LUND UNIVERSITY

# Framework for Analysing Climate Policy Integration in the EU's Policies

A Case Study of the EU's Energy Efficiency Policy

Olga Abramczyk

*A thesis submitted in partial fulfilment*
*of the requirements of Lund University*
*Master's Programme in European Affairs*
Submitted May 22, 2013

Supervisor: Maria Strömvik,
Department of Political Science,
Lund University

# Abstract

Climate change represents one of the most serious threats to international environmental, social and economic security. The growing energy consumption is producing enormous amounts of carbon dioxide (CO2) emissions, which are fastening climate change and polluting the environment. For this reason, the European Union (EU) desires to act as a global leader in combating climate change and is therefore, since 1980's gradually introducing climate objectives into its energy policy. However, the question remains how efficient the EU has been in its climate policy integration (CPI). Based on the concept of environmental and climate policy integration, this thesis identifies important explanatory factors that can explain CPI into the European policies. The literature analysis resulted in thirteen explanatory factors for CPI as a policy process and fourteen factors explaining CPI from a policy output perspective. These factors were comprised in a new analytical framework. Furthermore, this framework was applied in order to evaluate the degree of CPI in the field of the EU's energy efficiency policy. Based on an extensive analysis of EU's official documents and other literature, the analysis indicates a rather high degree of CPI in the EU's energy efficiency policy.

**Keywords:** Climate Policy Integration, Analytical Framework, European Union, Energy Efficiency Policy, Climate Change

Words: 19 713

# Table of Contents

# List of Figures



# List of Tables



# List of Abbreviations

**CO2 -** Carbon dioxide
**Commission -** The European Commission
**CPI -** Climate Policy Integration
**Council -** The European Council
**DG -** The Directorate-General
**EPI -** Environmental Policy Integration
**ETS -** The EU Emission Trading Scheme
**EU -** The European Union
**MFF -** Multi-Annual Financial Planning Framework

# 1. Introduction

Climate change represents one of the most serious threats to international environmental, social, and economic security and the well-being of human kind, as evidenced in the fourth assessment report released by the Intergovernmental Panel on Climate Change in 2007. Warming of the climate system is unquestionably taking place, as is now evident from the increase in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level (IPCC, 2007). According to the current state of research, the main cause for climate change is the significant increase of the global atmospheric concentrations of greenhouse gases due to human activities, which increased by 70 per cent between 1970 and 2004 (ibid.). The most important anthropogenic greenhouse gas is carbon dioxide (CO2), which is created primarily due the usage of fossil fuels (e.g. coal, natural gas, and oil), with land-use change providing another significant but smaller contribution (ibid.).

In the European Union (EU), fossil fuel combustion accounts for 98 per cent of CO2 emissions, including energy production and use, which accounts for more than 70 per cent of it, and the rest coming from the transport sector (DG for Energy, 1999). Therefore, the energy sector is considered to have a tremendous impact on fostering climate change. Moreover, fossil fuels are largely externally sourced, what increases the EU's dependency upon a handful of suppliers (many of them being volatile politically or economically). Under a business as usual scenario, the EU dependency on imported fossil fuels is set to grow from 50 per cent today to 70 per cent in 2030 (European Commission, 2006a).

This interdependence has been acknowledged and discussed since the 1980s, and has gone hand in hand with the EU’s desire to act as a global leader in international cooperation to combat climate change. Climate change and energy security are now at the heart of Europe's future energy policies and greater attention is being paid to their integration. The EU's fifth Environmental Action Programme, for example, states that:

> "Energy policy is a key factor in the achievement of sustainable development [...] The challenge of the future will be to ensure that economic growth, efficient and secure energy supplies and a clean environment are compatible objectives." (European Commission, 1992a: 6)

While the progress on CPI during most of the 1990s was initially rather slow and directives integrating climate objectives had little impact (Lenschow, 2002), a number of policy initiatives have now been developed in the field of energy efficiency, renewables, research and development as well as the completion of the first trial run phase of the EU Emission Trading Scheme (ETS).

"Climate diplomacy has clearly provided an arena in which the EU is a 'power'" (Hill & Smith, 2011: 374). According to Hill and Smith (2011), the EU has proved to be capable of executing its strategies and policies and has taken the responsibility for turning the Kyoto Protocol into an operative international agreement. However, can the EU really proclaim to be a role model when it comes to integrating climate policy into its political agenda? Are the EU's high goals in line with its actions as well as the European policy final outcomes? Studies (Dupont & Oberthür, 2011; Lenschow, 2002; Nillson & Persson, 2003) have shown, that even through the EU has ambitious strategies and policies on paper, the effectiveness of translation its goals from rhetoric to action can be questioned.

