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EU's Burden Sharing Agreement and Effort Sharing Decision

Efficiency and Sufficiency

Bachelor's project in European Studies with Political Science

Supervisor: Tobias Etzold

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Abstract

Climate Change has increased its importance both at the international level and within the European Union (EU). Since the early 1990s, the EU has discussed and negotiated a way to allocate emission reduction targets within the EU to achieve a common EU-target. In this case, two agreements on achieving a common emission reduction target within the EU is presented, the Burden Sharing Agreement (BSA) of 1997-1998 and the Effort Sharing Decision (ESD) of 2009. Concerning the consequences of Climate Change, this thesis aims to discuss the extent of efficiency and sufficiency in the BSA and the ESD. It is further also interesting to discuss the BSA and the ESD in light of Liberal Intergovernmentalism and Supranationalism. The main conclusion is that neither the BSA or the ESD are as efficient as they could have been or as sufficient as they must have been to achieve the overall target of the EU to be climate neutral by 2050 and to avoid further dangerous interference with the climate system. It is further argued that a global issue like Climate Change cannot be solved at the national level, but rather on the supranational level to ensure that each state contribute in tackling Climate Change and its consequences.

Klimaendringer har fått økt sin betydning både internasjonalt og i den Europeiske Union (EU). Siden begynnelsen av 1990-tallet har EU diskutert og forhandlet frem en metode å fordele utslippsreduksjonsmål innad i EU for å oppnå et felles EU-mål. I dette tilfellet presenteres to avtaler som skisserer felles mål for utslippsreduksjon i EU, Burden Sharing Agreement (BSA) fra 1997-1998 og Effort Sharing Decision (ESD) fra 2009. Tatt konsekvensene av klimaendringer i betraktning, har denne avhandlingen som mål å diskutere omfanget av effektivitet og tilstrekkelighet i BSA og ESD. Det er videre interessant å diskutere BSA og ESD i lys av Liberal Intergovernmentalisme and Supranasjonalisme. Hovedkonklusjonen faller på at verken BSA eller ESD er så effektive som de kunne ha vært, eller så tilstrekkelig som de måtte være, for å oppnå det overordnede målet for EU å være klimanøytral innen 2050 og for å unngå ytterligere farlig forstyrrelse av klimasystemet. Det argumenteres videre for at et globalt problem som klimaendring ikke kan løses på nasjonalt nivå, men snarere på et overnasjonalt nivå for å sikre at hver stat bidrar til å takle klimaendringene og dens konsekvenser.

Introduction

In the last few years the debate about the climate crisis has had an increasing attention on all levels, globally, nationally and locally. The European Union (EU) has since the early 1990s tried to negotiate an agreement on cutting greenhouse gas (GHG) emissions (Michaelowa & Betz, 2001, p. 268). And has since been able to implement binding emission reduction targets for three commitment periods, the first being the Burden Sharing Agreement for the period 2008-2012 (Peeters & Anthanasiadou, 2020, pp. 201-202). The issue of climate change have increased in interest and as a priority both on the international level and the EU level (Oberthür & Kelly, 2008, p. 35).

Climate policy is a policy area that keeps expanding into a broader policy area and increasing in importance, due to this I have decided on focusing my thesis on the EU's emission reduction target and then again focusing on two agreements on binding emission reduction targets: The Burden Sharing Agreement (BSA) of 1997-1998 and the Effort Sharing Decision (ESD) of 2009. When analysing these two agreements I will be looking at both efficiency and sufficiency, which leads me to this research question: *To what extent have the EU's Burden Sharing Agreement and Effort Sharing Decision been efficient and sufficient?*

To answer this research question the thesis proceeds as follows. Firstly, the method for this thesis will be presented. Secondly, the theoretical framework will be presented, introducing Liberal Intergovernmentalism and Supranationalism. Thirdly, the Burden Sharing Agreement of 1997-1998 and the Effort Sharing Decision of 2009 will be elaborated. Finally, there will be a discussion on both the efficiency and the sufficiency of the BSA and the ESD, and a discussion on the BSA and ESD in the light of the two theories introduced in the second part.

When discussing the sufficiency of the agreements, I first set the BSA up against what the first Assessment Report from the Intergovernmental Panel on Climate Change (IPCC) has stated that it is necessary to stabilize the concentration of GHGs to prohibit further consequences that climate change may bring (IPCC, 1990, p. xi). And then, I will set the ESD up against the EU's aim to be climate neutral by 2050 (EEA, 2020, p. 14).

Method

In this thesis I will use a qualitative method where I analyse the two agreements: the EU Burden Sharing Agreement and the Effort Sharing Decision, implemented within the EU. And both concerning an allocation of burden/effort to achieve an emission reduction target for two different commitment periods.

Further, this thesis will be based primarily on a content analysis of secondary sources, but also on some primary documents. The secondary documents will mostly consist of other studies concerning both the Burden Sharing Agreement and the Effort Sharing Agreement. Since official documents of the Burden Sharing Agreement proved to be difficult to find, secondary documents are primarily used in the section concerning the BSA. The primary documents consist of the official document of the Effort Sharing Decision from 2009, the official document of the ratification of the Kyoto Protocol, the official Green Paper presented by the European Commission from 2000 and the Assessment Report of the Intergovernmental Panel on Climate Change from 1990.

