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**The impact of the policy-making  
process on the design of market  
based instruments for environmental  
protection policies. The example of  
the European Emission Trading  
System**

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## Table of content

<b>INTRODUCTION .....</b>	<b>3</b>
<b>1 THEORETICAL FOUNDATIONS .....</b>	<b>10</b>
1.1 Differences between market based instruments in theory and in practice .....	10
1.1.1 The cap: sufficient or insufficient stimulus?.....	11
1.1.2 Distortions of competition through the initial allocation .....	12
1.1.3 Collision between existing legal acts and the new instrument.....	15
1.1.4 Constraints of the market mechanism by supplementary command-and-control regulation .....	15
1.1.5 Coverage of gazes and sectors - exemptions and exceptions for specific businesses .....	16
1.2 Criteria that explain divergences between theory and practice in general and in the European case .....	17
1.2.1 Utility maximization of key players.....	17
1.2.2 Interaction between political decision-makers and interest groups .....	19
1.2.3 Traditions, learning processes and perceptions .....	22
1.2.4 Institutional rules and the decision-making process .....	25
<b>2 CASE STUDY: THE DIRECTIVE 2003 / 87 / EC ON THE EUROPEAN EMISSION ALLOWANCE TRADING SCHEME .....</b>	<b>28</b>
2.1 Divergences between the economic theory of emission trading and the Emission Trading Scheme .....	28
2.1.1 The cap: sufficient or insufficient stimulus.....	28
2.1.2 Distortions of competition through the initial allocation .....	31
2.1.3 Collision between existing legal acts and the new instrument.....	33
2.1.4 Constraints of the market mechanism by supplementary command-and-control regulation .....	36
2.1.5 Coverage of gazes and sectors - exemptions and exceptions for specific businesses .....	39
2.1.6 Summary of the results.....	40
2.2 Different influences shaping the design of the Directive 2003 / 87 / EC during the decision-making process leading to distortions between theory and practice.....	41
2.2.1 Institutional rules, the European decision-making process and the intervention of interest groups.....	41
2.2.2 Utility maximization and the positions of institutions and interest groups concerning: .....	47
2.2.2.1 <i>The question of the cap</i> .....	48

2.2.2.2	<i>The question of the initial allocation</i> .....	49
2.2.2.3	<i>Collisions between old and new regulation</i> .....	52
2.2.2.4	<i>Vague regulation vs. clear Community rules</i> .....	54
2.2.2.5	<i>Coverage of gazes and sectors - exemptions and exceptions for specific businesses</i> .....	58
2.2.3	<b>Traditions, learning processes and perceptions</b> .....	59
2.2.4	<b>Summary of the results</b> .....	61
3	<b>CONCLUSION</b> .....	63
	<b>BIBLIOGRAPHY</b> .....	68

## Introduction

In 1968, the ecologist Garrett Hardin published the article „The Tragedy of the Commons“, which describes the fundamentals of the environmental problem. It is the dilemma of individuals, acting in their own self-interest, who destroy a shared limited resource even when it is evident that it is not in anyone’s long-term interest for this to happen.<sup>1</sup> Following Hardin’s idea, it seems evident that as long as no costs on pollution are imposed, the individual sees no utility in purifying common goods such as air. Hardin concluded that the environment should be protected by government intervention. However, the benefits of state regulations in today’s market economies have been questioned and market solutions for environmental protection have been promoted. The adoption of the Kyoto Protocol in 1997 can be seen as exemplary for this increased belief in market based instruments for environmental protection policy as 39 states committed themselves to the reduction of greenhouse gases by means of flexible market mechanisms such as Emission Trading, Joint Implementation and Clean Development Programs. In order to meet its Kyoto obligations, the European Union introduced in 2003 the European Emission Allowance Trading System. It is worldwide the first multinational emission trading program in which thousands of energy-producing and energy-intensive plants are involved.<sup>2</sup> Hence, the European Union put into practice a market based instrument for environmental protection policy, which have been propagated for a long time by economists.

It was the economist J.H. Dales who introduced idea of pollution permits in 1968. He argued that pollution could be controlled by providing economic incentives for polluters to reduce emissions. A regulatory authority, usually a government, sets a total level of emissions, called cap, and issues permits for this amount. The allowances represent the right to emit a specific amount of

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<sup>1</sup> Hardin, Garrett (1968). *The Tragedy of the Commons* (p. 1243 – 1248). Science, Vol. 162. Taken from: <http://www.sciencemag.org/cgi/content/ffull/162/3859/1243> (26.4.09).

<sup>2</sup> Oldigers, M. (2007). *Immissionsschutz durch Emissionshandel – eine Zwischenbilanz* (p. 37 - 38). Baden-Baden: Nomos.

greenhouse gases<sup>3</sup>, CO<sub>2</sub> for instance. Polluters have to possess an equivalent number of allowances for their specific amount of emissions. Then, the regulatory authority allows the polluters to trade the permits on a permit market. The system is called “cap and trade”. The incentive for the polluting industry is that if it is cheaper to abate pollution than to buy permits, the industry will choose to abate and consequently emit less CO<sub>2</sub>. Additionally, if polluters succeed in emitting less, they can sell their allowances to other companies and gain money from this trading operation. The ecological effect is then twofold: Firstly, emitters will invest in technology, which purifies the air, in order to “save” emissions. Secondly, the total amount of emissions cannot exceed the cap, because it is limited to the level set initially by the regulating authority.<sup>4</sup> However, in order to achieve the ecological effect in reality, the cap has to be set lower than polluters produce emissions. If the number of permits exceed the total amount of emissions, it is cheaper for the industry to buy permits than to abate. In this case, there is no incentive to reduce emissions for polluters.<sup>5</sup> There are several advantages of such a market system over ordinary regulatory command-and-control systems. A first gain is that emission trading leads to the reduction of emissions at the lowest cost for society. Compared to a regulatory approach of standard setting, emission trading allows the companies to decide whether they want to buy permits or whether they want to abate. Polluters with higher costs of abatement will prefer to buy allowances than abating pollution, whereas polluters with low abatement cost will opt for abatement instead of buying allowances. As polluters have different costs of abatement, the self-interest behavior of companies leads to the reduction of emissions wherever in the Community it is the cheapest to make them. Consequently, the invisible hand, meaning the self-regulating power of the market, offers a practical way to

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<sup>3</sup> There are 6 different greenhouse gases: Carbon dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous Oxide (N<sub>2</sub>O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur Hexafluoride (SF<sub>6</sub>).

<sup>4</sup> Pearce, D. & Turner, R. (1990). *Economics of natural resources and the environment* (p. 110). Hertfordshire: Harvester Wheatsheaf.

<sup>5</sup> Wolf, T. (2007). *Emissionshandel in Deutschland, Österreich und Irland – eine rechtsvergleichende Darstellung unter besonderer Berücksichtigung von Monitoring, Reporting und Verification* (p. 39). Göttingen: Cuvillier Verlag.

solve non-market problems.<sup>6</sup> A related advantage is the maximal efficient allocation of allowances, or in other words, maximal efficient use of natural resources.<sup>7</sup> Furthermore, emission trading has the advantage of allowing the companies for flexibility and of incenting technical innovation.<sup>8</sup>

Even though the idea of market based instruments (MBI) for environmental protection seems evident and coherent, it is difficult for political decision-makers to apply these MBI. The question for decision-makers is how to translate the idea into concrete policy instruments. This very crucial question has not yet been answered in the economics literature in a satisfactory way. When it comes to practical concerns of implementation and feasibility, the literature becomes quite thin leaving important questions open.<sup>9</sup> It is then up to the political decision-makers to find solutions for the unanswered questions of implementation. Hence, politicians try to adapt the economic idea to the political reality. The consequence is that the effects of MBI are not always the ones prescribed by the underlying economic theory. The reason for this is not that 'the patient has not followed the doctor's order', but that economic science failed to recognize that policy-making has a rationality of its own.<sup>10</sup> Environmental economists evaluate instruments against the criterion of effectiveness, which is the question whether an instrument ensures that the emission reduction target is reached; and they evaluate instruments against the criterion of cost-efficiency, which means that a reduction in emissions is reached at the lowest cost possible. While in theory cost-efficient economic instruments are very attractive for environmental protection policy, in reality on the contrary, politicians take into account more criteria than that of cost-efficiency. Therefore, the de-

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<sup>6</sup> Harrington, W. & Morgenstern, R. (2004). *Choosing environmental policy. Comparing Instruments and Outcomes in the United States and Europe* (p. 8). Washington D.C.: Resources for the Future.

<sup>7</sup> Pearce, D. & Turner, R. (1990). *Economics of natural resources and the environment* (p.112). Hertfordshire: Harvester Wheatsheaf.

<sup>8</sup> Oldigers, M. (2007). *Immissionsschutz durch Emissionshandel – eine Zwischenbilanz* (p. 41 - 42). Baden-Baden: Nomos.

<sup>9</sup> Kruger, J. & Pizer, W. (2004). *The EU Emissions Trading Directive. Opportunities and potential Pitfalls* (p. 7). Washington, DC: Resources for the Future.

<sup>10</sup> Bressers, H. & Huitema, D. (2000). What the doctor should know: politicians are special patients. The impact of the policy-making process on the design of economic instruments. In: Anderson, M. & Sprenger, R.: (Ed.), *Market based instruments for environmental management. Politics and institutions* (p. 67). Chettenham: Edward Elgar.

sign of economic instruments often fails to comply with the ideal model described by environmental economics. It is evident that an ideally designed market based instrument can only function within the borders of the market. But, when such an instrument is used as a policy tool, it transgresses this institution-free world of the market to enter the broader institutional context of politics. Consequently, not only market rules but also political dimensions should be taken into consideration when theorizing on environmental economics.<sup>11</sup>

Economists do not enough take into consideration questions of implementability of MBI and political and institutional variables of the policy-making context. In contrast, this paper addresses the questions of implementation political decision-makers face and focuses on the specificities of the political arena. Decision-makers are those putting into practice theoretic models of market based instruments. The question is to what extent the policy making context shapes or constrains the design of market based instruments. Therefore, this work looks into the impact of the policy-making process on the design of market based instruments for environmental protection policies from a policy perspective. The underlying assumption of this work is that policy-formulation has a high impact on the design of MBI, especially there where implementation-questions are left open by economic theory. When questions are not answered by economic theory, divergences between the economic model and MBI applied in reality might occur, thus leading to potential pitfalls of market instruments. The aim of this paper, however, is not to identify all the areas where questions of implementation have been left open by economists (I will only state some of them as examples). The aim is rather to examine whether the gap between theory and practice of MBI can really be traced back to the impact of the policy-making process on the design of market based instruments. In this regard, three main questions have to be addressed: Does the reality veer away from the economic model? If there are in fact divergences between theory and

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<sup>11</sup> Bressers, H. & Huitema, D. (2000). What the doctor should know: politicians are special patients. The impact of the policy-making process on the design of economic instruments. In: Anderson, M. & Sprenger, R.: (Ed.), *Market based instruments for environmental management. Politics and institutions* (p. 83 - 84). Chettenham: Edward Elgar.

practice, can these discrepancies be explained by the impact of the policy making process? What lessons can we draw from these insights?

In order to elaborate the described object of investigation, the paper is divided into three chapters: The first chapter analyses the divergences between the ideal types of market based instruments described by economic theory and the instruments that actually survived the policy-making process (chapter 1.1). I will focus here on the instrument of emission trading. In this chapter, I do not intend to state all the differences that could occur between theory and practice. The examples states rather illustrate on an exemplary basis some main issues. Additionally, this chapter summarizes the effects of the policy-making process on the design of economic instruments in order to give reasons for discrepancies between economic models and economic instruments applied in reality (chapter 1.2). Whereas economic theory is based on the assumption that choices are made with to cost-efficiency, the explanations established here focus on other influences shaping policy choices, and therewith shaping the design of market based instruments. As the policy making process is complex, this process is divided here in four different explanatory “criteria” that affect the choices of policy makers on four different levels. These criteria show that the policy-making arena has a rationality of its own (other than cost-efficiency) and therefore the criteria deliver an explanation for deviations from the model. The focus is on how policy makers are constrained or free in their choices, how they are influenced in their decisions and what kind of self interests do they have. This approach is very specialized and might miss out some alternative explanations for the deviation of the reality from the model. However, the analysis of the policy-making process is deliberately chosen in order to offer a detailed insight of the “arena of action” of political decision-makers influencing policy outcomes such as market instruments for environmental protection policy. The criteria are set on the basis of the following articles: “*What the doctor should know: politicians are special patients. The impact of the policy-making process the design of economic instruments*”<sup>12</sup> written by Bressers and Huitema, “*The*

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<sup>12</sup> Bressers, H. & Huitema, D. (2000). What the doctor should know: politicians are special patients. The impact of the policy-making process on the design of economic instruments. In: Anderson, M. &



*political economy of environmental policy*<sup>13</sup> written by Oates and Portney, “*The Impact of Economics on Environmental Policy*”<sup>14</sup> written by Hahn and “*Governance by green taxes. Making pollution prevention pay*”<sup>15</sup> written by Andersen. The first criterion of utility maximization is based on the public choice theory and the median voter theory according to which the “Homo economicus” takes rational decisions to maximize his utility. In the political realm, this leads to a struggle for influence, votes and positions.<sup>16</sup> The second criterion, the interaction of interest groups and politicians, has been established with reference to the theory of pluralism according to which a number of groups within society largely shape political decisions. Additionally, learning effects and perceptions have to be identified as a third criterion contributing to explain environmental policy outcomes. It is based on the assumption that learning from past experiences changes the perception of an instrument and thus, is conducive to policy changes. Inspired by the ideas of the theory of institutionalism, the criterion of institutional factors has been identified. According to institutionalism, institutions operate in an institutional environment constraining each other in their liberties. Within these institutions, rules and norms shape the actions of individuals being part of the institution. These four criteria refer to different theories in order to describe the characteristics of the political realm from different perspectives and in its whole complexity. As the criteria explain the characteristics of the policy world in general, I apply them, in a second step, to the European context of decision-making.

For the second chapter, I chose to use the European Emission Trading System as a case study in order to examine if the gap between theory and practice, stated in chapter 1.1, also arise in the European permit trading system (chapter 2.1). Furthermore, this paper assesses the influence of the policy-

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Sprenger, R.: (Ed.), *Market based instruments for environmental management. Politics and institutions*. Chettenham: Edward Elgar.

<sup>13</sup> Oates, W. E. & Portney, P.R. (2001). *The political economy of environmental policy*. Washington, D.C.: Resources for the Future.

<sup>14</sup> Hahn, R. W. (1999). *The Impact of Economics on Environmental Policy*. AEI-Brookings Joint Centre for Regulatory Studies. Working Paper 99-04.

<sup>15</sup> Andersen, M. (1994). *Governance by green taxes. Making pollution prevention pay*. Manchester: Manchester University Press.

<sup>16</sup> See: Duncan Black, James M. Buchanan.

making process on the design of the European Emission Trading System (chapter 2.2). Therefore, the explanatory criteria identified in chapter 1.2 are applied to the European case. This analysis looks at the different interests of European decision-making bodies and interest groups, at perceptions, processes and institutional settings in order to explain observed deviations in instrument design from economic theory. I outline here to what extent models can be influenced or constrained by actors, institutions, processes and perceptions. Therewith, I aim at explaining the choices made which led to the design of the European Emission Allowance Trading System as it is. I chose the European Emission Allowances Trading System as a case study, because it is the most recent and comprehensive case of a market based instrument put into practice.<sup>17</sup> As the focus is primarily on the issue of design of the instrument, the period examined starts with the Commission's *Green Paper on greenhouse gas emissions trading within the EU* and ends with the enacting of the Directive 2003/87/EC on the 13<sup>th</sup> October 2003.

In the conclusion, I draw some general assumptions about the findings that have been made concerning divergences between the economic models of market based instruments and the policy instruments in reality. I would like to elaborate on questions such as: Are the models too theoretic and thus not applicable in reality; or is it rather a problem of the political arena that makes too many compromises and alienates the intended effects? Could there be a solution that brings together economic theory and the policy-making arena? What could be the contribution of the elaborated four criteria characterizing the policy-making context to the solution?

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<sup>17</sup> Kruger, J. & Pizer, W. (2004). *The EU Emissions Trading Directive. Opportunities and potential Pitfalls* (p. 1). Washington, DC: Resources for the Future.

