Meanwhile, a number of European companies are involved in product design, marketing and selling of highly-efficient LED lamps, but they mostly outsource the manufacturing to Asian firms. But of course much of the design, marketing and selling potential lies within the EU. (WWF 2009)

While the places of job losses are identified – Hungary and Poland – it is not clear which European countries are involved in design, marketing and selling of highly-

CCOO, in the framework of this tripartite social dialogue.” More information: bmtome@istas.ccoo.es.

efficient LED lamps. Similarly, in case of combined heat and power generation (CHP) it seems that the losers of 'dirty jobs' may not necessarily live in the same place as the 'green jobs' winners:

A number of European countries use CHP fairly extensively, including Denmark, Finland, the Netherlands, Germany, Poland, and Romania. A rough estimate suggests that an average of 25 workers are required to operate and maintain every 10 MW of existing CHP capacity. Europe currently has a capacity of 104 GW. Applying this formula yields an estimate of 260,000 jobs. This figure needs to be regarded with caution as additional jobs are typically found at supplier firms. There is also growing employment opportunity in export sales. European companies are well placed to benefit - in terms of capturing contracts for designing, developing, and building facilities - capital goods from an expansion of CHP in countries outside of Europe. The United Kingdom, for instance, has a share of more than 20 percent of global exports of CHP systems. Given that just 8 percent of global electricity demand is currently met by CHP systems, the market potential is very substantial. (WWF 2009)

The report makes it clear that some jobs will be lost while others gained but it makes it difficult to foresee scenarios for particular Member States. This generates tension in the European labour movement. The knowledge on 'green jobs' is produced mainly at the EU and international levels and policy solutions are left to national governments. A dissatisfaction among trade union organizations representing industry workers is growing as they start to realize that the ETUC is getting more and more engages in producing general figures and broad assessments of the impact of climate policies on labour. The 'green jobs' framework seems to be too vague for some of the ETUC's member organizations and it does not reduce their anxiety about potential jobs losses in their countries or sectors. The weakness of the ETUC at the European level is additionally proved by its inability to coin its statements and proposals into actual European policies and funding measures. As a result, the ETUC becomes more distant from the grass root problems of workers in Europe.

This is particularly visible in the relation between the ETUC and industry trade union organizations, which represent 'dirty jobs'. This makes the industry unions turn to associations of industry companies, which is not a good solution either. Employers are ready to take concerns of the employees on board only within certain limits. And this leads to the fragmentation in the European labour movement. Climate change seems to have brought the European labour movement to the crossroads. The 2008 negotiation of the Climate change and energy package, which included the new ETS Directive, has shown that internal disagreements may in the future make the movement even weaker. Several years of work of the European and international labour movement to bring problems of labour into the framework of sustainable development⁷⁸ resulted in some concrete policy measures in some Member States but they did not bring labour-related regulation to the European Union Emission Trading Scheme. If the ETUC does not manage to elaborate the framework of 'green jobs' to include concerns of unions in specific localities, the European labour movement may split into a European 'green jobs' movement' and the 'dirty jobs movement'. The merger of the EMF, EMCEF and ETUF-TCL may be the one of the signs of this split.

⁷⁸ In 2002, during the World Summit on Sustainable Development, unions started to reflect on problems of employment and sustainable development. The Summit called on national governments to take steps to ensure that industrial development contributes to poverty eradication and sustainable natural resource management.

Conclusion

In the final text of the new DIRECTIVE 2009/29/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community, auctions remained the basic principle of allowance allocation (p. 64-65). The text also reiterated the conclusion from the proposal of the ETS Directive, which said that in order to avoid distortion in the intra-Community competition and to ensure the highest economic efficiency in the transition to a low carbon economy in the EU, it is found inappropriate to “treat economic sectors differently under the Community scheme in individual Member States” (p. 65). In other words, there would be no preferential treatment for national economies.