In addition to analysing the extent of efficiency and sufficiency of the Burden Sharing Agreement and the Effort Sharing Decision, I will argue that transnational issues like climate change should be handled on the supranational level rather than on the national or intergovernmental level. To do this, two theories will be presented: Liberal Intergovernmentalism and Supranationalism.

Theoretical framework

As a theoretical framework for this thesis, the theory of Liberal Intergovernmentalism and Supranationalism will be presented. These theoretical perspectives will then be put against each other in the section of discussion to discuss whether issues like climate change should be handled on the supranational level or on the intergovernmental level.

Liberal Intergovernmentalism

Intergovernmentalism emerged as one of the main theories in the study of regional integration from the mid-1960s (Wiener, et al., 2019, p. 64). It is rooted from international relations in the realist paradigm (Saurugger, 2014, p. 56). For intergovernmentalism it is the sovereign states that are the central actors on the international stage, and therefore it is also the sovereign states that drive integration and not supranational institutions (Saurugger, 2014, p. 57). According to intergovernmentalism, integration happens as a result of intergovernmental bargaining, and is not something that automatically leads to further integration of new policy areas (Saurugger, 2014, p. 55). European integration is understood, by intergovernmentalists, as cooperation between sovereign states (Saurugger, 2014, p. 55). The sovereign states are seen as rational actors whose interactions are managed by hierarchy and authority as principles (Saurugger, 2014, p. 55). The independence of states is not reduced by pooled sovereignty or cooperation, it rather strengthens states position, by helping each other adapt to the limitations imposed by the international environment (Saurugger, 2014, p. 55).

At the beginning of 1990, on the relaunch of European integration, Andrew Moravcsik came with a series of publications presenting the liberal interpretation of intergovernmentalism (Saurugger, 2014, p. 67). With Liberal Intergovernmentalism, Moravcsik tried to demonstrate that states preferences represented at international level had obvious national roots (Saurugger, 2014, p. 67). Liberal Intergovernmentalism also attempted to explain the continuity and relaunch of European Integration in the 1990s by two factors: national interests and intergovernmental bargaining (Saurugger, 2014, p. 67).

In Liberal Intergovernmentalism, European integration is primarily considered as seeking to optimize gains for each state through collective action (Saurugger, 2014, p. 67). Consequently, for Liberal intergovernmentalists, European integration is the result of tactical behaviour by member states to advance their central economic interests, and numerous of national choices made by national elites (Saurugger, 2014, pp. 67-68). Liberal Intergovernmentalism presents a three-stage international bargaining process to explain European integration. At the first stage, we have the formation of national preferences (Saurugger, 2014, p. 69). From the perspective of Liberal Intergovernmentalists, the formation of national preferences vary across issues, states, domestic institutions and time according to issue-specific societal interdependence, and are therefore neither uniform or

fixed (Wiener, et al., 2019, p. 66). The first stage of intergovernmental bargaining reflects that European integration is shaped by national preferences (Saurugger, 2014, p. 69).

Secondly, on the stage of intergovernmental bargaining Member States negotiate on areas for cooperation that are jointly beneficial (Saurugger, 2014, p. 70). Through this stage, Liberal Intergovernmentalism tries to explain that bargaining and the allocation of gains from cooperation between states with national preferences already formed from the first stage (Wiener, et al., 2019, p. 68). The results from international negotiations depends on the bargaining power of the states participating in the negotiations (Wiener, et al., 2019, p. 67).

Finally, the third stage of intergovernmental bargaining, the choice of institution. This is thought of as being the last stage of European integration (Saurugger, 2014, p. 71).

Moravcsik observes that national governments often chose supranational institutions when the institutions served the interests of the state, regardless of ideology (Saurugger, 2014, p. 71). These supranational institutions are a way for Member States to ensure the coordination and commitments of collective action and policy decisions of the cooperating states (Saurugger, 2014, p. 71). This stage is seen as an approach to maximize gains and minimizing costs for each Member State (Saurugger, 2014, p. 71). Thus, at this stage, the EU is seen as a set of supranational institutions that serves the EU Member States interests and is designed to facilitate their collective negotiations and actions (Saurugger, 2014, p. 71).

Supranationalism

Since the mid-1980s, Supranationalism has been brought increasingly attention as supranational institutions such as the European Parliament and the European Commission have gained more authority and independent influence in the EU decision-making (Wettstad, 2009, p. 312). Supranationalism, in contrast to Liberal Intergovernmentalism, view supranational institutions, like the European Commission, as independent actors and drivers for further integration (Stone Sweet & Sandholtz, 2011, pp. 300-301). This view builds on Ernst Haas's neofunctionalism, which assumes that supranational institutions, when created, take a life of their own becoming independent actors with their own agenda to pursuit (Saurugger, 2014, p. 37; Stone Sweet & Sandholtz, 2011, p. 300). It also builds on neofunctionalism's notion of spill-over (Wettstad, et al., 2012, p. 69). Haas viewed integration as a result of increasing international interdependence and diverse, interest-driven

politics (Stone Sweet & Sandholtz, 2011, p. 300). Also the establishment of supranational institutions is seen as a result of a states' rational choice when faced with transnational issues that cannot be solved at the national level alone (Stone Sweet & Sandholtz, 2011, p. 300).