# 1 Theoretical foundations

## 1.1 Differences between market based instruments in theory and in practice

Introducing an economic instrument in a political sphere leads to the interaction between the market and the state. Consequently, the political environment has huge effects on the form and content of the market based instrument, which can lead to differences between theory and practice of economic instruments. Those differences can be explained by the fact that the two spheres do not act according to the same maxims. Whereas the principle of cost-efficiency guides the economics, this argument is not the only one leading the decisions of politicians. According to the economic theory, market based instruments lead to pollution treatment at its marginal cost for society because treatment and pollution find their equilibrium. This is also called pareto-efficiency. However, this efficiency maxim does not reflect the guiding principle of the political sphere “where environmental policy decisions represent a kind of amalgam of group interests and general social welfare maximization”<sup>18</sup>. When choosing a certain instrument politicians and bureaucrats might include in their considerations, the effects on competitiveness and the distribution effects. The latter is the question of which groups are burdened with the costs of policy initially and which ones at later stages. Furthermore decision-makers might test instruments according to its implementability and verify if there are well-equipped implementing regimes available; they might check if the policy instrument corresponds with already existing practices or if much change in environmental law is required.<sup>19</sup> Furthermore, the flexibility of the instrument, meaning the question whether it can be adapted to different circumstances of time and place, might be taken into consideration, just as the monitoring and enforce-

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<sup>18</sup> Andersen, M. (1994). *Governance by green taxes. Making pollution prevention pay* (p. 25). Manchester: Manchester University Press.

<sup>19</sup> Bressers, H. & Huitema, D. (2000). What the doctor should know: politicians are special patients. The impact of the policy-making process on the design of economic instruments. In: Anderson, M. & Sprenger, R.: (Ed.), *Market based instruments for environmental management. Politics and institutions* (p. 70). Chettenham: Edward Elgar.

ment capability, the general political feasibility, the information requirements and the clarity to the general public.<sup>20</sup>

After having identified the source of the gap between theory and praxis, I will now show what kinds of divergences occur in reality.

### **1.1.1 The cap: sufficient or insufficient stimulus?**

The first divergence that can be identified between theory and practice of tradable permits is the one of “insufficient stimuli”, which describes the fact that the emission cap fixed initially by the government is hardly ever as low as it should be according to economic theory. The cap has to be defined as the total quantity of emissions that a government sets and then issues for this total quantity a certain amount of allowances to operators of installations. The economic theory, however, is built on the assumption that the scarcity of allowances leads to the reduction of emissions. But if the cap is set too high, the environmental target will not be reached and the emission trading scheme loses its reason for existing. Despite the economic theory, politicians institute the cap at a high level in order to keep the political resistance small and not to endanger the economic performance of a state. The consequence is that the polluters have not enough stimuli for reducing emissions.<sup>21</sup> Setting the cap is a very sensitive political decision. If the cap is set too high by the political authority, the amount of emissions will be less than the amount authorized by the allowances and a reduction of emissions will not take place. On the other hand, if the cap is set too low by a political decision, the economic performance of an economy might be endangered. This shows that the cap has to be set carefully.

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<sup>20</sup> Hahn, R. W. & Stavins, R. N. (1992). Economic Incentives for Environmental Protection: Integrating Theory and Practice. In: *The Papers and Proceedings of the Hundred and Fourth Annual Meeting of the American Economic Association* (p. 464). American Economic Review, Vol. 82, No. 2.

<sup>21</sup> Bressers, H. & Huitema, D. (2000). What the doctor should know: politicians are special patients. The impact of the policy-making process on the design of economic instruments. In: Anderson, M. & Sprenger, R.: (Ed.), *Market based instruments for environmental management. Politics and institutions* (p. 72). Chettenham: Edward Elgar.

### 1.1.2 Distortions of competition through the initial allocation

According to economic theory, the way in which the initial allocation is done does not matter.<sup>22</sup> How the allowances are allocated does, in fact, not affect the environmental outcome: as long as the industry respects the cap, the emission reductions are for sure. However, the initial allocation has an impact on the market in terms of competition. That is why in reality, it does matter how the initial allocation is organized, or to quote the European Commission: “[The] way the initial allocation is done is vital”.<sup>23</sup> Whereas the economic model assumes that the market is not distorted by a system of tradable permits, in the political reality, this is for different reasons not that easy to realize. Excluding distortions implies the equal treatment of installations or sectors, which presupposes that the allowances are distributed equally to the different installations.<sup>24</sup> The equal distribution depends on how the initial allocation is undertaken. In reality, it is up to the politicians to decide about the initial allocation procedure.<sup>25</sup> There are mainly two allocation procedures: Either permits are distributed free of charge by a political authority or auctioned at the initial phase. The free distribution is also called grandfathering, because the idea is that traditionally no operator (“grandfather”) had to pay for its installations’ emissions.

In the case of a grandfathering allocation procedure, it is a political decision to set which installation gets how many allowances. Here, the political authority has to be able to refer to objective criteria for the initial allocation. Otherwise, there is the risk of uneven treatment of installations and consequently of distur-

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<sup>22</sup> Tschochohei, H. & Zöckler, J. (2008). Business and emissions trading from a public choice perspective – waiting for a new paradigm to emerge. In: Antes, R. & Hansjürgens, B. & Letmathe, P.: (Ed.), *Emission Trading: Institutional Design, Decision Making and Corporate Strategies* (p. 27). Berlin: Springer.

<sup>23</sup> Proposal for a Directive of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC. COM(2001) 581 final. 23.10.2001. Section 6.

<sup>24</sup> ‘Installation’ means a stationary technical unit where one or more activities listed in Annex I are carried out and any other directly associated activities which have a technical connection with the activities carried out on that site and which could have an effect on emissions and pollution;” Directive 2003/87/EC Article 3 Paragraph e).

<sup>25</sup> What I call here “allocation procedure” is called in Article 10 of the Directive “allocation method”. I chose to stick to the term “procedure”, because the allocation method is in fact the question of how to calculate the initial allocation, either by referring to industry-specific reference values (benchmarks) or to historical reference values (grandfathering).

tion of the market. However, these objective criteria are extremely difficult to determine and therefore, economists advocate the auction of allowances. In the case of auctioning, prices for allowances are fixed from the start by a market mechanism of supply and demand, which gives an equal and fair chance to all companies to acquire the allowances in a transparent manner. Auction is preferable, because it applies to the “polluter pays” principle, the revenues raised by governments could be re-invested in the environment and it avoids the need to take the politically delicate decision about how much allowances to give to each company.<sup>26</sup>

Whereas the economic literature on the allocation of tradable allowances describes the benefits of auctioning allowances, in reality, however, they are usually distributed by a political authority at no cost.<sup>27</sup> This is because of the political difficulty in convincing industry to support auctions.

From an industry point of view, it is a state-intervention into the market when operators are obliged to pay for emissions. Companies argue that auctioning would require paying “up front” for what had not been paid for in the past.<sup>28</sup> In order to minimize the costs for emissions, the polluting industry will apply pressure to achieve that permits are distributed for free. So, according to the industrial interests, auctioning distorts competition, whereas according to economists, grandfathering distorts competition. In fact, once the permits have been distributed instead of being auctioned, this has several consequences: First of all, there is no further or much less incentive for the industry to reduce pollution once the permits are allocated free of charge.<sup>29</sup> Furthermore, firms that already committed themselves to reduce pollution as much as possible are disadvantaged in comparison to firms which have not invested in the environment. The literature uses the term “early actions” to describe measures to reduce emissions taken prior to the Emission Trading Scheme by an operator of an installa-

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<sup>26</sup> Green Paper on greenhouse gas emissions trading within the European Union. COM(2000) 87 final. 8.3.2000. Section 7.2.2.

<sup>27</sup> Kruger, J. & Pizer, W. (2004). *The EU Emissions Trading Directive. Opportunities and potential Pitfalls* (p. 15). Washington, DC: Resources for the Future.

<sup>28</sup> Green Paper COM(2000) 87 final. 8.3.2000. Section 7.2.2.

tion. From this point of view forerunners can be punished for their progressive-ness, if they are not rewarded somehow else. A third consequence concerns the fairness of the instrument. Enterprises wishing to enter the market, so called newcomers, have to start by buying the required permits from already existing firms. But if the initial allocation takes place on the basis of free allocation, newcomers are disadvantaged compared to the ones who got the licenses for free. However, the political reality is such that allocation effects of tradable permits tend to minimize the effects on already existing firms, because these firms lobby for their interests, even at the expense of fairness and progressive-ness.<sup>30</sup>

When an authority has taken the decision to distribute allowances free of charge, it must fix the allocation method. There are different methods of calculating the initial amount of allowances for each installation. Either the calculation is based on a so called grandfathering or on a benchmarking allocation method. In the case of grandfathering the initial allocation is based on an average amount of emissions during a historical period of reference (for example the average amount of emissions between 2000 and 2002) multiplied by a compliance factor (also called correction factor). The compliance factor depends on how modern the technique an installation employs is.

In the case of benchmarking, the amount of allocations is calculated on the basis of industry-specific reference values. Usually, these reference values refer to the best available technology. Thus, benchmarks determine a certain standard of CO<sub>2</sub> and if installations cannot comply with this standard, it has to either modernize or buy allowances.<sup>31</sup> The advantage of benchmarking is that it promotes cleaner production technologies, it takes into consideration that installations have a differing reduction potential and it obtains a continuous re-

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<sup>29</sup> Andersen, M. (1994). *Governance by green taxes. Making pollution prevention pay* (p. 25 - 26). Manchester: Manchester University Press.

<sup>30</sup> Bressers, H. & Huitema, D. (2000). What the doctor should know: politicians are special patients. The impact of the policy-making process on the design of economic instruments. In: Anderson, M. & Sprenger, R.: (Ed.), *Market based instruments for environmental management. Politics and institutions* (p. 74). Chettenham: Edward Elgar.

<sup>31</sup> Stewing, C. (2004). *Emissionshandel in der Europäischen Gemeinschaft. – Rechtsfragen im Rahmen der Zuteilung von Verschmutzungsrechten vor dem Hintergrund des Gemeinschaftsrechtes und unter besonderer Berücksichtigung des Wettbewerbsrechtes* (p. 14). Köln: Carl Heymanns Verlag KG.

duction effort of installation operators. However, under a benchmarking allocation method, political authorities have to do numerous calculations in order to find out the reference values of different installations or products. This might lead to high transaction costs and puts the question of feasibility on the table.

The preceding explanations on allocation procedure and method show that emission trading in reality veers away from the model, because the model assumes installations are treated equally when the initial allocation takes place. Realizing this equal treatment of installations is nearly impossible, thus leading to distortions of competition.

### **1.1.3 Collision between existing legal acts and the new instrument**

Another reason why market based instruments hardly equal the economic provision is that these new economic instruments often coexist with existing legal measures, which collide with the market mechanism of the MBI. Instead of replacing existing regulations, the new instruments are only “added” to the existing legal acts. If both collide, the new market based instrument can develop into a fully-fledged market oriented design and ensure the pareto-efficiency only after a certain time, when the existing legal acts have been amended or adapted to the new one. The cost-efficient environmental policy is from this point of view not ensured from the beginning on.<sup>32</sup>

### **1.1.4 Constraints of the market mechanism by supplementary command-and-control regulation**

Theory and practice of emission trading do furthermore not always comply as a consequence of the government supplementing direct regulatory measures. The economic theory does not comprise any provision on direct government intervention, because the idea is that the market regulates itself. But if not intended effects (hot spots, for instance) occur or are likely to occur, the government may feel responsible for correcting or preventing the negative side-effects. So, the government enacts a command-and-control regulation which

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<sup>32</sup> Bressers, H. & Huitema, D. (2000). What the doctor should know: politicians are special patients. The impact of the policy-making process on the design of economic instruments. In: Anderson, M. &



allows for intervening into the market. In the case of tradable permit systems, for instance, it is possible that so called “hot spots” of pollution arise, where a large quantity of permits are bought by firms situated in the same area. Hence, politicians introduce mechanisms to prevent this hot spot. One such mechanism commonly used by governments in the case of permit markets is the introduction of an approval procedure for the exchange of allowances. Thus, the implication for firms is that they have to “ask for permission” before trading, which reduces their flexibility. Consequently, less trade takes place than would be possible without the approval procedure. By introducing supplementary command-and-control regulations, the government intervenes into the market and lowers the flexibility of economic instruments. It is obvious that a market cannot optimally function if rules or procedures that collide with the market mechanism are introduced. Such interference annihilates the intended economic cost-efficiency mechanism and thus, contributes to explain the failure and success of permit markets.<sup>33</sup>

#### **1.1.5 Coverage of gazes and sectors - exemptions and exceptions for specific businesses**

According to the economic idea of emission trading the totality, if possible, of greenhouse gases, sectors and installations should be included into the system, because the efficiency is bigger the larger the participation. In this regard, distortions between model and practice occur because of various exemptions and exceptions politicians grant to sectors or individual polluters. In the case of permit systems introduced on a national scale, the industry usually claims that the instrument reduces their international competitiveness and that they deserve an exemption. Politicians often respond to these claims by limiting the target group of the instruments and by according exemptions for specific busi-

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Sprenger, R.: (Ed.), *Market based instruments for environmental management. Politics and institutions* (p. 72 - 73). Chettenham: Edward Elgar.

<sup>33</sup> Bressers, H. & Huitema, D. (2000). What the doctor should know: politicians are special patients. The impact of the policy-making process on the design of economic instruments. In: Anderson, M. & Sprenger, R.: (Ed.), *Market based instruments for environmental management. Politics and institutions* (p. 74 - 75). Chettenham: Edward Elgar.

nesses. This reduces the scope and the efficiency of the whole permit system and leads to distortions of competition.<sup>34</sup>

After having laid down what kind of distortions market based instruments for environmental protection policy can undergo during the implementation, now the reasons for these distortions are illustrated.

## **1.2 Criteria that explain divergences between theory and practice in general and in the European case**

The fact that the policy field does not only act according to the maxim of cost-efficiency, but according to its own rules has been outlined above as the source for the distortions. In this section, I want to specify the characteristics of the policy-formulation in order to explain policy outcomes that diverge from the economic prescriptions. Therefore, I identify four criteria, which influence policy outcomes.

### **1.2.1 Utility maximization of key players**

A first criterion influencing the decisions of policy makers is the one of utility maximization. A political actor chooses the instrument which maximizes the utility of the actor in question. As “actors” one can consider both, those involved in legislation and those responsible for the administrative implementation at the bureaucratic level.

As the image of a responsible regulator fades away quickly in reality, considerations as to whether the policy outcome weakens or strengthens an actor’s position in view of other issues play a part during policy-making. Having a say in the introduction of market based instruments may also enhance the influence on other policy initiatives and therefore maximize the utility of the actor. If economic instruments are perceived as a performing leverage for enhancing

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<sup>34</sup> Bressers, H. & Huitema, D. (2000). What the doctor should know: politicians are special patients. The impact of the policy-making process on the design of economic instruments. In: Anderson, M. & Sprenger, R.: (Ed.), *Market based instruments for environmental management. Politics and institutions* (p. 75 - 76). Chettenham: Edward Elgar.

a say of an actor, this might have a positive effect of the use of a market based instrument.<sup>35</sup>

Furthermore, decisions are determined by political actors seeking to maximize their political support through the choice of policy measures. In order to maximize their utility political actors are going to choose the instrument for which they gain the biggest political support from interest groups, such as industry and environmental movements, just as from voters in general. Consequently, arguments concerning both the general welfare of the electorate and the interest of lobbying groups are taken into account during the process of policy determination.<sup>36</sup>

The visibility of effects of an instrument is also important for political actors. If they are visible, politicians may be regarded as successful decision-makers by their electorate, thus maximizing their utility.<sup>37</sup>

In the European context both Member States and the European institutions try to maximize their utility. While the Member States try to keep as much sovereignty as possible and emphasize the principle of subsidiarity, the European institutions stress the importance of the Community's harmonization. Consequently, actors on the European and on the national level vie one another for influence on policy issues. Political actors could prefer certain instruments over others only in order to have leverage for enhancing their influence on other policies. In this regard, a national actor might favor certain instruments over others because they leave more sovereignty to the Member States than others. The Commission, on the other hand, might advocate instruments which strengthen the European rather than the national level. Furthermore, European decision-makers might choose a certain instrument because they know that

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<sup>35</sup> Bressers, H. & Huitema, D. (2000). What the doctor should know: politicians are special patients. The impact of the policy-making process on the design of economic instruments. In: Anderson, M. & Sprenger, R.: (Ed.), *Market based instruments for environmental management. Politics and institutions* (p. 71 - 72). Chettenham: Edward Elgar.