However, during the December Council of the European Union, an important article was added to the ETS Directive. It was the Article 10c, which provided an option for transitional free allocation for the modernisation of electricity generation⁷⁹ (p. 76). The Article 10c granted some Member States with a possibility to opt out from the full auction system between 2013 and 2020. At the same time it put several conditions on those Member States. Firstly, the national electricity network had to be poorly connected to the international grid. Secondly, in 2006, more than 30 percent of electricity had to be produced from a single fossil fuel, and thirdly, the GDP per capita at market price could not exceed 50 percent of the average GDP per capita at market price of the Community (ETS Directive 2009/29/EC, p. 66). Also the base year for emission reductions between 2013-2020 was shifted and countries, which fulfilled conditions outlined in the

⁷⁹ By derogation from Article 10a(1) to (5), Member States may give a transitional free allocation to installations for electricity production in operation by 31 December 2008 or to installations for electricity production for which the investment process was physically initiated by the same date, provided that one of the following conditions is met:

- (a) in 2007, the national electricity network was not directly or indirectly connected to the network interconnected system operated by the Union for the Coordination of Transmission of Electricity (UCTE);
- (b) in 2007, the national electricity network was only directly or indirectly connected to the network operated by UCTE through a single line with a capacity of less than 400 MW; or
- (c) in 2006, more than 30 % of electricity was produced from a single fossil fuel, and the GDP per capita at market price did not exceed 50 % of the average GDP per capita at market price of the Community.

Article 10c could take as the base-year for their emission reductions the “average verified emissions in 2005-2007” (ETS Directive 2009/29/EC, p.51).

The Article 10c said that the “transitional free allocations shall be deducted from the quantity of allowances that the respective Member State would otherwise auction pursuant to Article 10(2).” This rule was introduced in order to prevent power sector companies from passing the market price of free emission allowances to the price of electricity because it was not allowed to sell these allowances. According to Polish officials, this rule reflected the principle of the IFIEC-method, which aimed at preventing new windfall profits coming to the pockets of the utility companies.

Yet another change introduced to the final text of the ETS Directive was beneficial to Poland. It was the provision for redistribution of 2 percent of the total EU emission cap to the Member States, which in 2005 achieved a reduction of at least 20 percent in greenhouse gas emissions compared to the reference year set by the Kyoto Protocol⁸⁰. This was a response to objections made by Poland and other Central and Eastern European Member States that the European Commission did not take into account their Kyoto reduction efforts.

Polish media heralded the negotiation result as a big success but the whole process made it clear that the European carbon market was still in an experimental stage. According to Callon (2009), “no market is so stabilized, routinized, mechanized and purged of all uncertainty that it can entirely do without these design activities, including framing and qualification of goods, the elaboration of rules of the game, the delimitation of agents to take into account,

⁸⁰ 88 % of the total quantity of allowances to be auctioned should be distributed amongst Member States according to their relative share of emissions in the Community scheme for 2005 or the average of the period from 2005 to 2007, whichever one is the highest. 10 % of the total quantity should be distributed to the benefit of certain Member States for the purpose of solidarity and growth in the Community, to be used to reduce emissions and adapt to the effects of climate change. The distribution of this 10 % should take into account levels of income per capita in 2005 and the growth prospects of Member States, and be higher for Member States with low income levels per head and high growth prospects. Member States with an average level of income per capita that is more than 20 % higher than the average in the Community should contribute to this distribution, except where the direct costs of the overall package estimated in the Commission’s impact assessment accompanying the package of implementation measures for the EU’s objectives on climate change and renewable energy for 2020 exceed 0,7 % of GDP. A further 2 % of the total quantity of allowances to be auctioned should be distributed amongst Member States, the greenhouse gas emissions of which were, in 2005, at least 20 % below their emissions in the base year applicable to them under the Kyoto Protocol.

the construction of their calculative equipment.” (p. 540). The massive lobbying carried out by businesses, governments, NGOs and trade unions gave a clear evidence of this fact. The ETS negotiation was full of controversies.