## 1.1 Statement of Purpose and Question of Research

There is an increased discussion at national and international levels on climate policy integration (CPI), which is based on the rich history and substantial body of literature on environmental policy integration (EPI) (Kulovesi et al. 2010; Lenschow, 2002, Mickwitz et al., 2009). Yet the discussion on CPI is still in its infancy, and little research has focused on CPI, specifically at the EU-level, although the integration of climate objectives in other policy sectors is a stated political aim of the EU (European Commission, 2010). Some attempts have been made to investigate the scope of CPI in the European energy policy (Dupont &

Oberthür, 2011; Nillson & Persson, 2003; Rietig, 2012), however each of these papers considered different variables and focus either on the political process or output. Currently, there exist not a single comprehensive framework for evaluating CPI, which would consist of a big variety of explanatory factors. For this reason, the need for further research in the field of CPI was broadly recognized (Lenschow, 2002: 231; Nilsson & Persson, 2003: 355; Tosun & Solorio, 2011: 10; Solorio, 2011: 412).

Consequently, the main purpose of this thesis is to create a comprehensive analytical framework compiling all important explanatory factors - also these which have been not taken into account in previous frameworks - in order to increase the evaluations reliability. It will comprise variables derived from the literature on environmental and climate policy integration, as well as include the process and the output perspective of CPI. Furthermore the evaluation methodology will be simplified in order to make it more user-friendly and easier to apply. More importantly, the created framework will be a useful analytical tool, which could be applied to examine CPI in all European policy sectors. Moreover, this analytical framework will specifically focus on the EU-level of CPI, as this governance level is still considerably unexplored. Furthermore, analysing national- and international levels of CPI would go beyond the scope of this paper.
Additionally, I will apply my framework to analyse and evaluate the degree of CPI in the EU's energy efficiency policy, which constitutes one of four main priorities for the EU's energy policy (European Commission, 2008). This European policy sector has not been evaluated from policy process as well as from policy output perspective before, therefore this paper will be the firs one constituting such a comprehensive evaluation.

The attempt of this thesis is to answer the following research question:

*Which factors can explain the CPI in EU's energy policy,*
*and what is the degree of CPI in the EU's energy efficiency policy?*

The answer will be studied in a three-step analysis. First of all, a historical overview of incorporating climate change objectives in the EU's energy policies will be presented, in order to provide the background for understanding the EU's actions and its desire to become a global leader in combating climate change. Then the second step of the analysis will be a compilation of CPI factors based on literature on environmental and climate policy integration, which then will create a comprehensive framework for analysing CPI in the EU's policies. Finally, the new tool will be applied on the EU's energy efficiency policy in order to establish the degree of CPI in this policy sector.

## 1.2. Outline of the Paper

Five chapters follow the introductory chapter. Chapter two introduces the theoretical framework and chapter three gives a historical overview of the integration process of climate objectives into the EU's energy policy. The variables for the analytical framework are elaborated in chapter four. Chapter five applies the framework to establish the degree of CPI in the EU's energy efficiency policy. Finally, a conclusion on the main findings of the study will be presented and discussed in chapter six.

# 2. The Concept of Climate Policy Integration

The concept of CPI derives from the concept of EPI, which is characterised by vague definition and openness to different interpretations. In order to define the CPI concept, which is vital for elaborating the analytical framework for CPI into the EU's policies, this chapter will focus on explaining the main definitions. First, the terms 'policy' as well as 'integration' will be explained. Secondly, the concept of EPI will be presented, as CPI is grounded on its assumptions. Finally, the definition of CPI will be elaborated and presented at the end of this section.

## 2.1. 'Policy' and 'Integration' - Basic Definitions

The meaning of policy integration depends on how the terms 'policy' and 'integration' are conceptualised (Briassoulis, 2004).

'*Policy*' can be defined as "purposeful courses of action, comprising a long series of more-or-less related activities, which governments pursue to reach goals and objectives related to a problem or matter of concern and to produce certain results" (Persson, 2004: 9). Moreover, policy consists of four main elements: the policy problem characteristics; the available institutional structures and procedures; involved actors and their goals; and the instruments used to achieve these goals (Briassoulis, 2004: 9).