<sup>36</sup> Oates, W. E. & Portney, P.R. (2001). *The political economy of environmental policy* (p. 9 - 10). Washington, D.C.: Resources for the Future.

<sup>37</sup> Bressers, H. & Huitema, D. (2000). What the doctor should know: politicians are special patients. The impact of the policy-making process on the design of economic instruments. In: Anderson, M. & Sprenger, R.: (Ed.), *Market based instruments for environmental management. Politics and institutions* (p. 71). Chettenham: Edward Elgar.

they will gain huge political support from society. By obtaining the backing for its policies, the European institutions might aim at creating a reference forum at the European level rather than at the national level. The same holds true the other way round: national capitals want to stay the point of reference for their citizens. The following is a good example for the Commission's concern about societal support for its policies: Before making the proposal for the Directive on Emission Trading, the Commission wanted to be sure, if there was support for a system of tradable permits. Therefore, the Commission launched in the year 2000 two public consultations in which interest groups, intellectuals and Member States lay down their opinion on emission trading: the European Climate Change Program (ECCP) and the Green Paper on Greenhouse Gas Emissions Trading within the European Union.<sup>38</sup> Thus, the Commission had the confirmation that there was enough societal support for its proposal.

In addition, an actor might choose an instrument because it is visible for the electorate that this instrument can be traced back to the national respectively to the European level.

### **1.2.2 Interaction between political decision-makers and interest groups**

The second criterion contributing to explain environmental policy outcomes is the one that identifies the interaction of interest groups and politicians. Environmental regulatory choice is influenced<sup>38</sup> by interest groups, which vie with one another to determine the form of environmental policies. Each association tries to maximize its influence over policy outcomes. First, the fact that interest groups lobby can lead to policy outcomes that do not resemble the initial idea. Second, divergences between theory and model occur when certain interest groups are more influential than others. The competition between interest groups for political influence can have efficiency-enhancing effects just as it can lead to regulatory outcomes that lack rational explanation.<sup>39</sup> If all affected agents are represented by an interest group and all have the same access to decision-makers, this can lead to a political equilibrium. A balanced competition

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<sup>38</sup> Both will be explained more in detail subsequently.

is economically and socially efficiency enhancing and the outcome is likely to resemble the underlying economic theory. Let us take the example of emission trading: If environmental and industrial interests are both represented in a lobby group and equally influential, the result should be the most de-pollution possible at the lowest price possible, which again joins the idea of the economic model.<sup>40</sup> However, efficient policy outcomes are unlikely to occur because not all interest groups necessarily have the same access to decision-makers. Additionally, if an agent fails to emerge to a lobbying group and therefore to represent a certain interest, deviations from the efficient outcome are probable.

At least the theory would start out from the fact that the free rider problem limits the capacity for individuals with common interest to organize to obtain a collective benefit. As environmental lobbies represent only a purely collective interest, the theory would predict a deficient capacity to represent their interest efficiently. In this case, inefficient policy outcomes could emerge as a result of incomplete representation through interest groups. In contradiction to the theory, environmental groups have in reality shown to be a very powerful force in the policy making process.<sup>41</sup> However, environmental organizations may not be in favor of certain incentive-based instruments. Environmentalists object to systems of tradable emission permits to put the environment up for sale which is in their eyes immoral and unacceptable. Such an attitude has to be understood in terms of environmental organizations which must be careful not to alienate their members by supporting policy measures such as tradable permission systems. Besides, environmental lobbies may not be in favor of tradable permit systems because there is always the risk that the authorities set the cap too high, which would not lead to environmental improvement.<sup>42</sup>

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<sup>39</sup> Oates, W. E. & Portney, P.R. (2001). *The political economy of environmental policy* (p. 5). Washington, D.C.: Resources for the Future.

<sup>40</sup> Ibid. (p. 9).

<sup>41</sup> Ibid. (p. 11 -12).

<sup>42</sup> Oates, W. E. & Portney, P.R. (2001). *The political economy of environmental policy* (p. 14). Washington, D.C.: Resources for the Future.

Not only environmentalists but various interest groups will seek to influence the way in which economic instruments are used. There is, for example, the polluting industry which can take various positions. Even though one would think that the industry is generally in favor of economic instruments that provide a maximum of flexibility for polluters and the least depollution-costs, the industry is not generally in favor of economic instruments. Polluters may prefer, for example, emission standards such as quotas and norms to economic instruments, because those standards can limit entry for new market entrants. This is because environmental measures often prescribe more stringent standards for new than for existing plants as retrofitting can be expensive and industry presents a powerful lobby against retrofitting. Consequently, more stringent standards for new than for existing plants can increase profits for existing firms and present a barrier to entry for competitors. Therefore, industry might welcome environmental standards and be less inclined to economic instruments.<sup>43</sup> Furthermore, under a system of tradable permits, polluting firms must not only bear the costs of their pollution control but also purchase permits for their additional discharges. Bearing in mind these costs, polluters are not always in favor of tradable permit systems.<sup>44</sup>

On the European level, interest groups play an important role in the decision-making process, because the European institutions integrate interest groups into their policy-formulation process.<sup>45</sup> To illustrate the interaction of interests groups and EU institutions, I would like to give the example of the environmental interest groups in Brussels. The NGO “European Environmental Bureau”, for instance, was set up with the help of the European Commission. The Commission wanted to integrate an environmental interest group in its decision-making in order to gain societal support for its activities in the environmental field. All environmental NGOs, except Greenpeace, receive some Commission funding for regular operations. Between 2002 and 2006, €32 mil-

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<sup>43</sup> Oates, W. E. & Portney, P.R. (2001). *The political economy of environmental policy* (p. 7 - 8). Washington, D.C.: Resources for the Future.

<sup>44</sup> *Ibid.* (p. 8).

lion were made available to support environmental NGOs. “The interest groups concentrate their activities on the policy-formulation phase. Here they act both as a pressure group, mobilizing the general public or Member States on their behalf, and as ‘think tanks’, offering expertise and detailed information from the ground. The Commission regularly employs interest group representatives on temporary contracts in order to internalize this expertise.”<sup>46</sup>

### 1.2.3 Traditions, learning processes and perceptions

A third criterion effecting policy outcomes is the one of experiences and learning effects, which both influence the perceptions of the success of a instrument. “Tried and tested” policy instruments with a certain tradition can lead to the rejection of new instruments. On the other hand, learning from experiences can also be a driving force for policy changes. Systems of marketable permits for emissions have been increasingly introduced in the US. As other countries witness the well functioning of the US example, emission trading is nowadays considered and applied in other countries as well.<sup>47</sup> A “learning effect” can result in a positive or a negative perception of a policy instrument. Once a market based instrument has been implemented successfully, it is perceived as a feasible instrument for environmental protection by lobbies, the general electorate just as decision-makers and their chances to become implemented look brighter.<sup>48</sup> The perception of a market based instrument obviously affects the rate of diffusion of ideas from environmental economics to the policy world. However, when an instrument is perceived as feasible, this does not necessarily reflect its real ability to tackle environmental challenges, for example to reduce emissions. It might well be that because of the “good” image

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<sup>45</sup> Fränk, A. (2008). *Europäisches Regieren im Spiel organisierter Interessen. Legitimität und Effektivität des europäischen Interessenssystems am Beispiel der Richtlinie zum Emissionshandel* (p. 29). Saarbrücken: VDM Verlag Dr. Müller.

<sup>46</sup> Lenschow, A. (2005). Environmental Policy. Contending Dynamics and Policy Change. In: Wallace, H. & Wallace, W. & Pollack, M.A.: (Ed.), *Policy-Making in the European Union* (p. 318 – 319). Fifth Edition. Oxford: Oxford University Press.

<sup>47</sup> Bressers, H. & Huitema, D. (2000). What the doctor should know: politicians are special patients. The impact of the policy-making process on the design of economic instruments. In: Anderson, M. & Sprenger, R.: (Ed.), *Market based instruments for environmental management. Politics and institutions* (p. 80 - 81). Chettenham: Edward Elgar.

<sup>48</sup> Hahn, R. W. (1999). *The Impact of Economics on Environmental Policy* (p. 20 – 21). AEI-Brookings Joint Centre for Regulatory Studies. Working Paper 99-04.

of an instrument decision-makers have a particular trust in an instrument. Thus, they consider the potential pitfalls less big than they probably should be considered.

In the European case, learning from the past meant, first, making the experience of unsuccessful regulatory measures and consequently, actors were more inclined to new approaches, such as market based instruments: The European Community has been working since 1988 on strategies to combat climate change. After Kyoto, the European Union introduced a strategy to reach the 8 percent reduction target of CO<sub>2</sub> emissions in different sectors, most of all energy, transport and industry. Programs as SAVE<sup>49</sup>, ALTENER<sup>50</sup> or THERMIE<sup>51</sup> were launched. However, this sector-approach was not a coherent measure and did not lead to meeting the reduction target. Decision-makers then agreed that a comprehensive, integrated and trans-sectoral approach was needed. With this regard, numerous measures were taken, among others the Directive on Renewable Energy<sup>52</sup> (2001/77/EC) was passed. At the turn of the century, about 300 environmental directives and regulations were in place.<sup>53</sup> Despite these various actions, scientific studies predicted that the European Union would in a business-as-usual-case not be able to reach its reduction commitments, but that there would be an increase of emissions compared to 1990. Furthermore, critics complained about the quantity of environmental regulations, the related high costs and the lack of coordination between different regulations. To cope with this problem, the European Climate Change Program<sup>54</sup> (ECCP) was launched in July 2000, which aimed at identifying meas-

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<sup>49</sup> The Program SAVE of 1991 provides financial support for measures enhancing the energy efficiency in order to reduce CO<sub>2</sub> emissions.

<sup>50</sup> The Program ALTENER of 1993 provides financial support for the promotion of renewable energy resources.

<sup>51</sup> The Program THERMIE of 1990 provides financial support for new energy technologies.

<sup>52</sup> The aim was to enhance the proportion of renewable energy in the energy production from 14 % in 1997 to 22 % in 2010.

<sup>53</sup> Lenschow, A. (2005). Environmental Policy. Contending Dynamics and Policy Change. In: Wallace, H. & Wallace, W. & Pollack, M.A.: (Ed.), *Policy-Making in the European Union* (p. 307). Fifth Edition. Oxford: Oxford University Press.

<sup>54</sup> Communication from the Commission to the Council and the European Parliament on EU policies and measures to reduce greenhouse gas emissions: Towards a European Climate Change Programme (ECCP). COM(2000) 88 final. 8.3.2000.



ures to reach the Kyoto reduction obligation. The ECCP proposed among other measures to introduce a European wide emission trading system.<sup>55</sup> Years of EU environmental activism did not lead to the reduction of CO<sub>2</sub> emissions. Finally, learning from the past, the Commission has changed its choice of proposed policy instruments. Instead of sticking to a regulatory philosophy, the Commission has favored a more flexible and comprehensive approach.<sup>56</sup> The general opinion was in favor of the introduction of a permit system, because it could be a new and good solution in order to meet the Kyoto reduction target.

The inclination towards a market approach for environmental protection was even bigger as MBI have been increasingly used as cost-efficient tools in environmental policies and have been successfully implemented in the United States just as in some Member States of the EU. The United States were the first introducing an emission trading system<sup>57</sup> and particularly influenced the perception of those MBI. In 1995, the Acid Rain Program was introduced to reduce SO<sub>2</sub> and NO<sub>x</sub> emissions. Under the Program 50 percent of the American SO<sub>2</sub> emissions could be reduced by 1999, even though this target was set for 2010. Because of this very good US experience with emission trading, the perception of this instrument was very positive. In 2002, Great Britain implemented the Emission Trading Scheme. Denmark and France also planned the introduction of an emission trading system.<sup>58</sup> In 2003, the European Emission Trading Scheme followed as a consequence of bad experiences with regulatory measures and good experiences with tradable permit system for the reduction of emissions.

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<sup>55</sup> Wolf, T. (2007). *Emissionshandel in Deutschland, Österreich und Irland – eine rechtsvergleichende Darstellung unter besonderer Berücksichtigung von Monitoring, Reporting und Verification* (p. 43 - 45). Göttingen: Cuvillier Verlag.

<sup>56</sup> Lenschow, A. (2005). Environmental Policy. Contending Dynamics and Policy Change. In: Wallace, H. & Wallace, W. & Pollack, M.A.: (Ed.), *Policy-Making in the European Union* (p. 319 – 320). Fifth Edition. Oxford: Oxford University Press.

<sup>57</sup> Sattler, A. (2004). *Der Handel mit Treibhausgaszertifikaten in der Europäischen Union unter besonderer Berücksichtigung der Richtlinie 2003/87/EG* (p. 44). Berlin: Logos Verlag.

<sup>58</sup> Wolf, T. (2007). *Emissionshandel in Deutschland, Österreich und Irland – eine rechtsvergleichende Darstellung unter besonderer Berücksichtigung von Monitoring, Reporting und Verification* (p. 41 - 42). Göttingen: Cuvillier Verlag.

#### **1.2.4 Institutional rules and the decision-making process**

Finally, “institutional factors” help to explain the choices of policy makers who find themselves in a certain “arena of action”. There are certain rules and norms that are specific for the different institutions acting in an institutional environment. These rules and norms of institutions shape the positions of individuals being part of the institutions. Hence, politicians do not only act according to their own beliefs, but also in accordance with the rules of the institution they are part of. Political actors act out of duty or awareness of what one is supposed to do according to the institutional rules. Consequently, it is crucial to understand the institutional context in which the market like mechanism is designed when analyzing how policy choices come about.

Political institutions interact during the decision-making process. So, the norms within an institution are an outcome of its specific role in the decision-making process. For example, rules and norms of the EP have changed as its role in the decision-making process has evolved from a consultative assembly to a powerful institution. Therefore, not only the rules of institutions but also the national style of decision-making process influences policy outcomes, may this be on a national or European level. Patterns of decision-making differ all over the world and are rooted in constitutions (or treaties) prescribing different approaches to law making. It is important to understand the different historically grown styles of decision-making in order understand why some policies fail and other succeed.

Furthermore, standard operating procedures determine not only the way in which legislation is done, but also the way in which implementation is done. When it comes to implementation of an economic instrument there has to be a bureaucratic body available that carries out the implementation successfully. Or, said in other words, the instruments have to be designed in such as to adapt to national (or European) institutional settings and to the national (or European) principles of public administration.<sup>59</sup> What is meant by this can be explained for instance by the importance attributed to the municipalities in

Germany or to central authorities in France. Municipal authorities are more inclined to support local industry and therefore accept higher pollution levels than specialized environmental agencies would accept. In fact, countries with local governments responsible for the pollution control have been less efficient in their depollution than countries where pollution control authorities were special environmental agencies.

To conclude, policy outcomes are decisively influenced by the rules and norms of institutions, the national style of decision-making and the specific bureaucratic institutional settings. It requires comprehensive knowledge of constitutional, administrative, historical and cultural settings in order to grasp the opportunities and limitations of national policy styles.<sup>60</sup>

In the European case, the decision-making process is such that the European Commission has the responsibility of policy-formulation by its power of initiative. Under the most recent treaty arrangements, the co-decision procedure applies to almost all environmental policy. Consequently, Parliament and Council have to approve and can amend the Commission's proposal. If both institutions cannot agree on a proposal, they enter into direct negotiations. Here, the Commission intervenes and mediates between Parliament and Council. The Commission has pursuant to Article 250 Paragraph 2 of the EC Treaty the right to withdraw a proposal and present a new one as long as the Council has not adopted its Common Positions. Once a legislative act has been passed, the Commission is responsible for controlling the implementation by the Member States.

In environmental policy-making, the inter-institutional relations are such that the Commission's role as a supranational actor "seems to put the Commission in almost natural opposition to the Member States and the Council, whereas the EP appears as a 'natural ally'."<sup>61</sup> However, this description is not detailed

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<sup>59</sup> Andersen, M.S. (2001). *Economic instruments and clean water management: why institutions and policy design matter* (p. 4 -5). Paris: OECD.