The ETS negotiation examined in this dissertation point to the fact that the organization of emission trade is political in many senses. It is political in a traditional sense of “politics – as a set of technical practices, forms of knowledge and institutions” (Barry 2002, p. 270), and it is political in the sense that the ETS negotiation has been indexed as a space of disagreement (Barry 2002). It took place within various political forums and institutions of the European Union, and thus was limited by the need for unanimity, for a majority of votes, the need for approval by national governments, parliaments, etc. Emission trade is political also because it involves close relations between companies and governments (Fligstein 2001), whereby the former turn to the latter for support to secure their dominant position on markets and to be represented in political negotiations. The development of emission trade is thus inscribed in institutionalized forms of politics.

Organization of emission trade is political also because it engages actors who operate within various ‘orders of worth’ (Boltanski and Thevenot 1999, 2006). They become concerned about different aspects of emission trade and try to articulate them into matters of concern (Latour 2005, Callon 2009). This is not always easy and actors often probe their audiences to see if their framing of problems resonates and brings some approval for their claims. There is a certain process of the adjustment, simplification and juxtaposition of interests, which may or may not result in a solid alliance. Through communication with other actors, concerns become ordered and classified as political, economic, environmental, societal, etc. According to Callon et al. (2009), controversial classifications of ‘matters of concern’ are dealt with within various ‘hybrid forums’. In the examined case, these were the networks of heterogeneous actors, who negotiated the ETS organization in relation to various fields of practice. Simultaneously, relations in these fields were re-negotiated. The ETS negotiation also produced new boundaries over fields within which some practices could be carried out in a

legitimate way and other practices would become illegitimate. These new boundaries structured relations of power over issues and actors.

Politics is inherent in markets' construction, but it is often hidden behind the veil of technicalities and black-boxes, which make market organization, to use Barry's (2002) expression, an exercise that is "profoundly anti-political in (...) effects" (p. 270). During the Green Week in Brussels in May 2009, the European Commission presented the final text of the new ETS Directive as an economically and environmentally most efficient solution. An official from the DG Environment said that changes introduced to the ETS Directive, proposed by the Commission in January 2008, were minor and this gave evidence to the fact that 'the initial proposal of the Commission was almost perfect'. At that meeting, the rules of the ETS were discussed in terms of their efficiency, technical feasibility, and their accordance with European legal frameworks. This shows that to study emission trade organization as political may be at times challenging and counterintuitive.

What and how to trade on the ETS raised many controversies in 2008. Frames and frame innovations were quite central to this process. For instance, framing of carbon dioxide as a commodity was challenged by Polish actors, and interests of various actors were often re-framed in the course of the negotiation. The thesis illuminated processes through which the framing of 'the economic' was often challenged by actors who pointed to extra-economic reasons like fairness, solidarity, equality to blow up the proposed frame. This also points to the fact that economic framing is selective because it cannot encompass everything. Framing implies leaving some parts of the reality outside of it. In this sense, frames are political and framing may be a coercive process, or at least it is never a power-neutral one. The performativity approach to economy, despite numerous accusations (Fine 2003, Miller 2002), thus may provide us with a way for accounting for power and politics. What stays inside and what stays outside a frame is never obvious and self-evident. It is always a proposal of an order, which is never neutral in its results. A focus on how actors negotiate these frames, how they justify them and how they enact them in the actual process of trading may be one way of bringing the political potential of the performativity approach forward.

Framing was examined as an actors' strategy to induce processes of change and mobilize action, or to secure stability and stabilize institutions. Frames linked and incorporated things and actors, but they also divided and excluded them. The focus on frames and processes of framing pointed to the social movement-like character of the ETS negotiation. It was the moment of great mobilization and though, unlike in case of traditionally examined social movement, it was a mobilization of powerful elite actors, persuasion and framing were ones of their main tactics. The policy-making phase was the moment when general rules of the scheme were negotiated, and though, some of my interviewees agreed that many details of the ETS would still be negotiated, they also pointed to the fact that the general architecture of the ETS was an important point of departure for the future working of the ETS. What was put down in the Directive would be difficult to change unless the Commission really wanted to do it. So for many actors it was the 'now or never'. Many actors perceived the 2008 ETS negotiation as the opening of an opportunity structure for their creativity, innovativeness, for the expression of their interests, visions and preferences.