Once supranational institutions got established, Haas proposed a dynamic process where the supranational institutions gradually gain more political power and authority in policy-making (Stone Sweet & Sandholtz, 2011, p. 300). This dynamic process is then strengthened by the possibility for a *functional spill-over*, that is characteristic in integration processes (Stone Sweet & Sandholtz, 2011, p. 301). The concept of *spill-over* is one of neofunctionalism's core assumptions, and is achieved when the integration of one sector leads to further extended integration to related and new sectors as a consequence of initial policy aims not being attained without the further extension of sectors (Stone Sweet & Sandholtz, 2011, p. 301). Especially *functional spill-over* refers to economic sectors or issue-areas as interconnected and the integration of one policy area leading to further integration into other areas (Saurugger, 2014, p. 39).

The BSA and the ESD

The Burden Sharing Agreement of 1997-1998 will be presented with the Kyoto Protocol (KP), as the agreement was negotiated right before the KP in 1997 and finally agreed upon after the KP in 1998. Further the Effort Sharing Decision will be presented with the Emission Trade System in mind, as it influenced the further allocation of a common emission target within the EU.

The Burden Sharing Agreement of 1997-1998

The Burden Sharing Agreement (BSA) of 1997-1998 can be seen, from outside of the EU, as a reaction to the Kyoto Protocol of 1997. But the truth is that the burden sharing of climate gas emissions among the EU Member States has been to debate since 1990 (Michaelowa & Betz, 2001, p. 268). The idea began in 1990 with the aim of creating an emission target for the EU Member States all together, with a differentiation in commitments within where the

richer industrialized countries would have to reduce emissions and the cohesion countries could increase emissions (Michaelowa & Betz, 2001, p. 268). This was made possible as the Environment and Energy Ministers met in 1990, for the first time, and agreed upon a combined commitment within the EU (Oberthür, et al., 2010, p. 94). Further, in the same year, the EU proposed to stabilize its emissions by 2000, at the 1990 level, for the UN climate negotiations (Michaelowa & Betz, 2001, p. 268). But, at the time, there was no plan on how to allocate the emission target within the EU (Michaelowa & Betz, 2001, p. 268).

Later on, in 1991, the European Commission attempted to introduce burden sharing with three levels: where the cohesion countries could increase their emissions by 15 per cent, while Denmark, the Netherlands and Germany had to reduce their emissions by 5 per cent and the rest had to stabilize their emissions (Michaelowa & Betz, 2001, p. 268). The emission targets proved to be impossible as Italy, France and the UK did not accept it (Michaelowa & Betz, 2001, p. 268). The EU's attempts to establish any formalisations of a burden sharing agreement, with binding commitment to a common greenhouse gas (GHG) emission target under the United Nations Framework Convention on Climate Change (UNFCCC), turned out to be nothing else but aspirational language (Oberthür, et al., 2010, p. 94).

The burden sharing debate was held still until the international negotiations for a protocol with legally targets started, the EU then again opened the debate about sharing the burden of an emission reduction target (Michaelowa & Betz, 2001, p. 268). As a result, the Commission, in 1996, proposed to distribute a 10 per cent emissions reduction for the year 2005, but the proposed allocation was not accepted by the Member States (Michaelowa & Betz, 2001, p. 268). But, thanks to the Dutch presidency, experts from the University of Utrecht were commissioned to develop an approach originating emission targets from sectoral features of the EU Member States (Michaelowa & Betz, 2001, pp. 268-269).

The approach developed by the experts was called the "Triptych" approach as it defined three sectors: the domestic sector (households, services, agriculture, transportation and light industry), the electricity generation sector and the heavy-industry sector. Each sector was given different allocation rules (Aidt & Greiner, 2002, p. 19). The proposal of the Triptych approach can be seen as the starting point for further negotiation rounds and debate which led to the final burden sharing agreement of 1997. As the final agreement did not end up identical as the Triptych approach, two other aspects can be seen as influential for the Burden Sharing Agreement in 1997: Equity rule and Sovereignty rule (Aidt & Greiner, 2002, pp. 20-21).

The Burden Sharing Agreement in 1997 was agreed upon right before the Kyoto Protocol, which was signed later the same year (Aidt & Greiner, 2002, p. 21). All EU Ministers agreed to a 10 per cent emission reduction target, allocated among Member States, for the year 2010 compared to 1990 levels during the pre-Kyoto burden sharing agreement (Aidt & Greiner, 2002, p. 22). The reason for the Burden Sharing Agreement among the Member States in the EU was the “bubble”-agreement that the EU pushed for at Kyoto so that they could allocate different emission targets within the EU to reach a common emission target (Aidt & Greiner, 2002, p. 10).

During the negotiations on the Kyoto Protocol, the EU, took a leading role and pushed for a 15 per cent emission reduction target by 2010 compared to 1990 levels (Bhatti, et al., 2011, p. 133). This was to engage other OECD countries to follow suit, knowing that some of them were very much disengaged with the issues of climate change and protection (Aidt & Greiner, 2002, pp. 19-22). But the EU did not succeed in engaging the industrialised countries during the Kyoto Protocol, and consequently the average emission reduction target for the industrialised countries ended up as 5,2 per cent (Vogler, 2009, p. 477). The EU ended up with a lowered emission reduction target, at 8 per cent, than initially agreed on before the Kyoto Protocol (Aidt & Greiner, 2002, p. 22). This can be seen as a result out of two changes: change of target year from 2010 to a target period from 2008-2012, and a change in the number of GHGs from three GHGs, as agreed in the BSA before the KP, to six GHGs (Aidt & Greiner, 2002, p. 22). These changes led to an additional debate and negotiations within the EU, and after the Kyoto Protocol in 1998, the EU agreed on the Burden Sharing Agreement (Aidt & Greiner, 2002, pp. 22-23; Decision 2002/358/EC). Finally in 2002, the Burden Sharing Agreement was implemented as international binding law (Decision 2002/358/EC).