Turning to the meaning of '*integrate*', it can mean either “to form, coordinate, or blend into a functioning or unified whole”, “to unite with something else”, or “to incorporate into a larger unit” (Persson, 2004: 9). These different meanings indicate that an integration process can have different degrees of purposiveness and order. Moreover, these definitions do not make a clear statement about the priority and hierarchy among the components being integrated. If there is no adjective used (as for example 'environmental') than a priority of one objective over the other (for example the priority of environment over energy policy) cannot be assumed (Briassoulis, 2004). Including words like 'environmental', 'social' or

'economic', refers to a particular point of view and priority of issues being integrated (Briassoulis, 2004: 9). For example, environmental policy prioritises environmental matters over other objectives. According to these definitions, it can mean both unifying various parts into a new whole as well as incorporating one part into a bigger existing unit.

In addition, Underdal (1980) defines three criteria that need to be fulfilled in order to archive policy integration: comprehensiveness of the inputs, aggregation to a common measure to reach the goal, and consistency of the output.

Briassoulis (2004), points out that integration between policies consists of "simple and cross relationships among the objects, goals, actors, procedures and instruments of two or more policies" (Briassoulis, 2004: 14). This cross relationships are visualised in Figure 1.

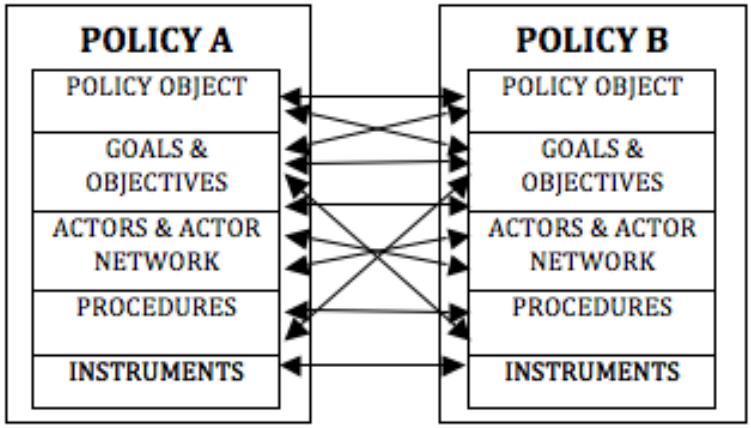


**Figure 1:** The object of policy integration. Own illustration based on: Briassoulis, 2004: 15.

## 2.2. Defining the Concept of Environmental Policy Integration

For the purpose of understanding the integration of climate objectives into European energy policy, the concept of EPI needs to be explained.

EPI can be defined as "integration of environmental aspects and policy objectives into sector policies, such as energy and agricultural policy, and can also be referred to as sector integration" (Persson, 2004: 1). Thereby, three objectives of EPI can be defined: (a) attain sustainable development and hinder environmental destruction; (b) eliminate contradictions between and within policies; (c) make policies mutually supportive (Collier, 1997).

There are two main reasons for supporting EPI (Persson, 2004). First of all, sector integration helps to more *rational* policy-making, because negative consequences on the environment can be detected earlier and easier prevented (ibid.). Secondly, EPI can be regarded from a *normative* perspective, which gives higher priority to environmental issues than to traditional economic objectives (ibid.). Nevertheless, the concept of EPI is more complex as well as conceptually vague and therefore need to be further specified for the purpose of defining the theoretical foundation of CPI into European energy policy.

Firstly, it is important to decide upon the *hierarchy* of environmental objectives. Lafferty and Hovden (2003) believe that environmental objectives should receive "principled priority" in other non-environmental policy sectors. This '*strong*' EPI stresses the importance of prioritising environmental objectives during the policy process and particularly at the final output (Lafferty & Hovden: 2003). Others have advocate, so called, '*weak*' EPI stressing the importance of simply taking environmental objectives into consideration in formulating policies in other sectors (Jordan & Lenschow, 2008). However, in real life this issue is much more complicated. European policies in non-environmental sectors have so far treated the environment as peripheral concern (ibid.). It is the economic objectives, which often dominate the decision-making process on the European as well as national level. However, considering that the long-term carrying capacity of the nature is a precondition for any other policies - environmental objectives should always be prioritised (ibid.).