The focus on frame-making also points to the fact that the ETS is caught in a reflexive organization process. Both Callon (2009) and Fligstein (2001) draw our attention to such moments. By using different theoretical approaches they argue that markets are organized in a strategic way and that not all actors benefit from this organization in the same way. Fligstein (2001) notices that in new markets "the politics resemble social movement" (p. 76), since a lot of new firms are forming with different conceptions of what the market will be. This is what social movements do: "they create collective identities for disparate groups that push forward political coalitions for change" (Fligstein 2001 p. 76 after Tarrow 1994). In the end, conceptions of control in a given market may be results of political negotiations and compromises. Once markets are stabilized, frames allow actors to orient their actions on the markets towards profit making. Consequently, framing is an important part of initiating but also stabilizing institutional orders (Callon 1998).

This dissertation also aimed at showing that frames are prone to being changed because they create a tension between the inside of the frame and the outside of

it – between what is ‘in-framed’ and what is ‘ex-framed’. Frames include and exclude, and between the included and the excluded there is a boundary, which at times may become porous, fuzzy, unclear and questioned. Actors in this zone, in its proximity or on the overlapping of some structures may be longing for some clarity. But they may also thrive from their position. They may be privileged to see more and to be able to do more compared to those actors whose location is unambiguous and stable. The type of network positions – in a structural hole (Burt 1995) or rather in a structural fold (Vedres and Stark 2010) – which are occupied by actors who are able to mediate between various fields, translate issues between them and propose new separations between them should be further researched.

Other parts of the analysis indicated that a nationalistic framing of interests could not be easily sustained because markets in Europe were open and the EU policy-making demanded communication and cooperation across national borders. These material and institutional conditions of the EU governance put limitations to nationalistic framing and opened opportunities to frame innovations. The nationalistic framing often became irrelevant and inefficient for mobilizing international support for a given cause – and this was the necessary condition for a success in the negotiations.

The focus on framing as a mechanism of mobilization also furthers our understanding of what ‘Europeanization’ may stand for. The concept of Europeanization has been widely discussed in the literature, mainly among political scientists, scholars in public policy, legal studies and international relations. Initial concerns about the process of supranational institution-building and policy making led to a proliferation of studies which examined impacts of domestic conditions on outcomes of these processes (Green-Cowles et al. 2001). Green-Cowles, Caporaso and Risse (2001) refer to Europeanization as “the emergence and development at the European level of distinct structures of governance” (p. 3) ranging from political, legal, to social institutions. The emphasis here is mainly put on problem solving that formalizes interactions among actors, and of policy networks specializing in the creation of authoritative European rules (p. 3).

Soon however, with an increasing penetration of European policies into the EU Member States, a need for a thorough study of institutional change at the national level was expressed (Héritier et al. 1996; Mény et al. 1996). According to Olsen (2002), at the beginning of 2000s, Europeanization was most commonly used to describe various ways in which the EU impacted on the Member States. Europeanization was conceived of as a transfer of sovereignty to the EU level (Lawton 1999) and a process by which domestic policy areas were increasingly subjected to European policy-making (Börzel 1999). Ladrech (1994) emphasizes processual aspects of this adaptation. According to him, Europeanization is an “incremental process re-orienting the direction and shape of politics to the degree that EC political and economic dynamics become part of the organization logic of national policy-making” (p. 69).

Interest in politics and policy-making went hand in hand with studies of rule making and the institutional models’ transfer from the EU to its Member States. Some scholars emphasized the persistence of domestic arrangements (van Waarden 1995), others pointed to far-reaching adjustments at the national levels (Schneider 2001). Yet another group set out to come up with efficient analytical tools and strategies to account for different constellations of European integration (Falkner et al. 2005; Knill and Lehmkuhl 1999). For instance, focusing on a dominant form of European policy-making, namely the EU regulatory policy, Knill and Lehmkuhl distinguished between three ideal types of the EU-member states relations: positive integration, negative integration and framing integration (Knill and Lehmkuhl 1999). The first one focuses on a direct change of domestic institutions by prescribing particular institutional models by EU polices. The second one points to the altering domestic opportunity structure within which actors and institutional compete for resources and power, and the third one studies altering of beliefs and expectations of domestic actors towards policy processes. The third mechanism provides a shift from studying institutions and rules towards studying actors and cognitive structures that guide their actions.