[The Effort Sharing Decision of 2009](#)

In the preparations for EUs policies for the period after the first commitment period of 2008-2012, the EU went from the concept of “burden sharing” to the concept of “effort-sharing” (Stephenson & Boston, 2011, p. 5). Both “burden-sharing” and “effort-sharing” have the same practical meaning: that all EU Member states needed to contribute to a common endeavour (Stephenson & Boston, 2011, p. 5). But, as effort-sharing has a more positive

connotation than burden-sharing, it was seen as having greater political acceptability and as covering a broader range of policy applications (Stephenson & Boston, 2011, p. 5).

When talking about EU effort-sharing, one has to differ between the EU's effort-sharing approach and the Effort-Sharing Decision of 2009. Where the effort-sharing approach of the EU, effective from 2013, is to aim at a 20 per cent increase of renewable energy resources (RES) in the total energy mix by 2020, and to aim at a 20 per cent GHG emission reduction by 2020 compared to 1990 levels (Stephenson & Boston, 2011, p. 5). While the Effort Sharing Decision of 2009 can be seen as one of two parts in reaching the 20 per cent GHG emission reduction target for 2020 compared with 1990 levels (Stephenson & Boston, 2011, p. 6).

In negotiating the Effort Sharing Decision, especially two decisive aspects have influenced the final Decision agreed upon in 2009: The Emission Trade System (ETS) and the upcoming UN Climate Change Convention - 15th Conference of Parties (COP15) in 2009 (Stephenson & Boston, 2011, p. 8). Similar to the Burden Sharing Agreement, the Effort Sharing Decision was also negotiated in the run-up to an international agreement, the COP15 in 2009 (Bhatti, et al, 2011, pp. 132-133). And as the EU tried to engage industrialized countries during the Kyoto Protocol to commit to a 15 per cent reduction during CP1, the EU again tried to push for a 30 per cent emission reduction target for the period after 2012 in the hope that developed countries would follow suit (Decision 406/2009/EC).

Unfortunately, the countries meeting during the COP15 did not succeed in reaching a binding commitment target for a GHG emission reduction (Lau, et al., 2012, p. 5282). Due to this, the EU made an independent commitment to a 20 per cent GHG emission reduction target by 2020 compared to 1990 levels (Decision 406/2009/EC).

EU's 20 per cent emission reduction target was to be reached through a two-part structure starting from 2013 to 2020 (Stephenson & Boston, 2011, p. 6). One part would be subject to the EU ETS and is applied to large emitters. This part was the EU's main mechanism towards reaching the emission reduction target for 2020 (Stephenson & Boston, 2011, p. 6) The EU ETS sector were given an emission reduction target at 21 per cent by 2020 compared to 2005 levels, this target was dealt with by the revised ETS Directive (Harmsen, et al., 2011, p. 6636).

The second part of reaching the emission target for 2020 would be subject to the Non-ETS sectors, such as buildings, transport, agriculture, waste and industry outside the ETS

(Harmsen, et al., 2011, p. 6636). The Non-ETS sectors needed to reduce GHG emissions by 10 per cent compared to 2005 levels, and it is this part, of the EU total 20 per cent emission reduction target by 2020, that is covered by the Effort Sharing Decision of 2009 (Harmsen, et al., 2011, p. 6636). The GHG emission reduction targets from both the ETS sector and the Non-ETS sectors would result in a total of 14 per cent reduction of GHG emissions compared to 2005 levels, which equals a 20 per cent reduction compared to 1990 levels (Harmsen, et al., 2011, p. 6636).

EU's Effort Sharing Decision from 2009 covers the 10 per cent emission reductions of the Non-ETS sectors, and can be seen as a new form for Burden Sharing Agreement where the reduction target is allocated among Member states with different targets ranging from a 20 per cent reduction to a 20 per cent increase compared to 2005 levels (Harmsen, et al., 2011, pp. 6366-6637). The allocation of an emission target for the EU Member States are based on a GDP per capita index (Harmsen, et al., 2011, p. 6638). Member States themselves are responsible to implement and define measures and policies to limit or reduce their own GHG emissions in the Non-ETS sectors (Harmsen, et al., 2011, p. 6638). The Decision of 2009 also covers all six greenhouse gases that were included in the Kyoto Protocol, and in the Burden Sharing Agreement reached in 1998, as mentioned above (Harmsen, et al., 2011, p. 6638).

Consequently, for the EU to reach its emission reduction target, at 20 per cent compared to 1990 levels by 2020, all EU countries has to contribute through the ETS sector, while there will be allocated different emission reduction target to each EU Member state for the Non-ETS sectors (Harmsen, et al., 2011, pp. 6636-6637).