<sup>60</sup> Ibid. (p. 19 - 22).

<sup>61</sup> Lenschow, A. (2005). Environmental Policy. Contending Dynamics and Policy Change. In: Wallace, H. & Wallace, W. & Pollack, M.A.: (Ed.), *Policy-Making in the European Union* (p. 313). Fifth Edition. Oxford: Oxford University Press.

enough. In fact, the Commission can promote tougher supranational rules than Member States' national environmental rules. But to assure its legitimacy and the feasibility of its proposals and to anticipate the conflicts that might otherwise hamper decision-making, the Commission is attentive to national demands, positions and expertise. Instead of a "natural opposition", a kind of cooperation has developed between Commission and the 'real' implementers during the policy design stage. Member States provide input for Commission's initiatives, because they see the opportunity to shape the proposals according to their national interests.<sup>62</sup>

In the Council, environment ministers are far away from domestic constraints and can support agendas that would not be supported domestically. "Back home, controversial decisions may then be blamed on 'Brussels' or a too powerful alliance of environmental leader states."<sup>63</sup> However, this does not mean that the Council is a homogenously green supranational institution. First of all, national interests are represented in the Council which leads to several cleavages inside the Council: environmental leaders vs. laggards<sup>64</sup>, industrialized vs. rural or touristic countries<sup>65</sup> and interventionist vs. non-interventionist<sup>66</sup> policy philosophies.

The European Parliament traditionally has been the "greenest" of the three policy-making institutions as it has pushed stringent environmental standards in the 1980s and 1990s. When the EP was a consultative assembly, it advanced a pro-active and often uncompromising attitude towards environmental protec-

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<sup>62</sup> Lenschow, A. (2005). Environmental Policy. Contending Dynamics and Policy Change. In: Wallace, H. & Wallace, W. & Pollack, M.A.: (Ed.), *Policy-Making in the European Union* (p. 309; 312 – 313). Fifth Edition. Oxford: Oxford University Press.

<sup>63</sup> Ibid. (p. 313).

<sup>64</sup> Leaders appear to be countries like Germany, the Netherlands, Sweden and Denmark, i.e. the richer, northern states – whereas the laggards are the poorer, southern states like Greece, Spain, Portugal and the new Member States, which have other investment priorities and do not face an electorate pushing for tougher environmental standards.

<sup>65</sup> Member States face different environmental problems: Highly industrialized countries are likely to be more concerned with air quality, waste treatment and noise, than countries with larger rural sector and dependence on tourism which place greater value on the quality of soil, nature protection and sufficient quantities of water.

<sup>66</sup> Countries differ in their regulatory philosophies and styles. Germany for instance, has a tradition of command-and-control regulations, whereas Great Britain favors a market, non-interventionist approach.

tion. However, the role of the EP in the decision-making process changed since it turned more and more to a fully fledged parliament with real power. Hence, the EP adopted less radical and more moderate environmental views in recent times. One can see that the rules and norms of the EP have been modified, because the Parliament's role in the decision-making process changed. Committees (especially the Committee on the Environment, Public Health and Consumer Protection) and the plenary majorities of the EP also shape environmental policy outcomes. In comparison to most national parliaments, the green fraction<sup>67</sup> is quite large.<sup>68</sup>

In summary, policy choice can be explained in terms of the actors' maximizing their utility, the positions of the interest groups, the learning process influencing the perception of the success of tradable permits and the institutional setting of the European Union. As these four criteria are interdependent, the order mentioned here does not give a hierarchical order of more and less important criteria.

## **2 Case Study: the Directive 2003 / 87 / EC on the European Emission Allowance Trading Scheme**

### **2.1 Divergences between the economic theory of emission trading and the Emission Trading Scheme**

#### **2.1.1 The cap: sufficient or insufficient stimulus**

The Emission Trading Directive (ETD) does not provide the Commission with the competence to set a cap. Instead, it is up to the Member States to determine the total amount of allowances that are distributed to the national installations. Pursuant Article 11 Paragraph 1 and 2 of the Directive "*each Member State shall decide upon the total quantity of allowances it will allocate [...].*" Al-

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<sup>67</sup> This difference can be explained by the difference between the European and some Member States voting procedure: whereas proportional voting is valid for EP elections, in some Member States (i.g. UK) the first-past-the-post voting is used.

allowances are only valid for a determined period of time and are cancelled afterwards.<sup>69</sup> Member States have to develop, so called National Allocation Plans stating the total quantity of allowances that they intend to allocate for a certain period and how they propose to allocate the allowances.<sup>70</sup> Hence, the Commission has pursuant Article 9 the right to a say by auditing these national allocation plans:

*“[...] The plan shall be published and notified to the Commission and to the other Member States [...]. Within three months of notification of a national allocation plan by a Member State [...], the Commission may reject that plan, or any aspect thereof, on the basis that it is incompatible with the criteria listed in Annex III or with [the method of largely free allocation prescribed in] Article 10.”*

The criteria of Annex III fix, on the one hand, that a member state must not set the cap higher than necessary for meeting its Kyoto reduction commitments:

*“The total quantity of allowances to be allocated for the relevant period shall be consistent with the Member State's obligation to limit its emissions pursuant to Decision 2002/358/EC and the Kyoto Protocol. [...] Prior to 2008, the quantity shall be consistent with a path towards achieving or over-achieving each Member State's target under Decision 2002/358/EC and the Kyoto Protocol.”<sup>71</sup>*

On the other hand, the Annex III sets that a member state must not fix the cap lower than the potential of the industry to reduce emissions: *“Quantities of allowances to be allocated shall be consistent with the potential, including the technological potential, of activities covered by this scheme to reduce emissions.”<sup>72</sup>* So, “[the] allocation of allowances should be environmentally beneficial and economically feasible, consistent with the Member States emissions

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<sup>68</sup> Lenschow, A. (2005). Environmental Policy. Contending Dynamics and Policy Change. In: Wallace, H. & Wallace, W. & Pollack, M.A.: (Ed.), *Policy-Making in the European Union* (p. 313 – 315). Fifth Edition. Oxford: Oxford University Press.

<sup>69</sup> Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC. 25.10.2003. Article 13 Paragraph 1.

<sup>70</sup> Directive 2003/87/EC Article 9 Paragraph 1.

<sup>71</sup> Directive 2003/87/EC Annex III Section 1.

<sup>72</sup> Directive 2003/87/EC Annex III Section 3.

reduction obligation and the (technical) potential of the covered activities as well as just, thus avoiding discrimination between companies or sectors.”<sup>73</sup>

All in all, the Directive establishes very general guidelines to the Member States on how to set the cap, leaving much room of interpretation to the Member States. The Commission left the liberty and the burden to the Member States to decide upon the cap and therewith to give a sufficient or insufficient stimulus. As the Member States are quite sensitive to the requests of their national industry, it is probable that the cap is set too low. In fact, the Member States made use, or even tried to abuse, this large freedom of setting the cap. There are several evidences for this: When the Commission had to approve in 2004 the first National Allocation Plans, the NAPs of Austria, Germany, the United Kingdom, Finland and France were partially rejected by the Commission. The Commission requested the national governments to make changes to the plans, because these Member States endangered the compliance with the Kyoto target as too many allowances were intended to be allocated.<sup>74</sup> This behavior can be interpreted in terms of the basic free rider problem. As the Kyoto Protocol sets a common target for the whole EU, called burden sharing, Member States will try to not have to carry the burden of reduction, but to profit from other countries' reduction efforts. Another evidence for a too lax cap is the fall of the allowance price from 2006 onwards. The lack of scarcity of the allowances led to the fall of the prices for the allowances and shows that there was not enough incentive for the industry to reduce emissions. In April 2006, the price for the allowances reached with 29,70 € per ton CO<sub>2</sub> its peak and fell to 90 cents per ton CO<sub>2</sub> in February 2007.<sup>75</sup> Another evidence for a too lax cap is the increase of emissions in the first trading phase (2005 – 2007).<sup>76</sup>

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<sup>73</sup> Antes, R. & Hansjürgens, B. & Letmathe, P. (2008). *Emission Trading: Institutional Design, Decision Making and Corporate Strategies*. (p. 39). Berlin: Springer.

<sup>74</sup> Elspas, M & Salje, P. & Stewing, P. (2006). *Emissionshandel. Ein Praxishandbuch* (p. 33). Berlin: Carl Heymanns Verlag.

<sup>75</sup> Cf. graph taken from: <http://www.udo-leuschner.de/energie-chronik/070202d.htm> (13.5.09).

<sup>76</sup> <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/787> (13.5.09).

### 2.1.2 Distortions of competition through the initial allocation

As already mentioned in chapter 1.1.2 the initial allocation that treats installations equally is crucial to the functioning of an emission trading scheme. The Commission tried to prevent distortions of competition by setting community provisions for the initial allocation, which assure the equal treatment of installations and sectors in the Community. To make sure that no distortions of competition between installations of the Member States occur, the Commission audits if the NAPs are based on the objective criteria laid down in Annex III ETD. Annex III explicitly stipulates that the NAP “*shall not discriminate between companies or sectors in such a way as to unduly favor certain undertakings*”.<sup>77</sup> Furthermore, the Directive obliges the Member States to distribute the allowances largely free of charge for the initial allocation.<sup>78</sup> By setting the same allocation procedure for the whole community, a basic consistency is assured in order to prevent distortions of competition. However, despite these provisions, distortions of the market are not totally prevented.

Article 10 ETD on the method of allocation stipulates that “*[f]or the three-year period beginning 1 January 2005 Member States shall allocate at least 95 % of the allowances free of charge. For the five-year period beginning 1 January 2008, Member States shall allocate at least 90 % of the allowances free of charge.*” Consequently, only 5 respectively 10 percent of allowances may be auctioned. This means that Member States are also free to choose to distribute 100 percent of the allowances free of charge. This is in opposition to the idea of tradable permit systems according to which permits have to be auctioned in order to not distort the market by a political decision. Furthermore, if one member state allocates, for instance, 100 percent of the allowances free of charge and another member state only 95 percent, the effect on the economy of different Member States will diverge. This unequal treatment of economies by differ-

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<sup>77</sup> Directive 2003/87/EC Annex III Section 5.

<sup>78</sup> Directive 2003/87/EC Article 9.



ing allocation procedures between Member States does obviously affect competition.<sup>79</sup>

Free allocation causes further competition problems in terms of newcomers and early actions. Article 11 Paragraph 3 stipulates that when “*deciding upon allocation, Member States shall take into account the need to provide access to allowances for new entrants.*” Section 4 sets that the “*competent authority shall issue a proportion of the total quantity of allowances each year of the period.*” One might assume that authorities have to hold back some allowances to grant them to new entrants. However, the Directive is very imprecise on this point, because Annex III does not explicitly stipulates that allowances are held back for new entrants. Instead, Annex III Section 6 sets a vague rule: “*The plan shall contain information on the manner in which new entrants will be able to begin participating in the Community scheme in the Member State concerned.*” The free allocation poses furthermore the problem of how to deal with early actions. In the case of an initial allocation based on historical reference values, the period of reference is important. An early reference date rewards early actions, whereas a recent date does not. On this point, the Annex III leaves it up to the Member States whether they want to take into account early actions or not and which period of reference to choose.<sup>80</sup>

Member States can decide on what to base the initial allocation calculation, on the best available techniques, on industry-specific benchmarks or historical emission data. Annex III Section 3 stipulates that “*Member States may base their distribution of allowances on average emissions of greenhouse gases by product in each activity and achievable progress in each activity.*” Furthermore Annex III Section 7 sets that benchmarks “*derived from reference documents concerning the best available technologies may be employed by Member States in developing their National Allocation Plans [...]*”. With these clauses, Member States have the freedom to choose the initial allocation method. So,

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<sup>79</sup> Stewing, C. (2004). *Emissionshandel in der Europäischen Gemeinschaft. – Rechtsfragen im Rahmen der Zuteilung von Verschmutzungsrechten vor dem Hintergrund des Gemeinschaftsrechtes und unter besonderer Berücksichtigung des Wettbewerbsrechtes* (p. 16 - 17). Köln: Carl Heymanns Verlag KG.

<sup>80</sup> Directive 2003/87/EC Annex III Section 7: The plan may accommodate early action and shall contain information on the manner in which early action is taken into account.

distortions of competitions can occur if the same sorts of installations receive allowances calculated on different allocation methods.

In addition, Member States have different reduction targets according to the Kyoto Protocol and the subsequent Burden Sharing Agreement. Consequently, the national industries of different member state are subject to very different emission reduction targets and the scarcity of allowances varies from member state to member state. In practical terms, this means that two installations of the same sector in different Member States may be subject to very different reduction pressure. This unequal treatment of the same sort of installation by different Member States may also happen when Member States, pressurized by divergent interests, favor action in some sectors (or companies) more than others by exempting particular sectors from making a contribution to the reduction target or by setting unchallenging sectoral targets.<sup>81</sup> It has to be added that the Kyoto Protocol leads to further, unexpected distortions of competition: As under Kyoto the reference year is 1990, Germany, for instance, has been more successful in fulfilling its reduction target because of the breakdown of the former GDR economy than countries in which the economy is on the rise.<sup>82</sup>

To conclude, it is nearly impossible to assure the equal treatment of sectors and installations under the EU-ETS, even though this would be crucial for the initial allocation. As a grandfathering allocation procedure has been set by the ETD, distortions of competitions are likely to occur and difficult to prevent.

### **2.1.3 Collision between existing legal acts and the new instrument**

There is a large quantity of legal acts, both on the Member States' level and on EU level, which deal with the reduction of emissions. Therefore, the Commission dedicated a whole paragraph entitled "policy options related to the synergy with other policies and measures" in its Green Paper on greenhouse gas emissions trading within the European Union. The Commission draws the attention on the fact that "[it] still has to be clarified how technical regulation,

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<sup>81</sup> Green Paper COM(2000) 87 final. 8.3.2000. Section 7.2.1.

<sup>82</sup> Stewing, C. (2004). *Emissionshandel in der Europäischen Gemeinschaft. – Rechtsfragen im Rahmen der Zuteilung von Verschmutzungsrechten vor dem Hintergrund des Gemeinschaftsrechtes und unter besonderer Berücksichtigung des Wettbewerbsrechtes* (p. 16 - 17). Köln: Carl Heymanns Verlag KG.

*taxation and environmental agreements are respectively substitutes or complementary to a new emissions trading instrument.*"<sup>83</sup> Subsequently, the Commission wrote in its proposal for the Directive that the EU-ETS "*harnesses the synergies with existing legislation, and in particular, the IPPC Directive*".<sup>84</sup> The Council Directive 96/61/EC concerning Integrated Pollution Prevention and Control and the Emission Trading Directive are both environmental legislation on the community level. Both directives cover emissions of greenhouse gases, but grant different types of permits. Under the IPPC Directive competent authorities fix emission limit values for pollutants that are likely to be emitted from the installation concerned in significant quantities and grant permits for this. So, the IPPC Directive stipulates that emission limit values have to be set. This is not consistent with the EU-ETS as an installation covered by the Scheme should not have a fixed emission limit.<sup>85</sup> To ensure the smooth interplay between the Emission Trading Scheme and the IPPC Directive, the IPPC Directive has been changed by the article 26 of the Directive on Emission Trading. This amendment makes explicit that if an installation falls under both directives, then emission limit values shall not be set as the IPPC Directive would require, unless these emissions have a significant local impact.<sup>86</sup>

Despite this amendment the directives collide. The IPPC Directive requires Member States to ensure that installations are operated in such a way that all the appropriate preventive measures are taken against pollution, in particular application of the best available techniques.<sup>87</sup> Consequently, the IPPC Directive would require basing the initial allocation method for allowances under the emission trading on the best available technique. This provision on the limit values calculated on the best available techniques, however, collides with the Directive on Emission Trading, because the idea of emission trading is to incite to technical modernization where it is the cheapest and to buy allowances if

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<sup>83</sup> Green Paper COM(2000) 87 final. 8.3.2000. Section 8.

<sup>84</sup> Proposal for a Directive COM(2001) 581 final. 23.10.2001. Section 9.

<sup>85</sup> Proposal for a Directive COM(2001) 581 final. 23.10.2001. Section 9.

<sup>86</sup> Directive 2003/87/EC Art. 26.