Adaptation and a process of learning new ‘ways of doing things’, which takes place at both institutional and individual levels, came to the centre of Radaelli’s (2000) concept of Europeanization. He defined it as a process of “(a) construction,

(b) diffusion and (c) institutionalisation of formal and informal rules, procedures, policy paradigms, styles, 'ways of doing things' and shared beliefs and norms which are first defined and consolidated in the making of EU decisions and then incorporated in the logic of domestic discourses, identities, political structures and public policies" (p. 4). His definition underscores the importance of "change in the logic of political behaviour", which takes place "through a process leading to the institutionalisation in the domestic political system (at the national and-or subnational levels) of discourses, cognitive maps, normative frameworks and styles coming from the EU" (Radealli 2000, p. 4). Radaelli argues for studying cognitive and normative aspects, such as discourses on Europe, norms and values, political legitimacies, identities, paradigms, frames and narratives (2000).

In the reviewed concepts of Europeanization, one may notice an insistence on a duality between 'the domestic' and 'the European'. Even in the framework proposed by Radealli (2000), it is emphasized that what is 'constructed at the European level' may be further 'adopted at the national level'. I would like to dismantle this duality and bring in a more flat picture of the European Union. First, I claim that 'the European' is produced in various localities, and it is done not through a simple top-down diffusion but through a communicative iteration of interactions between various actors. 'A European template' does not exist out there for the actors to be adopted in their 'domestic practices', but it is constructed by actors who imagine what the European might be, who expect the European to be something more or less specific, who refer to their past experience, discourses and objects which embody the European Union to negotiate 'a European way of doing things'.

If we decide to take a legalistic, and not a sociological or anthropological, view on Europeanization we may succeed in finding out which legal frameworks resulted from national and which from European legislative processes. But I find this doubtful as well. However, certainly 'a European way of doing things' is not something, which everyone can 'objectively' find, and would know where to look for it. The Europeanness, similarly to the value of environment, is not to be discovered but it produced by actors and assembled from heterogeneous and often accidental bits and pieces. It may with time become inscribed in material objects

or institutions and mobilized each time a 'European example' has to be given, but it undergoes a constant process of reshaping and enacting by various actors. There are also certain 'agential peaks' (MacKenzie et al. 2008) of Europeanness like the European Commission but the way in which they become and act as European should rather be subject to empirical investigation. As Kowalski (2007) pointed out, the state power may be examined as a fieldwork. So may be examined the power of Europe: as work carried out in various locations, in various fields, and across them to produce an effect of the European Union.

Framing is an important mechanism of this fieldwork. Actors construct the European Union as an arena for their claim-making and propose to frame things they are doing in a 'European' way. The European Union becomes a reference point, which allows actors to express similarities between them. They gauge their interests, analyze them and they try to articulate commonalities as being European. They may also strategically use frames to invite actors to re-think their interests and objectives. This is often an efficient strategy for mobilizing others for a common cause. Schlesinger (1992) and Hooghe et al. (1999) noticed that interests tied to national identities have been mainly seen as a potential source of resistance to European integration and Europeanization in the policy and institutional areas. However, some studies have shown new boundaries of solidarity being drawn within and among organized interests, which have not always gone along national lines (Dolvik 1997, Macey 1998).