Secondly, another essential conceptual clarification is whether EPI is interpreted as a policy process, output, or both (Persson, 2004). Depending on the perspective, different variables will be analysed (ibid.). Defining EPI as a *policy process*, the analysis focus on variables describing the policy process including communication process, analytical procedures, or intergovernmental power relations (ibid.). This perspective includes all factors, which are influencing the process of policy making. On the other hand, EPI as *policy output*, analyses more subject specific variables that describe the effectiveness of implemented policies and their final output. Therefore, it requires a well-grounded knowledge about linkages between environmental sectors (ibid.). In summary, EPI from a process perspective

demands an analysis of procedural criteria, while EPI defined as a policy output examines the effectiveness of the policies outcome by the use of substantive criteria (ibid.).

Finally, EPI can be analysed along two dimensions: horizontal or vertical (Lafferty & Hovden, 2003). Thereby, *vertical EPI*, is defined as "the extent to which a particular governmental sector has taken on board and implemented environmental objectives" (Lafferty & Hovden, 2003: 12). In other words, the integration of environmental objectives is taking place within a department or policy sector. The *horizontal EPI* refers to "the extend to which a central authority has developed a comprehensive cross-sectoral strategy for EPI" (Lafferty & Hovden, 2003: 14). To put it another way, the integration is taking place between the policy sectors (for example between energy- and environment departments). Thereby, a central authority and its comprehensive cross-sectoral strategy for EPI, which should include substantive coordination and prioritisation of environmental objectives among the other sectors, are of vital importance (ibid.). Concerning this two dimensions of EPI, it was proven by Lafferty and Hovden (2003: 20) that "affords at vertical integration are more common, and more influential, than efforts at horizontal integration".

## 2.3. Defining the Concept of Climate Policy Integration

The previous section has defined EPI as having a normative dimension favouring the environment. If we place an adjective before the term 'policy integration' it will assign priority to a specific policy sector's objectives over another (Briassoulis, 2004). In our case, CPI implies a priority to issues connected with 'climate', more specifically its goal is to integrate climate policy objectives in non-environmental policy sectors as for example European energy policy.

As the climate objectives constitute a more specific field of environmental policy, the assumptions concerning the concept of EPI can be applied upon the CPI concept. Thus, the already established definitions of EPI mentioned in previous sections (2.2.) will be used to define CPI. Based on presented literature, I have created my own definition of CPI compiling all vital aspects of this concept:

> *CPI is defined as giving principled priority to climate policy objectives, or at least balancing them with other objectives, on vertical as well as horizontal dimension, in all stages of the policy process and its output in non-environmental policy sectors, with the goal of reaching sustainable development and hindering environmental destruction, eliminating contradictions between and within policies, and making them mutually supportive.*

This definition is derived from the 'strong' EPI perspective. According to Lafferty and Hovden (2003: 10), prioritising environmental issues is reasonable, because of the "potentially irreversible damage to life-support systems" being destroyed by non-environmental sectors policies. However, it is important to be reasonable and acknowledge that giving principled priority to climate policy objectives in non-environmental policy sectors will be challenging, as the economic and social aspects are often dominating the political debate. Therefore, I have also included the assumption that "either environmental and non-environmental objectives should be 'balanced', or that any conflicts between the objectives can be resolved to the satisfaction of all affected interests" (Lafferty & Hovden, 2003: 9). Moreover, this definition includes vertical and horizontal dimension of integration, as well as policy process and output, in order to capture the broad spectrum of CPI. Finally, the goals of CPI were derived from general environmental objectives presented by Collier (1997), as her description is most comprehensive and adequate for the purpose of this paper. Accordingly, EPI as well as CPI consist of three objectives: (1) achieve sustainable development and prevent environmental damage; (2) remove contradictions between policies as well as within policies; (3) realise mutual benefits and the goal of making policies mutually supportive (Collier, 1997: 36).

# 3. Progress on Integration of Climate Objectives in the EU's Energy Policy

This section provides an overview of the CPI in the EU's energy policy, in order to illustrate how far climate policy objectives have been integrated into EU energy policy. For this purpose, CPI developments in the European energy sector, in particular the EU's strategic documents as well as more specific legislations, which constitute the general framework for European energy policy in the context of CPI, will be presented. This chapter will provide the necessary background for understanding what has already been done on the EU-level in respect to CPI. Moreover, some of the mentioned legislative documents will be further used in this paper for the purpose of an in-depth analysis of the case study the CPI in the EU's energy efficiency policy (section 5).