<sup>87</sup> Proposal for a Directive COM(2001) 581 final. 23.10.2001. Section 9.

this is more efficient than abatement efforts.<sup>88</sup> The idea of efficient abatement is thus not consistent with imposing technical modernization to every installation. Nevertheless, the problematic relation between the IPPC Directive and the Emission Trading Directive has not been solved on this point, because the precautionary principle pursuant Article 2 IPPC Directive is still a valid obligation of operators.

In addition, both directives collide because the IPPC Directive requires the efficient use of energy whereas the Directive on Emission Trading is without prejudice to those requirements.<sup>89</sup> Again, the idea of emission trading is that abatements are undertaken where they are the most efficient. This is not consistent with imposing common efforts for the efficient use of energy under the IPPC Directive. Therefore, article 26 ETD stipulates that Member States may choose to not impose requirements relating to energy efficiency. According to article 2 ETD, on the contrary, the emission trading Directive shall apply without prejudice to any requirements pursuant to the IPPC Directive and the Commission's proposal made it even clearer by stipulating: "*This Directive shall apply without prejudice to any requirements pursuant to Directive 96/61/EC that relate to energy efficiency.*"<sup>90</sup> So whilst the Directive on Emission Trading leaves the Member States to determine the stringency of CO<sub>2</sub> abatement efforts, the Commission stresses that efficiency requirements for the use of energy under the IPPC Directive provide a common level of effort that must be undertaken.<sup>91</sup> This does not solve the relation between the two directives especially if some Member States choose to impose energy requirements and others do not.

Besides the IPPC Directive, there are other potential areas of collision, because there are many legislative instruments dealing with CO<sub>2</sub> emission reduction. On the community level there is, for instance the Large Combustion Plant

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<sup>88</sup> Elspas, M. & Salje, P. & Stewing, P. (2006). *Emissionshandel. Ein Praxishandbuch* (p. 41). Berlin: Carl Heymanns Verlag.

<sup>89</sup> Proposal for a Directive COM(2001) 581 final. 23.10.2001. Section 9.

<sup>90</sup> Proposal for a Directive COM(2001) 581 final. 23.10.2001. Article 2. Paragraph 2.

<sup>91</sup> Proposal for a Directive COM(2001) 581 final. 23.10.2001. Section 9.

Directive setting emission limit values.<sup>92</sup> On the Member States level there are interactions with environmental agreements and energy taxes, which aim at tackling CO<sub>2</sub> emissions. When both instruments, taxes and emission trading, are used at the same time, this may give rise to negative impacts on competitiveness.<sup>93</sup> In addition, taxes would annihilate the efficiency-effect of emission trading. On the Member States level the problem of collision between the new Directive on Emission Trading and existing legal measures is very significant. While the new Emission Trading Scheme would have required to do some adaptations to national law, Member States refused to do so as they have been quite skeptic about the success of the European Emission Trading System. The German Environment Council, for instance, recommended to the German government that only when the operability and the performance of the emission trading system will be assured, it is worth to undertake the huge administrative effort to reduce national regulations on the subject.<sup>94</sup>

#### **2.1.4 Constraints of the market mechanism by supplementary command-and-control regulation**

All in all, the Directive sets only the framework and leaves numerous possibilities for adding regulations and further guidelines.<sup>95</sup> On the one hand, the Commission stipulates in the Directive that the proposed Emission Trading Scheme can properly function only if a harmonized Community scheme is established.<sup>96</sup> But on the other hand, the Commission left crucial decisions on implementation up to the competent authorities of the Member States. The compromise between Community harmonization and the respect of the subsidiarity principle led to the establishment of a common framework leaving much freedom to the Member States. Consequently, the Directive omits certain stipulations: There is no clause about how to calculate the initial allocation, but the

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<sup>92</sup> Green Paper COM(2000) 87 final. 8.3.2000. Section 8.1.

<sup>93</sup> Proposal for a Directive COM(2001) 581 final. 23.10.2001. Section 30.

<sup>94</sup> Sattler, A. (2004). *Der Handel mit Treibhausgaszertifikaten in der Europäischen Union unter besonderer Berücksichtigung der Richtlinie 2003/87/EG* (p. 55). Berlin: Logos Verlag.

<sup>95</sup> Wolf, T. (2007). *Emissionshandel in Deutschland, Österreich und Irland – eine rechtsvergleichende Darstellung unter besonderer Berücksichtigung von Monitoring, Reporting und Verification* (p. 69). Göttingen: Cuvillier Verlag.

Commission leaves this decision up to the national authorities. Member States can decide on what to base the initial allocation calculation, on the best available techniques, on industry-specific benchmarks or historical emission data. Furthermore, the Directive omits, as already mentioned in chapter 2.1.2 guidelines concerning early actions and newcomers, thus leaving it up to the Member States to establish the rules.

The framework-Directive leaves much room for adding command-and-control regulations, which might be contrary to the initially intended effects of an emission trading system. In fact, numerous subsequent regulatory measures have been added to the European and national level in the case of the EU-ETS. Pursuant Article 9 Paragraph 1 Sentence 2 ETD the Commission had to develop and file subsequently a manual (NAP-Guidance)<sup>97</sup> to guide Member States with the setting of their national allocation plans. Article 14 Paragraph 1 ETD stipulates that the “*Commission shall adopt guidelines for monitoring and reporting of emissions*”. According to Article 19 ETD Paragraph 3 “*the Commission shall adopt a regulation for a standardised and secured system of registries [...] containing common data elements to track the issue, holding, transfer and cancellation of allowances, to provide for public access and confidentiality as appropriate and to ensure that there are no transfers incompatible with obligations resulting from the Kyoto Protocol.*” The latter example shows that the Commission is concerned about maintaining the overview about the situation of the allowances. As I mentioned in chapter 1.1.4, a system of tradable permits does not prevent “hot spots” to arise. Therefore, authorities might introduce mechanisms, such as approval procedure for the exchange of allowances, which allow for government intervention into the market. The registries constitute a sort of approval procedure, because companies cannot trade their allowances without registering their operations. Obviously, the Commission’s intention with regard to the registries was twofold: First, to verify if companies hold enough allowances for their emissions and to cancel the submitted allowances. The

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<sup>96</sup> Directive 2003/87/EC. Section 10.

<sup>97</sup> Communication from the Commission on guidance to assist Member States in the implementation of the criteria listed in Annex III to Directive 2003/87/EC [...]. COM (2003) 830. 7.1.2004.

cancellation is an important tool for reducing the amount of allowances every year and therewith, at least in theory, setting constantly the cap lower. Second, the system of linked national registries is central for the adjustment of the Member States' commitments under the Burden Sharing Agreement of the Kyoto Protocol. Under the Kyoto Protocol the Community has a reduction target of 8 percent, with which the community has to comply as a whole. Hence, the Burden Sharing Agreement sets different reduction targets for the Member States. If the Community fails to comply with the Kyoto target, the individual Member States are held responsible for their individual reduction target. So, if a company in one member state buys an allowance from a company in another member state, the Community will emit the same amount of CO<sub>2</sub>, but the entitlements of each member state and the commitments under the Burden Sharing Agreement will have to be adjusted.<sup>98</sup> Registries are a crucial verification and monitoring tool for the Commission. Without registries, it would be impossible to verify if operators hold the appropriate amount of allowances for their installations' emissions, to adjust the Member States commitments under the Burden Sharing Agreement and, to verify if the Member States, and the Community as a whole, comply with their Kyoto target. However, with establishing the system of registries, the Commission can "observe" the market and eventual hot spots. In fact, Article 26 of the Directive gives the Commission the right to intervene in order to prevent hot spots. As already mentioned in chapter 2.1.3, the IPPC Directive has been amended so as to emission limit values are not set for installations that fall under the Emission Trading Scheme "*unless it is necessary to ensure that no significant local pollution is caused*".<sup>99</sup> Consequently, political authorities can prevent hot spots by setting emission limit values for installations located in areas with significant local pollution. In this respect, it is clear that subsequent regulatory measures, which set limit values for certain installations, distort the market and constrain companies in their flexibility to trade. This will be in opposition to the idea of emission trading where operators should be able to buy allowances without limit values. Here, the added regula-

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<sup>98</sup> Proposal for a Directive COM(2001) 581 final, 23.10.2001. Section 3.

<sup>99</sup> Directive 2003/87/EC Article 26.

tion does hinder the market from functioning. Thus, the government intervention is not compatible with the idea of emission trading. One can see how model and reality do not comply when direct regulation is added.

On the Member States level, there are numerous other possibilities for adding command-and-control regulations that may be contrary to the idea of emission trading. This is, as mentioned, because the Directive sets only a very general framework and leaves much scope to the Member States.

### **2.1.5 Coverage of gases and sectors - exemptions and exceptions for specific businesses**

First, there is the question of sectors and greenhouse gases covered by the EU-ETS. According to Article 2 Paragraph 1 ETD the Emission Trading Scheme covers emissions only from categories listed in Annex I: production and processing of iron, steel, cement, glass, ceramic, energy (such as electric power or direct emissions from oil refineries), pulp and paper. Initially, the EU-ETS covers only one greenhouse gas, CO<sub>2</sub>, out of six. These restrictions clearly reduce the scope of the EU-ETS.

Article 27 ETD on the “temporary exclusion of certain installations” provides the possibility to Member States to exclude temporarily and only until the 31 December 2007 certain installations from the emission trading system, even if these installations would pursuant Annex I fall under the emission scheme. The condition for this opt-out is that Member States would reduce the same amount of emissions than if the installations were integrated in the Emission Trading Directive. In addition, it is conditionally that the exempted installations are subject to monitoring, reporting and verification requirements, which are equal to those of the Directive. The Commission can approve the opt-out if the installation is subject to penalties, in case of non compliance, at least equivalent to those of the Directive.

So, instead of making sure that the maximum amount of gases, sectors and installations take part in the Emission Trading Scheme, the Directive covers only one greenhouse gas and a few sectors just as it gives the possibility to national authorities to exempt certain installations. This reduces the scope and



the efficiency of the whole permit system and is clearly not compatible with the economic idea of emission trading.

### **2.1.6 Summary of the results**

Several divergences between the economic theory of emission trading and the European Emission Trading Scheme can be observed:

First, the Member States did not fix the cap sufficiently low in order to comply with what the model would underlie in order reduce emissions.

Second, according to the economic idea auction should be the initial allocation procedure, because it avoids distortions due to political decisions. However, under the EU-ETS the initial allocation for the first period took place free of charge for companies. Furthermore, the same sort of companies can be treated differently depending on their location in a member state, because Member States might have fixed different allocation methods, rules for newcomers or early actions and have to comply with different reduction targets under Kyoto.

Third, the Emission Trading Directive collides with numerous existing legal acts on the Community level and on Member States level. Hence, adaptations in community and national legislation should be done in order to assure the functioning of the Emission Trading Scheme. Unfortunately, these adaptations have not fully been done which annihilates the cost-efficiency mechanism of the EU-ETS.

Fourth, subsequently added command-and-control regulations can be problematic if it hinders the permit system to develop into a fully-fledged market mechanism. According to economic theory operators of installations should be able to buy allowances without limit values. Hence, the Commission can set limit values for certain installations by the addition of a subsequent regulatory measure in order to prevent hot spots. On the Member States level there are numerous other possibilities to add further regulatory measures, which can contradict the idea of emission trading.

Fifth, the model of emission trading assumes that the larger the participation of the industry and greenhouse gases, the more cost-efficient will be the permit

system. However, exemptions and exceptions are made possible under the EU-ETS, which clearly undermines the scope of the Emission Trading Scheme.

After having laid down what kind of differences between the theory of permit systems and the European Emission Allowance trading system occurred, I would like to find out how these distortions can be explained by analyzing the policy-making process. I want to answer the following questions: How can the laxity of the ETD in terms of leaving the setting of the cap up to the Member States be explained? Why are almost all the permits allocated free of charge instead of being auctioned in the first period? Why did the authorities not eliminate colliding legal acts? Why does the Directive only set a framework thus leaving the possibility of adding command-and-control regulation contrary to the idea of emission trading? Related questions concern the fact that Community rules for newcomers, early actions and the initial allocation method have not been set in the Directive. Furthermore, one has to ask why does the EU-ETS not cover all sectors and greenhouse gases and why are exemptions of installations possible? I will answer these questions by referring to the criteria laid down in chapter 1.2.

## **2.2 Different influences shaping the design of the Directive 2003 / 87 / EC during the decision-making process leading to distortions between theory and practice**

### **2.2.1 Institutional rules, the European decision-making process and the intervention of interest groups**

First, I would like to show that one reason for the just described gap between the model of emission trading and the EU-ETS lies in the European institutional setting and the European decision-making process (criterion 4). Second, interest groups (criterion 2) intervene as they can make use of the European style of policy making by trying to lobby the right institution at the right moment during the decision-making process. For example, an interest group knowing about the European decision-making process first lobbies the Commission in order to shape the Commission's proposal and then, before the first reading in the EP, the interest group concentrates their activities on the EP. One hundred different

interest groups handed in their positions on an EU emission trading system within several hearings of the Commission.<sup>100</sup> Exemplarily, I will focus on the actions undertaken by one environmental interest group, because national and supranational positions coincide, and of two industrial interest groups, as the national and supranational industrial position differ one from the other. Here, I will focus on the example of German industrial interests.

As an example for the positions of the various environmental associations, I will focus on the interest group Climate Action Network Europe (CAN). CAN is a union between 82 environmental NGOs concerned about climate issues which lobby European institutions.<sup>101</sup> Regarding industrial interest representation on the supranational level, there are nine inter-trade organizations of energy-intensive industries united to the European Economic Association.<sup>102</sup> On group of the German national level, there is the coalition of the “German Emitters”, which lobbies the German federal government and therefore tries to influence from an intergovernmental approach. The German Emitters represents the companies RWE, E.ON, HEW/LAUBAG/VEAG, BASF, the associations of the German cement, glass, and paper industry just as the German coal mining association and the labor union mining, chemistry and energy (IGBCE). The German Emitters have the support of the Federation of German Industry (BDI).<sup>103</sup>

Those three interest groups had the following positions towards the EU-ETS. The environmental association Climate Action Network Europe regarded emission trading as an appropriate instrument for effective reduction of emissions. According to CAN climate protection can only be assured by an EU-ETS if the rules are stringent enough. Hence, CAN is concerned that industrial interests might soften the rules, thus endangering the reduction of CO<sub>2</sub> emissions.<sup>104</sup> In

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<sup>100</sup> Fränk, A. (2008). *Europäisches Regieren im Spiel organisierter Interessen. Legitimität und Effektivität des europäischen Interessenssystems am Beispiel der Richtlinie zum Emissionshandel* (p. 63). Saarbrücken: VDM Verlag Dr. Müller.

<sup>101</sup> Ibid. (p. 67).

<sup>102</sup> Ibid. (p. 63).

<sup>103</sup> Ibid. (p. 65).

<sup>104</sup> Ibid. (p. 67).

principle, the European Economic Association was also in favor of an EU-ETS. It is in their interest to reduce costs for enterprises related to emission trading, thus to avoid distortion of competition.<sup>105</sup> The German Emitters, on the contrary, were opposed to the idea of an emission trading system for the reduction of greenhouse gases.<sup>106</sup>

From a very early stage of policy-formulation on, interest groups were integrated in the European decision-making process. The Commission released a *Green Paper on greenhouse gas emissions trading within the European Union*<sup>107</sup> in March 2000. This paper initiated a discussion about an emission trading system within the European Union. Member States, interest groups, intellectuals and companies were requested to handle a position paper to the Commission. Therewith, the Commission was able to develop the proposal of the Directive in the light of the opinions of the concerned actors.<sup>108</sup> At the same time, representatives from the Commission's different departments, the Member States, industry and environmental groups debated about the substance of a European Emission Trading Scheme in the Working Group 1 "Flexibility mechanisms" set in the context of the European Climate Change Program.<sup>109</sup> The European Economic Association was represented by spokespersons of EURELECTRIC and CEFIC, the German Emitters were represented by the Federation of German Industry (BDI) and environmental interests were represented by an expert of CAN. This working group discussed the most important issues of a future EU-ETS during 10 consultations. The results of the discussions lay the foundations for the Commission's proposal for the Directive presented on the 23<sup>rd</sup> October 2001.<sup>110</sup> On the one hand, the interest groups already shaped the proposal of the Directive, but on the other hand, they didn't

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<sup>105</sup> Fränk, A. (2008). *Europäisches Regieren im Spiel organisierter Interessen. Legitimität und Effektivität des europäischen Interessenssystems am Beispiel der Richtlinie zum Emissionshandel* (p. 63). Saarbrücken: VDM Verlag Dr. Müller.