I argue that the mechanism for bringing about these new boundaries is 'frame alignment' (Snow et al. 1986), and the capacity to represent one's interests in the EU, to engage others in a dialogue, to be heard, listened to and followed, does not only require an understanding of political processes and an ability to gather resources necessary for an easier access to political decision-makers (personnel, new skills) (Pleines 2008), but it also requires an ability to come up with frames that resonate among heterogeneous actors and are able to associate interests, concerns and values of actors coming from various fields. In the social movement literature the process conceptualised as 'frame alignment' (Snow et al. 1986) is defined as "the linkage of individual and SMO [Social Movement Organization A.L.] interpretative orientations, such that some set of individual interests, values

and beliefs and SMO activities, goals, and ideology are congruent and complementary” (Snow et al. 1986, p. 464). Framing is thus a mechanism of linking things and people together by helping them to recognize similarities and opportunities. It is a mechanism of inviting them to shift their attention, activities, visions, objectives, identities and problems into new directions. It displaces them ‘closer to Europe’.

In this approach the European Union becomes an effect of actor’s practices which involves a lot of framing efforts. It may thus be understood through the Timothy Mitchell’s (1991) theorization of State-making as a structural effect. Mitchell (1991) asks the question: how real is the State? I would like to ask the question: how real is the European Union? In his seminal text, Mitchell (1991) proposes to speak of the State as a structural effect rather than of state as a realistic entity. According to Mitchell (1991), the State “should be examined not as an actual structure, but as powerful, metaphysical effect of practices that make such structures appear to exist” (p. 94). And he concludes that “the boundary of the state is merely the effect of such arrangements and does not mark a real edge. It is not the border of an actual object” (Mitchell 1991, p. 94-95). According to Mitchell (1991), the State boundary is not a distinct thing, but it is a result of material processes of boundary making. These processes are spread throughout society and located in various institutions, discourses, practices and objects. And the boundary work is a boundary work as long as it is recognized and accepted by others. This view resonates with Lamont’s (1992) definition of the ‘social boundary’ in relation to a ‘symbolic boundary’. While a ‘symbolic boundary’ is only a conceptual distinction between actors or things, a ‘social boundary’ is an objectified form of distinction.

Callon (2009) and Eyal (2009) take another step forward to a more material view on boundary making processes. Callon (1998), after Goffman, points to the fact that framing of some aspects of the reality is possible only due to the existence of the reality outside the frame. Framing relies on various requisites, which are available in society. Eyal (2009), on the other hand, is interested in the space between fields as a material space, which has its volume, actors, practices and organizational structures. Both scholars are interested in how ‘the inside’ and ‘the

outside', or how the distinction between one field and the other field, are sustained, and how they rely on each other to maintain this separation.

The European Union is thus an effect of actors' practices, which may be more intensively produced in the moments of making policies that abide all EU Member States. The case examined in this dissertation inclined me to conclude that production of the European Union has its two moments, which, in fact, are inseparable. These are translation and purification (Latour 1987). Translation is the moment when shifts and changes in the relation between actors are made and purification is the moment when actors make sense of these changes as of 'shifts and changes in the relation between the national and the European'.

As I argued above, policy-making is not the only moment when the European Union is produced. It is produced in national government, at schools, during daily conversations. But there is also a range of actors, who seem to 'specialize' in the production of the European Union. These are various think tanks, NGOs, journalists, statisticians, and also academics who draw a boundary around themselves to tag their work as 'scholarship on the European Union'. Following the proposition made by Eyal (2009), practices of these actors make up the work of producing the boundary of the European Union. Through their 'fieldwork' (Kowalski 2007), the EU becomes a sphere, which can be imagined, referred to, mobilized and which acts in a disciplining and a powerful way on actors. They are important centers of calculation of the European Union and the Europeanness which collect elements in various location to assemble them anew and present to the world as European, on the European Union, for the European Union or against the European Union.

From this perspective, the EU is in fact flat and the levels of the EU governance become various locations of practices through which the EU is produced as a structural effect. The research program of Europeanization, which emerges from these consideration is a program that stems from an anthropological tradition of the practice-oriented research and from the actor-network-theory which urges us to follow actors and pay closer attention to controversies in which they engage. It also allows us to see the socio-technically constructed character of 'doing things

in a European way' instead of setting out with the assumption that such ways of doing things have an objective reality independent of actors themselves. In this approach the Europeanness is not an immutable mobile (Latour 1987).

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