Discussion

Efficiency in the BSA and the ESD

The question of how to allocate the burden of climate policy within the EU, was one of the most challenging issues in negotiation of the Burden Sharing Agreement (Bhatti, et al., 2011, p. 133). And arguably, the allocation of the emission reduction targets within the EU would mostly determine the distribution of abatement costs (Aidt & Greiner, 2002, p. 12).

When negotiating the emission reduction targets at the Kyoto Protocol, the EU as a “bubble” committed to reducing 8 per cent of the emissions of the six Greenhouse gases (Marklund & Samakovlis, 2007, p. 326). The Climate Convention emphasized the importance for cost efficiency and equity in the redistribution of the emission targets within the EU, but did not give any clear guidelines on how to accomplish it (Marklund & Samakovlis, 2007, p. 327). Also the EU emphasized that both equity and efficiency would be taken into account when deciding on the allocation of the emission reduction target within the EU (Bhatti, et al., 2011, p. 133).

It was further emphasized that the developed states were more responsible for current and historical emissions of greenhouse gases than the developing states (Marklund & Samakovlis, 2007, p. 320). And that the developing countries therefore should be given less stringent emission targets than the developed countries so that they could continue developing as needed (Marklund & Samakovlis, 2007, p. 320).

When further discussing the efficiency of the Burden Sharing Agreement and the Effort Sharing Decision, it is focused on the cost effectiveness of the distribution of the emission reduction targets within the EU (Marklund & Samakovlis, 2007, p. 318). Marklund & Samakovlis (2007) studied if cost efficiency was considered in the Burden Sharing Agreement, and does this by looking at the marginal abatement costs (MACs) of greenhouse gases and if high MACs led to a lower emission reduction target, and vice versa (Marklund & Samakovlis, 2007, pp. 317-318). The results of this study find that, whatever technique used to roughly calculate the MACs, the EU Member States with higher MACs were given lower and less stringent emission reduction targets than the Member States with lower MACs (Marklund & Samakovlis, 2007, p. 325). This indicate that efficiency was considered and did actually influence the emission target allocation within the EU in the Burden Sharing Agreement (Marklund & Samakovlis, 2007, p. 325).

In another study by Eyckmans, et al. (2002), the efficiency in the allocation of emission reduction targets in the Burden Sharing Agreement is investigated (Eyckmans, et al., 2002, p. 1). This study compares the allocation of emission reduction targets within the EU agreed upon in the Burden Sharing Agreement with a completely cost efficient allocation of reduction that respects the EU’s emission reduction target of minus 8 per cent (Eyckmans, et al., 2002, p. 4). This cost efficient allocation takes only account of cost efficiency and does not consider fairness in distribution of the emission target (Eyckmans, et al., 2002, p. 4).

When comparing both the allocation from the Burden Sharing Agreement and the perfectly cost efficient allocation, the study finds that the Burden Sharing Agreement does not equalise the MACs within the EU member states enough (Eyckmans, et al., 2002, p. 4). According to Eyckmans, et al. (2002), Belgium, Sweden and the Netherlands should have been given less abatement burden. States like Spain, Portugal and Finland should have been given allowance to emit more, and states like Denmark, Germany and the UK should have been given higher emission reduction targets (Eyckmans, et al., 2002, p. 4). The study concludes that, even if fairness in allocation of emission target is not considered, the differentiation in emission targets allocated in the Burden Sharing Agreement and in the perfectly cost efficient allocation does not go far enough (Eyckmans, et al., 2002, p. 28). The majority of the wealthy EU member states should increase its abatement, whereas the poorer member states should abate less (Eyckmans, et al., 2002, p. 28).

Already in 2000, the EU began to discuss the establishment of an emissions trade system (COM(2000) 87 final). The European Commission, in 2000, presented a Green Paper to initiate the discussions of a greenhouse gas emissions trade system within the EU (COM(2000) 87 final). This was brought to attention at the Kyoto Protocol in 1997, as one of the “flexible mechanisms” introduced was international greenhouse emissions trading, that was to become operational from 2008 (COM(2000) 87 final). This mechanism, among the other two, was introduced to ensure a cost effective implementation of the Kyoto Protocol (COM(2000) 87 final). Before implementing an emission trading scheme for the first commitment period (2008-2012), the EU wants to run a test period for the trading scheme starting from 2005 (COM(2000) 87).

In 2005, the EU launched the emissions trade scheme, as the world’s first international emission trading system (ETS) (Vogler, 2009, p. 480). As the EU initiated the phase of the ETS in 2005, it turned out to be unsuccessful in establishing a worthy carbon price (Vogler, 2009, p. 482). The fall of allowance prices, during the first trading period, came to result due to ETS countries issuing more allowances than what was needed, and therefore the demand for allowances was reduced, and with it also the prices (EEA, 2012, p. 45). To prevent this from happening again in the second trading period, 2008-2012, the cap was further tightened (EEA, 2012, p. 45). But, despite the tightened cap, the emissions for the second trading period ended below the cap, mostly due to the financial crisis (EEA, 2012, p. 45).