<sup>106</sup> Ibid. (p. 65).

<sup>107</sup> COM(2000) 87 final. 8.3.2000.

<sup>108</sup> Green Paper COM (2000) 87 final. 8.3.2000. Policy Summary. p. 5.

<sup>109</sup> ECCP. COM(2000) 88 final. 8.3.2000.

<sup>110</sup> Information about the decision-making procedure of the Directive 2003/87/EC taken from: [http://ec.europa.eu/prelex/detail\\_dossier\\_real.cfm?CL=de&DosId=169701](http://ec.europa.eu/prelex/detail_dossier_real.cfm?CL=de&DosId=169701) (21.5.09).

want to commit to clear statements. The final report of the Working Group 1 was very vague with regard to crucial questions. As actors had opposing interests and positions, they preferred to delay concrete decisions. From certain actors' point of view, this reservation with regard to concrete determinations is advantageous, because the long decision-making process gives them various opportunities to articulate their positions and to assert their interests subsequently.<sup>111</sup>

As already stated, within institutions rules and norms shape the actions of individuals being part of the institution (criterion 4). The Commission's rules are twofold: On the one hand, it can promote though supranational environmental rules such as the introduction of an EU emission trading system. On the other hand, the Commission cooperates with national societal and political actors to assure its legitimacy and the feasibility of its proposals and to anticipate conflicts. Therefore, the Commission is open to all sorts of external input. Hence, from the beginning of the policy-formulation phase, interest groups can shape policies, which they did in the working group 1 of the ECCP and through the public consultation of the Green Paper. This again leads to instruments that correspond more to the interests of certain groups than others, depending on which group is more influential. Consequently, the gap between model and reality is, first, an outcome of institutional factors, because the Commission is according to its own rules open for external input. Second, the gap between theory of emission trading and the instrument in practice is an outcome of lobbying activities, which try to amend the policies to their benefits. If one lobbying group is more influential than another, deviations from the efficient outcome result from the unbalanced competition. These assumptions can be applied to the subsequent process of decision-making:

Once the proposal of the Directive had been published, the economic and environmental associations targeted their lobbying activities at the European Parliament, where the first reading was going to take place. The interest

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<sup>111</sup> Fränk, A. (2008). *Europäisches Regieren im Spiel organisierter Interessen. Legitimität und Effektivität des europäischen Interessensystems am Beispiel der Richtlinie zum Emissionshandel* (p. 68 - 70). Saarbrücken: VDM Verlag Dr. Müller.

groups handed in numerous position papers to the responsible Committee for environmental issues. It seems that this lobbying has been successful: In the first reading on the 10<sup>th</sup> October 2001, the European Parliament claimed 73 amendments of the Commission's proposal. Generally, the EP took a "green" position. It required changes to the proposal that were strengthening climate protection and emphasized environmental protection more than market interests. Here, the EP acted according to the traditional role of the being the "greenest" of the three policy-making institutions by pushing stringent environmental standards. So, the deputies acted according to institutional rules, which set that the EP is the representative for green and social interests. This confirms again the thesis that it requires detailed knowledge about the European institutional setting in order to explain the outcome of policies, respectively the design of market based instruments such as emission trading.

Hence, the German Emitters could not persuade the EP of their position, except for some German deputies. Therefore, they shifted their lobbying activities to the intergovernmental level, meaning to the German position in the Council where the discussions about the Commission's proposal took place. By lobbying strongly the German Chancellor Gerhard Schröder and the Federal Minister of Economics Wolfgang Clement the German Emitters aimed at turning their position to the German national position in the Council. The German enterprises were very successful. They achieved that the German Chancellor addressed a letter to the Commission's President Romano Prodi. In this letter Schröder laid down the conditions for a German consent in the Council. The conditions were in accordance with the position of the German Emitters: Opt-out possibilities for companies and sectors, initial allocation free of charge and rewarding of early actions. Hence, those (industrial) claims were the official position of the Federal Ministry of the Environment (BMU) in the Council, although the BMU considered some of the claims as economically and environmentally inefficient.

After the suggestion for amendment of the EP, the Commission presented its second proposal of the Directive on the 27<sup>th</sup> November 2002 and integrated some of the Parliament's claims. On the 9<sup>th</sup> December 2002, the decisive vot-

ing about the amended Commission's proposal took place in the Council. While the other 14 Member States had already expressed that they would agree on the proposal, Germany threatened to vote against it. As the voting took place under the co-decision procedure the German threat had not the intended effect. However, it is always problematic to overrule the biggest European Member State. Therefore, the German negotiators were able to integrate some of their claims to the Common Position adopted by the Council on the 18<sup>th</sup> March 2003.<sup>112</sup> As explained in chapter 1.2.4, the Council as a European institution offers the possibility of escaping from national constraints. The representatives of the German Ministry of Environment did not totally support the position of the German Emitters, which is why they finally agreed to the Commission's amended proposal. However, before giving its consent in the Council the German delegation defended national interests as the Council is above all a platform for national interest representation. Evidently, the institutional rules of the Council did apply to the case of the EU-ETS: the Council's intergovernmental characteristics are reflected in its rules, which influenced the decisions of the actors within the Council. The industry could convince the German representatives in the Council of their position, because the Council seeks to represent national interests and therefore spoke on behalf of its national industry. Finally, a compromise was reached which satisfied German industrial interests even though this compromise was not beneficial to the efficiency of the emission trading system. So, whereas environmental interest groups are traditionally represented by the Parliament, industrial interests won the position of the Council. Once again, we can observe how institutional rules determine policy outcomes and contribute to explain gaps between model and reality.

The Parliament enacted some further amendments to the Common Position of the Council in its second reading on the 2<sup>nd</sup> July 2003. Finally, the Council accepted the Parliament's changes on the 22<sup>nd</sup> July 2003. On the 13<sup>th</sup> October 2003, the directive was enacted as the Directive 2003/87/EC. It was published

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<sup>112</sup> Fränk, A. (2008). *Europäisches Regieren im Spiel organisierter Interessen. Legitimität und Effektivität des europäischen Interessenssystems am Beispiel der Richtlinie zum Emissionshandel* (p. 70 - 71). Saarbrücken: VDM Verlag Dr. Müller.

on the 25<sup>th</sup> October 2003 in the Official Journal of the European Union and entered into force the same day.

As one can see, institutional rules and norms in fact shape the decisions of policy makers and therewith institutions shape the design of instruments, such as emission trading. The EU-ETS can be seen, among others, as a compromise of the institution's positions on environmental issues. As the final Directive is not the application of the model to reality, but a compromise reached by the different institutions, the divergence between theory and model seems evident. Moreover, the European decision-making procedure, gives numerous possibilities to interest groups for advancing their positions. Furthermore, the design of the instrument is a compromise between numerous societal interests, respectively environmental and industrial lobby groups. The design of the EU-ETS was more beneficial to the industrial interests, which shows that the EU climate policy is shaped by intergovernmental negotiations and a dominant role of the Council, even though co-decision procedure accounts for a stronger say of the Parliament. Since the industrial interests dominated the German position in the Council, it is evident that the environmental associations were not influential enough. This shows that the interest representation was, in this case, not equal but deficient. As said before, a deficient interest representation leads to socially non-optimal outcomes. This hypothesis can be confirmed with regard to the EU-ETS as industrial interests prevailed in the design of the Directive.

The detailed positions of the different actors are analyzed in the following paragraph.

### **2.2.2 Utility maximization and the positions of institutions and interest groups concerning:**

Here, I demonstrate how the positions of the political decision-makers and interest groups influenced the design of the EU-ETS. I argue that the gap between the model of emission trading and the EU-ETS can also be explained by referring to the criterion of utility maximization (criterion 1) and the interaction of interest groups and political decision-makers (criterion 2).



### 2.2.2.1 *The question of the cap*

The first question is how to explain the laxity of the Directive in terms of leaving the setting of the cap up to the Member States? This can be answered by analyzing the interests of economic associations and the Member States.

The European Economic Association argued that a cap should not be set by Brussels, but by the Member States as the principle of subsidiarity should be respected. The Commission should only control the total amount of allowances in order to avoid over-allocations. Member States should fix NAP to adjust the reduction obligations flexibly to the different economic sectors.<sup>113</sup> Moreover, the enterprises of the German Emitters fear the obligatory emission limit values. Therefore, they are against a European emission trading system.<sup>114</sup>

One can see, that industry asked for a generous cap. From the industry's point of view, "the higher the cap the less emissions have to be reduced, the lower the price of a permit and the less the costs."<sup>115</sup> So, by claiming what industry calls "flexibility", polluters in fact are interested in minimizing the costs of the political intervention. Even though theory states that emission reductions are only guaranteed by setting the cap sufficiently low, the industries' interest succeeded in setting a lax cap. The example of the first German National Allocation Plan, which granted more allowances than needed by polluters, proves that industrial interests successfully pushed their interests. "The German NAP I fixes annual emissions for energy and industries at 502 million tons CO<sub>2</sub> from 2005 to 2007, and at 495 million tons CO<sub>2</sub> from 2008 to 2012. These figures exceed the emissions budget that was envisaged in a voluntary agreement by German industry as well as its predicted needs standing at 496,4 million tons CO<sub>2</sub> from 2005 to 2007, according to a study commissioned by the BDI."<sup>116</sup> Not

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<sup>113</sup> Fränk, A. (2008). *Europäisches Regieren im Spiel organisierter Interessen. Legitimität und Effektivität des europäischen Interessensystems am Beispiel der Richtlinie zum Emissionshandel* (p. 64). Saarbrücken: VDM Verlag Dr. Müller.

<sup>114</sup> Ibid. (p. 65).

<sup>115</sup> Tschochohei, H. & Zöckler, J. (2008). Business and emissions trading from a public choice perspective – waiting for a new paradigm to emerge. In: Antes, R. & Hansjürgens, B. & Letmathe, P.: (Ed.), *Emission Trading: Institutional Design, Decision Making and Corporate Strategies* (p. 26). Berlin: Springer.

<sup>116</sup> Tschochohei, H. & Zöckler, J. (2008). Business and emissions trading from a public choice perspective – waiting for a new paradigm to emerge. In: Antes, R. & Hansjürgens, B. & Letmathe, P.:

only in Germany, but all over the EU the cap has been set very high. From these very generous emission budgets one can deduce, that it was an industrial interest to forward that Member States (and not Brussels) are entitled to set the cap. The reason is that national industry has more influence over the national administration than over the Commission. When national authorities work out the NAPs, the industry has again the possibility of negotiation and of pushing forward their interests. Evidently, polluters were in favor of nationally fixed allocation plans just as the Member States.

The Member States interest can be explained in terms of maintaining as much sovereignty as possible, which they do if they have the right of deciding about the allocations. The principle of subsidiarity, in fact has been pointed out by the Member States and the Directive stipulates in this regard that the EU-ETS can only be established "*in accordance with the principle of subsidiarity.*"<sup>117</sup>

#### 2.2.2.2 *The question of the initial allocation*

Even though theory states that the initial allocation procedure should be done by an auction, almost all the permits were grandfathered in the first period of the EU-ETS. The question is why does the Directive not stipulate that permits have to be auctioned. Why was the allocation procedure fixed so that that at least 95 percent of the allowances in the first period and at least 90 percent in the second period are grandfathered?

The environmental interest group Climate Change Europe argued that grandfathering implies a political decision on how to allocate the allowances and would therefore distort competition. Moreover, it would punish early movers. Consequently, a certain proportion of the allowances should be auctioned from 2005 on.<sup>118</sup> The European Economic Association, on the other hand, was of the opinion that the allocation of permits should be free of charge at least until

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(Ed.), *Emission Trading: Institutional Design, Decision Making and Corporate Strategies* (p. 27). Berlin: Springer.

<sup>117</sup> Directive 2003/87/EC. Section 30.

<sup>118</sup> Fränk, A. (2008). *Europäisches Regieren im Spiel organisierter Interessen. Legitimität und Effektivität des europäischen Interessensystems am Beispiel der Richtlinie zum Emissionshandel* (p. 68). Saarbrücken: VDM Verlag Dr. Müller.

2012.<sup>119</sup> The companies of the German Emitters stressed that allowances should be grandfathered in order to avoid costs for the enterprises and thus distortions of competition.<sup>120</sup> Besides cost minimization, the industry is interested in legislation creating barriers for new market entrants. As explained in chapter 1.1.2, existing companies can gain a competitive advantage when permits are allocated free of charge to them, whereas new entrants are obliged to pay for the permits. So, whereas environmental interest groups were in favor of auctioning, industrial interests promoted the idea of grandfathering. It is interesting to note how this clear opposition was translated to the European decision-making process:

Whereas the Commission wrote in its Green Paper that “*auctioning is technically preferable*”<sup>121</sup>, Article 10 of the Commission’s first proposal of the Directive stipulated that for “*the three-year period beginning 1 January 2005, Member States shall allocate allowances free of charge.*”<sup>122</sup> Obviously, the Commission noticed that there was too much opposition to auctioning and had to change its position in support of industrial interests. The Parliament requested in its first reading an amendment stipulating that, “*Member States shall allocate 15 percent of the allowances against payment and the remaining part free of charge.*”<sup>123</sup> In its amended proposal, the Commission did not accept the Parliament’s amendment suggestion.<sup>124</sup> Subsequently, the Council’s Common Position set again a grandfathering allocation procedure for the first period. However the Council made a first move towards the Parliament’s direction by stipulating that for “*the five-year period beginning 1 January 2008, Member States*

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<sup>119</sup> Fränk, A. (2008). *Europäisches Regieren im Spiel organisierter Interessen. Legitimität und Effektivität des europäischen Interessenssystems am Beispiel der Richtlinie zum Emissionshandel* (p. 64). Saarbrücken: VDM Verlag Dr. Müller.

<sup>120</sup> Ibid. (p. 67).

<sup>121</sup> Green Paper COM(2000) 87 final. 8.3.2000. Section 7.2.2 „Key Issues“.

<sup>122</sup> Proposal for a Directive. COM(2001)581 final. 23.10.2001. Article 10 Paragraph 1.

<sup>123</sup> Parliament Document A5-0303/2002. 13.09.2002. Amendment 12. Paragraph 1.

<sup>124</sup> Amended proposal for a Directive of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowances trading within the Community and amending Council Directive 96/61/EC. COM(2002) 680 final. 27.11.2002. Section 3.3 „Amendments not accepted by the Commission“.

*shall allocate at least 90 % of the allowances free of charge.*<sup>125</sup> As the Parliament insisted in its Second Reading on the hybrid method based on an allocation free of charge, but with a small proportion of auctioning<sup>126</sup>, the Council could agreed on a compromise. Therefore, the Directive sets a grandfathering allocation procedure and 5 respectively 10 percent of optional auctioning.

The final Directive is definitely in accordance with industrial interests, whereas the environmentalists' claim of auctioning allowances has nearly been neglected. Considering that in the EU, with the exception of Denmark, no Member State made use of the possibility to auction up to 5 percent of the permits, it is even clearer that industrial interests decisively influenced the decision-makers, including those on the bureaucratic level.<sup>127</sup> One can conclude that industrial interest groups were more influential than environmental associations. This imbalance of interest representation led to inefficient and unintended policy-outcomes: Once the permits were allocated free of charge, German electricity companies added the stock exchange values of the allowances to the electricity tariff of consumers.<sup>128</sup>

Moreover, the policy outcome can be explained in terms of political actors seeking to maximize their utility. The motives of the German decision-makers were twofold: First, the national government wanted to have as much influence as possible over the system of tradable permits. A grandfathering allocation procedure gives governments the power to decide about which installation gets how many allowances, which again maximizes the utility of national authorities. Second, in terms of utility maximization the national government wanted to gain the support of the industrial interest groups respectively of the voters.

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<sup>125</sup> Common Position (EC) No 28/2003 adopted by the Council on 18 March 2003 with a view to adopting Directive 2003/.../CE of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC. 2003/C 125 E/05. Article. 10.