During the first commitment period of 2008-2012, covered by the Burden Sharing Agreement, the emission trading scheme was used as a flexible mechanism for achieving more cost efficiency in reaching the overall EU emission target of – 8 per cent (COM(2000) 87 final). Many economic analyses of the emissions trading scheme have concluded that the emission trading improves cost efficiency and thus lowering the cost of implementing the Kyoto Protocol (Marklund & Samakovlis, 2007, p. 318). But the fact that, both the first and the second trading period ended up having a too high supply for emission allowances, may make one question if the ETS really ensured a more cost effective implementation of the first commitment period of the Burden Sharing Agreement (COM(2000) 87 final).

For EU's second commitment period, 2013-2020, the EU committed to an emission reduction of 20 per cent by 2020 compared to 1990 levels (Stephenson & Boston, 2011, p. 5). In reaching this target, the EU divided it in two parts: where one part was covered by the ETS sectors, and the second part was covered by the non-ETS sectors (Stephenson & Boston, 2011, p. 6). Since the Effort Sharing Decision only covers the emission target for the non-ETS sectors, it is the allocation of emission targets within the EU member states for the non-ETS sectors that will be discussed further.

When deciding what approach the EU would use to allocate the emission targets within the EU, the European Commission had four different approaches that they considered (Harmsen, et al., 2011, p. 6639). The two most relevant approaches for this discussion are the "Equal marginal abatement costs/cost efficient approach" and the "Differentiated reduction targets depending on the relative GDP per capita of the different Member States" (Harmsen, et al., 2011, p. 6639). In the cost efficient approach, every EU Member State implement abatement measures below an equal for all marginal abatement cost. This approach is the most efficient for the entire EU, but, according to the Impact Assessment of the Climate and Energy Package, the member states with low GDP per capita gets a higher increase in costs associated with energy systems and non-CO₂ mitigation than the member states with higher GDP per capita (Harmsen, et al., 2011, p. 6639).

Despite that this approach is the most efficient approach for the EU as whole, the European Commission decided to go for the approach where Member States get differentiated reduction targets based on their GDP per capita (Harmsen, et al., 2011, p. 6639). This approach is based on the cost efficient approach, but is adjusted by looking at the GDP per capita to ensure a more fair allocation of emission targets within the EU (Harmsen, et al., 2011, p. 6639). This

way, the member states with a low GDP gets less rigorous emission targets than the member states with high GDP (Harmsen, et al., 2011, p. 6639). Not only is this approach less efficient than the cost efficient approach, it also increases the overall abatement costs for the EU27 (Harmsen, et al., 2011, p. 6639). But the European Commission justified its choice of approach with two reasons, the first being that the overall increase in costs remains limited through the EU as whole, and the second being that the approach reduces the costs associated with the energy system in the Member States with a low GDP (Harmsen, et al., 2011, p. 6639). Hence, with this approach, the efficiency is considered in the allocation of emission targets within the EU, but due to securing a fair allocation of the emission targets, the most efficient allocation strategy did not get through (Harmsen, et al., 2011, p. 6639).

Although the BSA and the ESD could improve when it comes to efficiency in achieving the EU's emission reduction target, one can see that efficiency was considered and influenced the allocation within the EU in both the BSA and the ESD.

Sufficiency in the BSA and the ESD

When it comes to sufficiency, it will be discussed to what extent is the reduction targets adopted in the Burden Sharing Agreement and the Effort Sharing Decision sufficient enough in the light of the issue of climate change. In the first Assessment Report from the Intergovernmental Panel on Climate Change (IPCC) from 1990, it is stated that in order to stabilize the concentration of long-lived gases at today's (1990) level, it is necessary to immediately reduce globally emissions of 60 per cent or more, and to reduce Methane gas by 15-20 per cent (IPCC, 1990, p. xi). The Report further stated that if nothing were to be done, the temperatures would rise 1 degree Celsius by 2025 compared to 1990 temperatures, and rise 3 degrees Celsius by the end of the 21st century (IPCC, 1990, p. xi). And with the temperature, the sea levels will rise 65cm by the end of 21st century (IPCC, 1990, p. xi).

It is quite clear that an eight per cent reduction in emissions during the period of 2008-2012, which was agreed upon at the Kyoto Protocol and the Burden Sharing Agreement, is not sufficient enough in the light of climate change and the Report from IPCC. But, when that is said, the EU has proved to stay true to their emission reduction target for the first commitment period of 2008-2012. When talking about EU15, it is because it was the EU15 that committed to a common target under the BSA, the other countries that became EU

Member States later had individual targets (EEA, 2013, p. 8). In the Trends and Projections Report from 2013 by the European Environmental Agency (EEA), it is shown that the EU15 was on track towards reaching its emission target (EEA, 2013, p. 9). The Report even states that the average emissions reduction in the EU15 declined by 12,2 per cent in the period 2008-2012 (EEA, 2013, p. 9). Thus, the EU15 did not only achieve their emission reduction target, but they also overachieved it (EEA, 2013, p. 9). And the Burden Sharing Agreement can be seen as a success in that way that it is a successful regional burden sharing scheme, and a rare example of that (Aidt & Greiner, 2002, p. 10). The EU managed to resolve one of the most difficult questions; how to allocate the burdens of emission targets within the EU (Aidt & Greiner, 2002, p. 10).

When it comes to the Effort Sharing Agreement, it was agreed upon a 20 per cent emission reduction target by 2020 compared with 1990 levels within the EU (EEA, 2014, p. 17). This target was set to contribute to achieving UNFCCC's ultimate objective: "to stabilise GHG concentrations at a level that would prevent dangerous anthropogenic (human-induced) interference with the climate system" (EEA, 2014, p. 17). In other words, this meant that the EU would contribute, through its emission target, with limiting the temperature increasing less than 2 degrees Celsius compared to the temperatures in the pre-industry period (EEA, 2014, p. 17).