<sup>126</sup> Parliament Document A5-0207/2003. 12.6.09. Amendment 6.

<sup>127</sup> Tschochohei, H. & Zöckler, J. (2008). Business and emissions trading from a public choice perspective – waiting for a new paradigm to emerge. In: Antes, R. & Hansjürgens, B. & Letmathe, P.: (Ed.), *Emission Trading: Institutional Design, Decision Making and Corporate Strategies* (p. 27). Berlin: Springer.

<sup>128</sup> Gammelmin, C. (2008). *Kotau vor der Industrie. Europas Politiker folgen den Argumenten der Stromkonzerne – und setzen Klimaschutz aufs Spiel*. Aus: Süddeutsche Zeitung. 10.12.2008.

A similar answer can be given with regard to the allocation method. The existing industry favors a grandfathering allocation procedure calculated on historical emission data and not on benchmarks. By extrapolating the status quo to the future, the industries' motive is to avoid costs, thus not being obliged to invest in new technologies. Due to powerful industrial interest representation, the final Directive did not fix the allocation method. Even though the Parliament claimed an allocation calculated on the BAT in order to offer an incentive to polluters for investing in clean technology, the Commission rejected this amendment.<sup>129</sup> Here again, industrial interests shaped the German position in the Council, which shows that the national government sought to maximize its utility by gaining the industries' support. Furthermore, one can deduce from the policy outcome that industrial were more influential than environmental interest groups.

### 2.2.2.3 Collisions between old and new regulation

As has become evident, there are numerous regulations that collide with the new Directive. It has to be questioned why did the European and national authorities not eliminate colliding legal acts like technical regulation, taxation and environmental agreements.

It was not in the interest of various actors to cancel certain regulations, even though they were colliding with the Emission Trading System. The environmental interest group Climate Change Network Europe advanced the view that emission trading should be a measure in addition to already existing emission reduction regulations like taxes, charges and so on.<sup>130</sup> Environmentalists obviously have an interest in having as much climate change measures as possible. Further climate protection does not mean that previous "achievements" should not be annihilated. To put it very simple: for an environmentalist, there is no point in making one step forward and two steps back.

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<sup>129</sup> Sattler, A. (2004). *Der Handel mit Treibhausgaszertifikaten in der Europäischen Union unter besonderer Berücksichtigung der Richtlinie 2003/87/EG* (p. 55 - 56). Berlin: Logos Verlag.

<sup>130</sup> Fränk, A. (2008). *Europäisches Regieren im Spiel organisierter Interessen. Legitimität und Effektivität des europäischen Interessenssystems am Beispiel der Richtlinie zum Emissionshandel* (p. 68). Saarbrücken: VDM Verlag Dr. Müller.

Furthermore, the European Economic Association claimed that the Directive should take into consideration industries' voluntary agreements for climate protection. Before the Directive was enacted, especially the German industry committed to environmental agreements with the German authorities and thus, wanted to be recompensed for their early actions.<sup>131</sup> Furthermore, European Economic Association argued that emission trading should be compatible with existing regulations. According to the association, only the Member States can assure the smooth interplay between existing and new climate measures as existing regulations are carried out on the national level. To assure the compatibility between old and new measures, the principle of subsidiarity should be respected.<sup>132</sup> The companies of the German Emitters feared that they would have to handle an additional instrument. As the companies have already to deal with constraining regulations, emission trading would put an additional burden to them.<sup>133</sup> Furthermore, the German Emitters claimed that the Commission's proposal was not consistent with existing national instruments such as the so called "Ökosteuer" (environmental tax) and was not in accordance with the voluntary environmental agreements negotiated with the German government.<sup>134</sup> Polluters that already adapted to certain regulations are not willing to re-adapt to a new instrument, because adaptations are always costly. From the industry's point of view, maintaining the status-quo is preferable to undertaking expensive changes. Bearing in mind the visibility of huge regulatory reforms, decision-makers know that there would be a lot of industrial resistance. To avoid political opposition towards a total remodeling of environmental regulations, decision-makers prefer to add an instrument and at the same time maintain the existing ones with only little adaptations. This sort of crooked compromise has the following advantage for decision-makers: Whereas huge reforms are very visible for the industry, thus for a potential electorate, minor

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<sup>131</sup> Fränk, A. (2008). *Europäisches Regieren im Spiel organisierter Interessen. Legitimität und Effektivität des europäischen Interessenssystems am Beispiel der Richtlinie zum Emissionshandel* (p. 63 - 64). Saarbrücken: VDM Verlag Dr. Müller.

<sup>132</sup> Ibid. (p. 64).

<sup>133</sup> Ibid. (p. 65).

<sup>134</sup> Ibid. (p. 67).

changes are much less visible as the industry does not have to make major changes, but only little adaptations.

Concluding, it is neither an environmental nor an industrial interest to abolish existing legal acts. Consequently, the decision-makers tend to compromise for the sake of utility maximization, even though this does not solve the problem of collision. In the end, the intended cost-efficient mechanism of a permit system, respectively of a market based instrument, cannot develop its effect.

#### *2.2.2.4 Vague regulation vs. clear Community rules*

I would like to answer now the following questions: Why does the Directive only set a vague framework thus leaving the possibility of adding command-and-control regulation contrary to the idea of emission trading? How can it be explained that rules for newcomers and early actions have not been set in the Directive? Why is the allocation method not fixed for the whole community?

As already mentioned, the Directive is a compromise between the need for Community harmonization and the respect of the principle of subsidiarity. Whereas national politicians and authorities are in favor of very general community rules in order to maximize the national influence, the Commission is in favor of harmonized Community regulations in order to enhance its say. As the Directive sets a vague framework and leaves much autonomy to the Member States, it seems that the national interests have prevailed. Generally speaking, such framework Directives and the subsequently enacted regulatory measures lead to very complex instruments. For the industry, this leads to uncertainties because the rules are not set from the beginning on. A second consequence is that polluters have difficulties to respect the variety of rules subsequently enacted. Thirdly, in terms of competition it is important for companies to be subject to the same restrictions and burdens across the different Member States. For all this reasons, it is in the industry's interest to harmonize to a certain extent national environmental regulations.

From the beginning of the decision-making process, the European Economic Association claimed to eliminate all the uncertainties of the Commission's pro-

posal of the Directive. The Association asked for clear and binding rules in order to grant planning reliability to the companies.<sup>135</sup>

However, this is only half the truth. It is also in the industry's interest to have room for negotiating certain implementation conditions with national bureaucracy, which is only possible if a directive sets general guidelines. In fact, negotiations take place when the Member States develop their National Allocation Plans. In Germany, the working group "emission trading" works out the NAP. Members of this consortium are bureaucrats of the Environment and Economics ministry and the representatives of the concerned interest groups, which struggle for asserting their interests.<sup>136</sup>

Not only industry, but also bureaucracy strives for complex legislation offering flexibility and freedom for negotiation. National bureaucracy appreciates the leeway to enhance its say on policy issues.<sup>137</sup> As the Directive does not set the rules on newcomers, early actions and allocation method, it is the decision of the national authorities to set the rules. So, it was in the interest of industry and bureaucracy to promote subsidiarity for those issues.

Regarding early action, industry forwards the position that installations having already reduced their emissions should be rewarded for their early actions instead of being punished.<sup>138</sup> Consequently, the European Economic Association is in favor of remunerating early actions, because it would reduce distortions of the market.<sup>139</sup> The companies of the German Emitters furthermore claimed that an early reference year on which the initial allocation calculation is based on should be chosen in order to take into consideration early actions.<sup>140</sup>

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<sup>135</sup> Fränk, A. (2008). *Europäisches Regieren im Spiel organisierter Interessen. Legitimität und Effektivität des europäischen Interessenssystems am Beispiel der Richtlinie zum Emissionshandel* (p. 64). Saarbrücken: VDM Verlag Dr. Müller.

<sup>136</sup> Ibid. (p. 72).

<sup>137</sup> Tschochohei, H. & Zöckler, J. (2008). Business and emissions trading from a public choice perspective – waiting for a new paradigm to emerge. In: Antes, R. & Hansjürgens, B. & Letmathe, P.: (Ed.), *Emission Trading: Institutional Design, Decision Making and Corporate Strategies* (p. 26 - 27). Berlin: Springer.

<sup>138</sup> Ibid. (p. 26).

<sup>139</sup> Fränk, A. (2008). *Europäisches Regieren im Spiel organisierter Interessen. Legitimität und Effektivität des europäischen Interessenssystems am Beispiel der Richtlinie zum Emissionshandel* (p. 64). Saarbrücken: VDM Verlag Dr. Müller.

<sup>140</sup> Ibid. (p. 66).



The environmental interest groups CAN advanced the view that early actions should only be honored at the initial allocation after a careful inspection of the technical standards of the installation in question. Only installations with clean and new technology should be recompensed.<sup>141</sup> In the end, industrial interests won through as the Directive establishes the possibility to consider early abatement efforts, but leaves the final decision up to the national level. Especially the German industry lobbied hard in order to achieve that the Directive sets the possibility of rewarding early actions. When the Member States work out the National Allocation Plans, industry has again the possibility to negotiate the rewarding of their early actions. In fact, the German NAP I rewards early actions.<sup>142</sup> “In Germany, installations in principle receive permits according to 97.09 percent of their historical emissions from 2000 to 2002. Thus, their compliance factor is 0.9709 according to the German NAP I. Installations being commissioned or modernized from 1994 onwards receive 100 percent of their historical emissions – the compliance factor of 1 rewards so called early actions. Due to these allocation rules only minor differences between allocated allowances and actual emissions are expected. As a consequence, there is little pressure to invest in pollution prevention and reduction.”<sup>143</sup> Obviously, it was in the interest of industry to push forward vague Community rules and strong national competences on the issue of early actions. It is evident that the Directive is flexible in favor of existing firms and their special interests.

The major influence of existing industry claiming subsidiarity in order to assert their claims on the national level can furthermore be observed with regard to the issue of the initial allocation method. As already mentioned, the Directive leaves the decision of the initial allocation method up to the Member States. Corporate influence in Germany prevented the use of BAT benchmarks for existing

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<sup>141</sup> Fränk, A. (2008). *Europäisches Regieren im Spiel organisierter Interessen. Legitimität und Effektivität des europäischen Interessenssystems am Beispiel der Richtlinie zum Emissionshandel* (p. 68). Saarbrücken: VDM Verlag Dr. Müller.

<sup>142</sup> Tschochohei, H. & Zöckler, J. (2008). Business and emissions trading from a public choice perspective – waiting for a new paradigm to emerge. In: Antes, R. & Hansjürgens, B. & Letmathe, P.: (Ed.), *Emission Trading: Institutional Design, Decision Making and Corporate Strategies* (p. 28). Berlin: Springer.

<sup>143</sup> Ibid. (p. 28).

plants but not for the allocation of new plants.<sup>144</sup> So according to the German NAP I new market participants are granted permits on the basis of benchmarks derived from the best available technique, whereas existing plants are granted allowances calculated on historical emissions.<sup>145</sup> As an allocation mechanism based on historical emissions instead of benchmarks extrapolates the emission structures of the past to the future, the German NAP I strengthened existing market structures, which was in line with the interests of German industry. So, the fact that the Directive does not set an allocation method was in the end an advantage for German polluters. Newcomers do not have such an influential lobby and therefore they were disadvantaged compared to existing plants. Deficient interest representation, that is when a lobby group is less influential or even fails to develop as in the case of new market entrants, leads to such imbalanced policy outcomes.

I just showed that because of certain industrial interests, the Directive was very vague on certain issues. The consequence is that Member States have to pass subsequently regulatory measures, in order to specify what has been omitted by the framework-Directive. As already mentioned, these added direct regulations do not always comply with the idea of an emission trading system, which has the aim of reducing emissions. In Germany for instance, existing companies have the option to apply for an allocation based on benchmarks (like new plants). 28 % of all German installations have chosen this option. As a result, the amount of allowances would have exceeded the cap if the compliance factor had not been reduced to 0.9538 from 0.9709.<sup>146</sup> Moreover, a hardship clause allows an application for a needs-oriented allocation multiplied by the compliance factor if the regular allocation does not cover 75 percent of its needs.<sup>147</sup> Those two examples of added command-and-control regulation by the national level are contrary to the aim of reducing emissions. However, the

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<sup>144</sup> Tschochohei, H. & Zöckler, J. (2008). Business and emissions trading from a public choice perspective – waiting for a new paradigm to emerge. In: Antes, R. & Hansjürgens, B. & Letmathe, P.: (Ed.), *Emission Trading: Institutional Design, Decision Making and Corporate Strategies* (p. 30). Berlin: Springer.

<sup>145</sup> Ibid. (p. 29).

<sup>146</sup> Ibid. (p. 30).

<sup>147</sup> Ibid. (p. 30).

industry's interest is to be constrained as little as possible by the initial allocation. Therefore, German polluters were in favor of those subsequently added regulatory measures and of the vague Community Directive, which left room for flexibility. So as certain actors are interested subsequently added regulations, even though they are contrary to an idea of emission trading, collisions between theory and policy outcome occurred.

#### *2.2.2.5 Coverage of gazes and sectors - exemptions and exceptions for specific businesses*

Finally, the questions about how the coverage of greenhouse gases and sectors in the EU-ETS and the possibility of opt-outs came about.

The coverage of gases and sectors has practical explanations, which have nothing to do with actors trying to maximize their utility or interest groups lobbying for their position. In principle, the Directive covers all the greenhouse gases covered by the Kyoto Protocol and listed in Annex II ETD, but only CO<sub>2</sub> emissions are included in the EU-ETS from the start. The reason is that it is technically feasible to monitor CO<sub>2</sub> and there is data on a consistent basis available. However, for the other greenhouse gases there are monitoring uncertainties and there is very little data. Therefore, emissions other than CO<sub>2</sub> are not included in the first phase of the scheme. Besides the Commission argued that in 1999, CO<sub>2</sub> accounted for over 80 percent of the Community's greenhouse gas emissions.<sup>148</sup> The sectoral scope of the Directive is built upon the coverage arising from the IPPC Directive. These sectors, also listed in Annex I, account for approximately 46 per cent of estimated EU CO<sub>2</sub> emissions in 2010, according to the Commission's estimates.<sup>149</sup> For feasibility reasons, the scope of sectors and gases has been restrained in the Directive even though industrial and environmental interest groups just as the European Parliament claimed a broader coverage.

However, in the case of opt-outs reasons of special interests and utility maximization hold true for the divergence between model and reality. The in-

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<sup>148</sup> Proposal for a Directive COM(2001) 581 final. 23.10.2001. Section 10 "Coverage of Gases".

terest coalition of the German Emitters claimed opt-outs for certain installations in order to avoid the overloading of single operators.<sup>150</sup> Climate Action Network Europe argued, on the contrary, that opt-outs for single big emitters were contrary to the idea of emission trading.<sup>151</sup> The German Emitters, as already mentioned, lobbied the German Federal Government, which then put forward German industrial interests in the Council negotiations. The German representatives claimed opt-outs for single installations and sectors at least till 2007.<sup>152</sup> So, opt-outs can be explained first, by successful lobbying activities of the German industry and second, by the German Federal Government trying to maximize its utility by ensuring its support from the German industry.

### 2.2.3 Traditions, learning processes and perceptions

Several questions could not sufficiently be answered yet. Additional explanations for the underlying policy outcome can be delivered by analyzing traditions, learning processes and perceptions (criterion3).

First, there is the question of why did the Commission propose a grandfathering allocation procedure for the initial allocation instead of auctioning? Partly, this question has been answered by demonstrating the strong lobbying activities of the industry. However, there is complementary explanation: During the whole decision-making process, the Commission refers to experiences other governments have made with emission trading. The Commission writes in its proposal for example: *“The elements contained in the proposal are based on experience of the allowance tracking system (ATS) under the US sulphur trading regime [...]”*<sup>153</sup> In the case of the US sulphur trading scheme, the allowances were initially distributed free of charge.<sup>154</sup> Furthermore, the Commission refers to the Danish emissions trading scheme, for which a grandfathering allo-

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<sup>149</sup> Proposal for a Directive COM(2001) 581 final. 23.10.2001. Section 11. “Coverage of Sectors”.

<sup>150</sup> Fränk, A. (2008). *Europäisches Regieren im Spiel organisierter Interessen. Legitimität und Effektivität des europäischen Interessenssystems am Beispiel der Richtlinie zum Emissionshandel* (p. 66 - 67). Saarbrücken: VDM Verlag Dr. Müller.