The EU also offered to reduce its emissions by 30 per cent by 2020 compared to 1990 levels, if other industrialized countries followed (EEA, 2014, p. 17). But, since the developed countries did not follow EU's example, the EU ended up with the 20 per cent reduction in emissions by 2020 (Lau, et al., 2012, pp. 5282-5283). EU's target for 2020 was internally, within the EU, legally binding and more ambitious than the rules under the Kyoto Protocol (EEA, 2014, pp. 17-18). But, the overall emission reduction targets that countries submitted for the second commitment period (2013-2020) only accounted for a 14-15 per cent reduction in global emissions (EEA, 2014, p. 18). And these targets are not sufficient enough to achieve the 2 degrees Celsius goal (EEA, 2014, p. 17).

When looking specifically at the Effort Sharing Decision, which covers the non-ETS sectors, it had as a target to reduce its emissions with 10 per cent by 2020 compared to 2005 (Harmsen, et al., 2011, p. 6636). But, the Trends and Projections Report from 2020 shows that the Effort Sharing target only reached a 8,2 per cent emissions reduction at the EU27 level, and a 9,3 per cent reduction at the EU28 level, compared to 2005 (EEA, 2020, p. 17).

This means that the emissions cut done during the second commitment period was not sufficient enough to reach the emission reduction target for 2020 compared to 2005 (EEA, 2020, p. 17). Considering that the non-ETS sectors covered by the Effort Sharing Decision, in 2018, accounted for 57 per cent of the EU27 overall GHG emissions, it is important for the EU to implement more climate policies so that further EU emission targets may be sufficiently achieved (EEA, 2020, p. 17).

In spite that the Effort Sharing target did not get achieved, the overall reduction target at 20 per cent by 2020 has been on track to be achieved (EEA, 2020, p. 14). In 2019, the emission reduction was at 24 per cent within the EU27, and the overall emission target for the EU was therefore predicted to not only be achieved but also to be overachieved (EEA, 2020, p. 14). But, considering the pace of achieving reduction in emissions from 1990 to 2018, the EU is not reducing their emissions fast enough to sufficiently reach their target for 2030 at minus 40 per cent compared to 1990 levels (EEA, 2020, p. 6). And, considering that the EU now have made the ambitious target of becoming climate neutral by 2050, one may question if it is sufficient to still let the developing countries increase their emissions when allocating the emission target within the EU (EEA, 2020, p. 14). Thus, although the BSA and the ESD are not sufficient to reach the EU's emission targets, there is no doubt in that the EU has, over the years, increased their ambitions in reducing its greenhouse gas emissions.

Intergovernmentalism vs. Supranationalism

Since the early 1990s, climate change and climate policy has increasingly been focused on and further taken centre stage in European politics (Oberthür & Kelly, 2008, p. 35). EU's climate policy has moved its way up from *low* to *high politics* as it has been prioritized more and more as an issue, and is discussed at nearly all high-level international political encounters (Oberthür & Kelly, 2008, p. 35). To further understand the development of the EU climate policy, in the light of BSA and ESD, the two theoretical approaches presented above will be used. First, through Liberal Intergovernmentalism's three stages of intergovernmental bargaining and then through Supranationalism and the spill-over effect.

The first stage, forming national preferences, is used to help understand why sovereign states engage in international cooperation (Saurugger, 2014, p. 69). This may also help understand why Member States behaved as they did in the negotiations of both the BSA and ESD. In the

negotiations of BSA, one may divide the Member States into three groups: the first being the progressive green states: Germany, the Netherlands, Denmark, Finland, Sweden and Austria (Vogler, 2009, p. 472). These states had been behaved as frontline states in the environmental policy-making in Europe, especially Germany and the Netherlands proved to be proactive developers in climate policy in the EU (Vogler, 2009, pp. 472-473).

The second group being the relatively developed and rich Member states: France, the United Kingdom, Luxemburg, Belgium and Italy (Vogler, 2009, p. 474). These countries had mixed initiatives and enthusiasms for the climate policy in the EU and generally before and during the negotiations of the BSA (Vogler, 2009, p. 474).

Lastly, the third group being the cohesion countries with very low GDP relatively to the average GDP in the EU: Greece, Spain, Portugal and Ireland (Vogler, 2009, p. 475). For this group, the emission target was a question of how much they could emit and therefore had limited contribution and engagement in climate change (Vogler, 2009, pp. 474-475). The group of cohesion countries changed after the 2004 EU expansion, when developing countries from central and eastern Europe became EU members (Vogler, 2009, p. 475).

The second stage is intergovernmental bargaining, and can help understand the bargaining power of the Member States during the negotiations of BSA and ESD (Saurugger, 2014, pp. 70-71). One can argue that the cohesion countries had less bargaining power than the non-cohesion countries during the negotiations of the BSA and Kyoto Protocol (Oberthür, et al., 2010, p. 97). This is because the targets allocated to the cohesion countries in the BSA agreed upon after the Kyoto Protocol was tightened compared to the BSA agreed upon before Kyoto (Oberthür, et al., 2010, p. 97). While the non-cohesion countries got their targets eased (Oberthür, et al., 2010, p. 97).