<sup>151</sup> Ibid. (p. 67).

<sup>152</sup> Ibid. (p. 71).

<sup>153</sup> Proposal for a Directive COM(2001) 581 final. 23.10.2001. Section 15.

cation procedure had also been chosen.<sup>155</sup> When an emission trading program has been launched in the past, the initial allocation was usually based on a grandfathering allocation procedure. Other countries' experiences certainly shaped the Commission's perception. The Commission then proposed also a grandfathering allocation procedure, because it seemed to be the most feasible solution as the Commission could rely on the well-functioning of this procedure.

Second, there is the question of why is it possible to add direct command-and-control regulation to a market based instrument such as emission trading? According to the German "minus clause", for instance, "from 2008 coal stations older than 30 years with above-average specific emissions have to bear a reduced allocation of minus 15 percentage points. Giving an incentive for modernizing or substituting an old plant, this rule symbolizes a command-and-control approach."<sup>156</sup> Instead of reducing the compliance factor and trusting the forces of the market, which could provide incentives for operating efficient installations, the above-mentioned rules contradict the economic idea and effects of emission trading. Regulators stick to the command-and-control approach, because it is the traditional instrument, especially in Germany. Decision-makers have not yet learned to make use of the market based approach and perceptions are still such that proved patterns should be kept. Consequently, additional command-and-control regulations are passed even though they are contrary to the idea of a market based instrument.

Third, it is not yet clear why the Commission did not insist on specifying the rules for newcomers, early actions and the allocation method in the Directive. The European climate policy has always been largely shaped by national programs even though there is a huge amount of Community measures.<sup>157</sup> So, the

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<sup>154</sup> Kruger, J. & Pizer, W. (2004). *The EU Emissions Trading Directive. Opportunities and potential Pitfalls* (p. 9). Washington, DC: Resources for the Future.

<sup>155</sup> Green Paper COM(2000) 87 final. 8.3.2000. Footnote 19.

<sup>156</sup> Tschochohei, H. & Zöckler, J. (2008). Business and emissions trading from a public choice perspective – waiting for a new paradigm to emerge. In: Antes, R. & Hansjürgens, B. & Letmathe, P.: (Ed.), *Emission Trading: Institutional Design, Decision Making and Corporate Strategies* (p. 30 - 31). Berlin: Springer.

<sup>157</sup> Fränk, A. (2008). *Europäisches Regieren im Spiel organisierter Interessen. Legitimität und Effektivität des europäischen Interessensystems am Beispiel der Richtlinie zum Emissionshandel* (p. 58). Saarbrücken: VDM Verlag Dr. Müller.

Directive sets vague guidelines not only because of the interest groups' influence, but also because of a historically grown legal basis for the enactment of directives laid down in Article 249 of the Treaty of Rome. The article stipulates that directives are binding as to the result to be achieved, but that each individual Member State can decide on the means of implementation for achieving the result. Consequently, when a Directive is enacted for introducing a market based instrument such as a permit system, member states have a certain amount of leeway to set the exact rules, no matter if those subsequently added rules might be contrary to the functioning of a permit system.

#### **2.2.4 Summary of the results**

The policy outcome that led to the EU-ETS can be traced back, first, to institutional rules determining decisions of the actors: The supranational Commission advanced the innovative emission trading system, the "green" Parliament made numerous amendment proposals forwarding environmental stringency and the intergovernmental Council represented the national interests. Those three institutions shaped the Emission Trading Directive during the policy-making process. Interest groups had numerous possibilities to intervene in the policy-making phase, as the Commission's proposal was imprecise on various issues and because the policy-making process as such takes time. In fact, numerous associations made use of this opportunity and lobbied the Parliament and the Council in order to attain changes of the Commission's proposal according to their interests. Special interests of the industry could assert themselves by lobbying strongly the German position in the Council. Finally, the design of the EU-ETS was adapted to those industrial interests, which shows that the EU climate policy is shaped by intergovernmental negotiations and a dominant role of the Council, even though co-decision procedure accounts for a stronger say of the Parliament. National representatives were responsible to their domestic public, which hindered ambitious supranational policy outcomes. Instead of constructing a harmonized European Emission Trading System, crucial decisions were transferred to the national level. Thus, once the Directive was passed, the negotiations about implementation conditions continued between bureaucracy and industry.

The policy outcome was furthermore determined by decision-makers trying to maximize their utility. The German position in the Council was largely shaped by industrial and not environmental interests, as the government representatives wanted the support of the national industry and the voters behind. In addition, national decision-makers and bureaucrats tried to enhance their influence on policies by forwarding the principle of subsidiarity. The visibility of comprehensive reforms led to suboptimal policy outcomes, such as the collision between existing and new regulations.

Moreover, policy outcomes can be traced back to interest groups lobbying for their positions. In the case of the EU-ETS, especially industrial interests were prevailing. Despite the predominant market influence in European policy, environmental NGO's could assert their positions in some issues. This is even more surprising considering that theory predicts a deficient capacity for environmental lobbies to represent their interests. Even though environmentalists might be skeptic towards MBI, as described in chapter 1.2.2, Climate Network Europe supported the idea of tradable allowances for the reduction of emissions. In addition, imbalanced policy outcomes, such as benchmarks for new market entrants, can be explained by deficient interest representation. The intensive dialogue between interests groups and the Commission before the proposal was submitted shows, that the Commission also needs external input for policy-formulation. The integration of concerned stakeholders led to early compromises, which again prevented eventual subsequent conflicts during negotiations. The comparably short enacting period of the Directive underlines the positive impact of early consultations and external input.

Furthermore, traditions, learning effects and perceptions shaped the Directive on Emission Trading. As there is no experience in other emission trading systems with auctioning, a grandfathering allocation method was also chosen in the case of the EU-ETS. Moreover, although a market based instrument was introduced, existing command-and-control patterns continue to co-exist, even if they collide. Finally, European Directives traditionally set vague frameworks leaving much liberty to the Member States, idem in the case of the Emission Trading Directive.

So, distortion occurred during the policy making process for two reasons either because the model was too idealistic or because the decision-makers did not stick to the idea of emission trading. The economic theory is too idealistic in terms of initial allocation. Theory states that the initial allocation does not matter with regards to the environmental outcome, even though in reality it does matter in terms of competition. When the cap is set too high, this is an example for decision-makers who do not stick to the model.

By analyzing how policy outcomes come about, the reasons for the gap between theory and practice of emission trading become visible. Finally, I can confirm the hypothesis that the four criteria, characterizing the policy stage, account for the gap between model and reality.

### **3 Conclusion**

It has been showed, that divergences generally arising in the case of tradable permit systems, also occurred in the case of the European Emission Trading System. By analyzing the policy-formulation phase of the Emission Trading Directive, the causes for the divergences were retraced. So in fact, the policy making-process has a major impact on the final design and on the efficient use of tradable permit systems and MBI in general.

However, this does not imply that emission trading is generally not suitable for politically tackling environmental problems. Economic ideas entering the stage of policy have a great potential for delivering new possibilities for environmental protection policies. The Commission demonstrated that emission trading is more cost-efficient than other measures and therefore preferable to other policy instruments: Before launching the EU-ETS, the Commission made an analysis that calculated the costs of emission reductions if Member States allocated their burden sharing targets equally to all sectors without any trading between sectors. So if the target was, for instance, -4 percent, this would be assumed to apply to all sectors. This research suggests that abatement costs without trading would considerably exceed the emission reduction expenses



with trading. So, gains from EU-wide emissions trading are considerable.<sup>158</sup> More generally speaking, political demands for environmental quality are high and thus, environmental protection becomes increasingly expensive. As the costs of emission reductions should not endanger the economic performance of a society, there is an ever bigger need for cost-efficient solution findings and an obvious demand for contributions from economic theory to environmental protection.

However, I have shown in this paper that the cost-efficiency of the EU-ETS has been undermined by various distortions during the policy-making process either because the model is too idealistic, or because decision-makers did not stick to the economic idea of emission trading.

So, if the idea of MBI is cost-efficient environmental protection, but the instruments are often designed in such a way as to not be cost-efficient, there is obviously a contradiction that has to be untangled.

On the one hand, economists must realize that the design of an instrument during the policy-making process can be just as important as the theoretical model. In other words, economists have to consider that the policy making matters to the adoption of economic instruments. Hence, taking into consideration the policy-making context is a key to success of MBI. Economic instruments have to be made operational and feasible for the policy world, or as Hahn puts it: "*There are many challenges that lie ahead for the environmental economics community. The most important one is becoming more policy relevant [...]*."<sup>159</sup> In fact, developing a good idea for tackling the problem of excessive emissions is not enough. Economists need to understand how the political process affects the design of market based instruments.<sup>160</sup> Constraints imposed by the political system have to be included into the model in order to develop appropriate economic instruments that have a better chance to promote successful cost-efficient environmental policy. In practical terms this means for economists be-

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<sup>158</sup> Green Paper COM(2000)87 final. 8.3.2000. Annex I "Economic analysis", Section 3.

<sup>159</sup> Hahn, R. W. (1999). *The Impact of Economics on Environmental Policy* (20 - 21). AEI-Brookings Joint Centre for Regulatory Studies. Working Paper 99-04.

<sup>160</sup> Ibid. (p. 2).

ing more sensitive to the established policy styles, institutional norms, the role of lobby groups, regulatory traditions and the actors' interests.<sup>161</sup> It would furthermore enhance the applicability of MBI if economists realized, that other requirements than cost-efficiency apply to policy instruments. Such requirements are criteria, as identified in this paper, which explain the specific characteristics of the policy context.

However, not only economists need to understand the context and variables of policy-formulation, but also policy-makers have to understand the cost-efficiency idea of market based instruments for environmental protection policies. So on the other hand, the "policy context", consisting of actors, processes and institutions, also has to adapt to the market approach of environmental protection policy. In the analysis undertaken in this paper, one could clearly see some examples of the "policy context" not being adapted to MBI: Directives set a framework, but market based instrument require a certain amount of common rules; traditional patterns of command-and-control regulations contradict the cost-efficiency mechanism of MBI; insufficient knowledge of decision-makers about economic instruments leads to deficient measures, such as adding contradictory command-and-control regulations to MBI. Evidently, governments cannot shift completely from existing national policy styles and it would be unrealistic to claim a total change of regulatory philosophy. But first concrete steps could be the education of policy-makers leading to a learning process and thus, to the adaptation of policy styles. Subsequently, institutions may be modified slowly in order to support the use of economic instruments. Not only policy-makers have to understand the cost-efficiency mechanism of MBI, but also operators of installations need to be educated in how to make strategic decisions in order to take advantage of flexible program features that lower costs.<sup>162</sup>

Evidently, a two-sided adaptation has to be undertaken: economists should integrate into the theory the maxims according to which policy-makers take decisions; and policy-makers should attach greater importance on the cost-

<sup>161</sup> Andersen, M.S. (2001). *Economic instruments and clean water management: why institutions and policy design matter* (p. 22 - 24). Paris: OECD.

cisions; and policy-makers should attach greater importance on the cost-efficiency maxim when introducing a MBI. Hence, the economic theory of market based instruments should bear in mind the special patient and politicians should not forget about the model of emission trading. Therefore, an interdisciplinary solution finding for the implementation of market based instruments is indispensable. Bringing together academics, stakeholders and policy-makers to discuss practical concerns of implementation would prevent failures of MBI. There have been only very few attempts of interdisciplinary work. One such effort was the Project 88 that identified criteria against which proposals could be measured. Another interdisciplinary discussion took place in the Council of Economic Advisers, which undertook a series of case studies in order to elaborate successes and failures of MBI.<sup>163</sup> When the EU-ETS was designed, policy-makers took some advantage of prescriptions from interdisciplinary working groups, from the lessons of existing experiences with trading programs and from economic theory. However, as one can see from the various questions the Commission rose in the Green Paper and from the deficient course of the EU-ETS, various implementation issues have not yet been tackled. This shows that there is still a lack of interdisciplinary cooperation between economical and political scientists, interest groups and decision-makers. This deficit leads to uncertainties and potential pitfalls of MBI, when failings of MBI could easily be avoided by interdisciplinary solution finding beforehand. The European Environment Commissioner Stavros Dimas said that there was a rise in emissions in 2007. One might think that this sounds alarming, but the Commission referred to the “learning-by-doing phase” of the first emission trading period.<sup>164</sup> This learning-by-doing approach is risky given the enormous scope and the huge amount of participants of the EU-ETS. Such suboptimal policy outcomes could quickly discredit the economic instrument, due to the disappointment of politicians or companies with regard to the distribution of certificates, for instance. Therefore, it is so important to find solutions to questions of implemen-

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<sup>162</sup> Kruger, J. & Pizer, W. (2004). *The EU Emissions Trading Directive. Opportunities and potential Pitfalls* (p. 8). Washington, DC: Resources for the Future.

<sup>163</sup> Ibid. (p. 7).

<sup>164</sup> <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/787> (13.5.09)

tation before a deficient instrument is designed. Not only models should be elaborated by interdisciplinary working groups, but also government's legislative proposals and the implementation of an economic instrument, should be assisted by interdisciplinary specialized task forces that review and assess the design and the implementation of the instrument.<sup>165</sup>

Considering, on the one hand that the initial design of the EU-ETS was not cost-efficient and on the other hand, that there has been increased interest in the use of incentive-based policy instruments, the need for interdisciplinary solution finding is even more apparent. In fact, MBI are increasingly used in environment policies as cost-effective tools to achieve policy objectives.<sup>166</sup> The modification in the direction of market approach to environmental policy can be explained, as illustrated above, by the deficiencies associated with command-and-control techniques. The dissatisfaction with perceived government failures has stimulated the search for alternatives. Subsequently, there has been increased interest in market-based forms of regulation and thus, a period of renewed "faith in market forces".<sup>167</sup> This tendency can also be observed in the European Union's environmental policy. On March 2007, the Commission adopted a Green Paper on market-based instruments to explore options for further developing MBI. The Green Paper launched a public consultation between March and July 2008 which yielded 172 replies.<sup>168</sup> The responses confirmed that there is considerable interest in further use of market-based instruments in many areas of environmental policy.<sup>169</sup> However, when it comes to implementation, decision-makers stick to traditional regulatory philosophies as one can see in the case of the EU-ETS. This shows that we are in a phase of transition be-

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<sup>165</sup> Hahn, R.W. (1989). *Economic Prescriptions for Environmental Problems: How the Patient followed the Doctor's Orders* (p. 95). *Journal of Economic Perspectives*, Volume 3 Number 2.

<sup>166</sup> Commission of the European Communities (2009). *Commission staff working document analysing the replies to the Green Paper on market-based instruments for environment and related policy purposes*. SEC(2009) 53 final. 16.1.2009. (p.3).

<sup>167</sup> Oates, W. E. & Portney, P.R. (2001). *The political economy of environmental policy* (p. 26). Washington, D.C.: Resources for the Future.

<sup>168</sup> Commission of the European Communities (2009). *Commission staff working document analysing the replies to the Green Paper on market-based instruments for environment and related policy purposes*. SEC(2009). 53 final. 16.1.2009. (p.3).

tween the old command-and-control logic and a new paradigm of market based instruments for environmental protection policies. The introduction of the EU-ETS has activated a social learning process and consequently marks a first step towards a new environmental policy in the European Union. However, a new paradigm in environmental policy has not yet been achieved. Further steps need to be taken before one can talk of a shift in the pattern of thoughts.<sup>170</sup> Hardin's idea of regulatory government intervention for environmental protection is still rooted in people's heads. Even more worrisome is the fact that "The End" of the "Tragedy of the Commons" is unfortunately not yet in sight.

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<sup>169</sup> Commission of the European Communities (2009). *Commission staff working document analysing the replies to the Green Paper on market-based instruments for environment and related policy purposes*. SEC(2009) 53 final. 16.1.2009. (p.23).

<sup>170</sup> Tschochohei, H. & Zöckler, J. (2008). Business and emissions trading from a public choice perspective – waiting for a new paradigm to emerge. In: Antes, R. & Hansjürgens, B. & Letmathe, P.: (Ed.), *Emission Trading: Institutional Design, Decision Making and Corporate Strategies* (p. 32). Berlin: Springer.

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