Finally, the third stage is the institutional choice, and the theory of credible commitments, with this stage, LI argue that the choice of supranational institutions is based on rational actions by the member states to achieve maximum gains and minimum costs (Saurugger, 2014, p. 71). And that these institutions serve the Member States interests, and help ensuring and coordinating collective action and commitments (Saurugger, 2014, p. 71). One great example here is the Emissions Trading System which went from a decentralised system with national allocation plans (NAPs), to a much more centralised system with an EU-cap on total allowances (Wetttestad, et al., 2012, p. 73).

From the Supranationalist perspective, the supranational institutions like the European Commission acts like independent actors with own agendas (Saurugger, 2014, p. 37). It is predicted that supranational institutions, over time, will gain power at the expense of the EU Member States, and that it will happen through a *functional spill-over* (Wettestad, et al., 2012, p. 69). An important point for this theoretical perspective is that a rising amount of transnational activity creates space for a more noticeable position for supranational institutions and actors like the European Commission (Wettestad, et al., 2012, p. 70).

The implementation of the Burden Sharing Agreement was the first legally binding EU emissions target within the EU (Michaelowa & Betz, 2001, pp. 268-269). Shortly after the EU implemented the world first international emissions trading system (Vogler, 2009, p. 480). And when approaching the first commitment period (2008-2012), the EU began to discuss and negotiate for a second legally binding commitment period lasting from 2013 to 2020 (Vogler, 2009, p. 481). Today, the EU finds itself in its third legally binding commitment period from 2021 to 2030 (Peeters & Athanasiadou, 2020, pp. 201-202). This considered, one may argue that the Burden Sharing Agreement started a process of spill-over which has led to a continuously implementation of legally binding emissions targets and climate policy (Peeters & Athanasiadou, 2020, p. 202).

An example of a functional spill-over is the establishment of the ETS, it started off as a decentralised system, but since the National Allocation Plan did not function as intended, the ETS got centralised under the Commissions power (Vogler, 2009, p. 485). Due to this centralisation, the Commission had responsibility to ensure over half of the total emissions reduction by 2020 (Vogler, 2009, p. 485). Through this the European Commission has gained more authority and power in the EU's climate policy and emissions target (Vogler, 2009, p. 485). From a Supranationalist perspective, one can argue that the authority and power of the European Commission will only increase further, as the emission targets get more ambitious (Stone Sweet & Sandholtz, 2011, p. 309). And the Commission will only continue to engage more in the EU's climate policy forwards (Stone Sweet & Sandholtz, 2011, p. 309).

One could argue, from a Supranationalist perspective that when dealing with transnational issues such as the climate crisis, it is better to deal with it through supranational institutions since the issue poses an inability for states to deal with it individually (Saurugger, 2014, p. 19). Also from an intergovernmental perspective one can argue that the EU Member States will continue to delegate their decision-making power when it comes to the issue of climate

change. This is because, since the implementation of the BSA, the EU has agreed upon increasingly more ambitious emissions reduction targets for further commitment periods. Most importantly, the target of achieving a climate neutral EU by 2050 (EEA, 2020, p. 14). Since the achievements of these targets are dependent on that all EU Member States contributes, it is necessary for supranational institutions to ensure collective commitment and action (Saurugger, 2014, p. 71).

To conclude, as argued, the fact that Climate Change is a global issue that will effect globally, it is not possible for states alone at the national level to solve this issue. It must be through transnational action, and with supranational institutions to ensure each states commitment to a common target to prohibit further dangerous interference with the climate system.

Conclusion

There is no doubt that the issue of Climate Change and climate policy will increase further in importance within the EU, but also overall at the international level. Reducing and stabilising the greenhouse gas emissions is stated as the single most important action to be done, in order to prohibit dangerous interference with the climate system. Where most industrialized countries struggled with committing emission reduction targets, the EU has showed through the last three decades that, not only committing to binding emission reduction targets, but also allocating a common emission target within the EU, has shown to be possible.

This thesis has in this context analysed the Burden Sharing Agreement of 1997-1998 and the Effort Sharing Agreement of 2009, focusing on both efficiency and sufficiency. When it comes to efficiency, this thesis concludes that both the BSA and the ESD may not be as sufficient as they could have been, mostly due to the consideration of ensuring a fair allocation within the EU. But, that it is shown that efficiency was considered and influenced the allocation of emission reduction targets both in the BSA and the ESD.

When it comes to sufficiency, it is concluded that neither the BSA or the ESD proves to be efficient enough to stabilise the concentration of greenhouse gases, to prohibit dangerous interference with the climate system and to achieve a climate neutral EU by 2050. But, when this is said, the EU have achieved the emission reduction target in the first and second commitment period under the BSA and the ESD. And, the EU, seems to continuously

increase its ambition levels for further commitment periods. So one can argue that the EU, unlike other industrialised countries, is well on its way in achieving sufficiency in further commitment periods.

Lastly, when looking at the BSA and the ESD through Liberal Intergovernmentalism and Supranationalism. It is concluded that the issue of Climate Change is a global and comprehensive issue, and therefore it cannot be solved at the national level alone, but rather through supranational institutions to ensure citizens common good, and to ensure each states commitment to common action.

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