## 3.1. The Beginnings of CPI - 1980s and 1990s

Environmental concerns were first implemented into the European energy policy in 1973 in the *Guidelines and Priority Actions for Community Energy Policy* (European Commission, 1973). Shortly after, in 1986, a new objective of integrating environmental issues into other policies at all levels was incorporated into the Single European Act (ibid.). Moreover, in the same year, the EU has for the first time implemented the approach of 'balanced solutions' between environment and energy policies into its common objectives (to be achieved by 1995) (ibid.). However, mainly due to increased scientific evidence for climate change, the CPI gathered speed and in 1990, and the *Communication from the Commission to the Council on Energy and the Environment* (European Commission, 1990) was published. Two years later the Commission presented a *Community Strategy to Limit Carbon Dioxide Emissions and Improve Energy Efficiency* (European Commission, 1992b), which included a carbon/energy tax, renewable energy programme ALTENER, and energy efficiency programme SAVE. These proposals were created through collaboration between

Commissioners responsible for energy and environment giving hope for real progress towards CPI in the future (Adelle at al., 2009).

Nevertheless, it has proven difficult to achieve the objectives of these policies (Collier, 2002). First of all, the carbon/energy tax faced resistance on the side of the industry and some Member States (especially UK), which led to concessions for energy-intensive energies (ibid.). The proposal was downscaled to such an extent that even its implementation (which is not likely anyway) would be ineffective (ibid.). Secondly, programme for energy efficiency SAVE, which should provide around 40 million of funding for pilot projects during the period of 1992-1996, also did not truly succeeded, because the framework directives for this programmes gave to much implementation flexibility for the Member States (ibid.). Finally, because unrealistic targets have been adopted and too less funding was allocated to increase the amount of renewable energies to the intended level, also the renewable energy programme ALTENER has not produced many tangible results (Adelle at al., 2009).

Even through, there was little progress on CPI during the 1990s, the decision to liberalise energy markets was a significant development (Collier, 2002). The reason for this resolution was the difficult situation on the EU energy market, which was strongly regulated and driven by big monopoly companies (ibid.). The discussion on energy market liberalization was discussed since the late 1980s, and finally in 1996 liberalization in the electricity sector as well as in 1998 in the gas sector was agreed upon (ibid.). Since than, energy markets in the Member States have been gradually opening up (ibid.). However, Collier (2002) emphasizes that, the goal of internal energy market, namely to achieve low energy prices and so improving competitiveness in the industrial sector, is contradicting to the EU's goal of energy efficiency. Realising this conflict between energy and environment, in 1995 the Commission published a White Paper on energy policy, which proposed a variety of initiatives, containing communications on energy efficiency, cogeneration and renewable energy sources (European Commission, 1995). Albeit, little was done to convert this document into action (Collier, 2002). In general, the effect of IEM on the environmental issues is not known, as only few Member States have fully liberalised their markets (ibid.).

In 1997 the EU had taken a leading role in the Kyoto United Nations Convention on Climate Change claiming ambitious greenhouse gases reductions (Adelle at al., 2009). In the same year, the Environment Council adopted conclusions calling for a 15 per cent reduction by the year 2010 relative to 1990 levels (ibid.). However, because of the not very successful past record of CPI, the credibility of EU position in this debate was questioned by other negotiators (Collier, 2002). As result, the EU signed up to an 8 per cent reduction in six greenhouse gases by the period 2008 to 2012, and was based on a 'burden sharing principle' according to which more developed countries took higher share of greenhouse gases reduction (ibid.). Moreover, most of the countries that joined EU since 2004 also implemented this reduction targets (ibid.). After the Kyoto Protocol was ratified by the EU in 2002, additional measures at the Community level were required in order to meet these targets.

The CPI further speed up in late 1990's with the Cardiff process (Adelle at al., 2009). In 1998 the Cardiff European Council asked the sectoral formations of the EU Council of Ministers to establish a set of strategies to integrate the environment and sustainable development into their respective policy areas (ibid.). Thereby, the Energy Council was one of the first Council formations requested to prepare a strategy (ibid.).
After a Commission Communication on *Strengthing Environmental Integration within Community Energy Policy* (European Commission, 1998a) was presented in October 1998, a Council integration strategy was submitted to the European Council in 1999 (European Council, 1999). Nevertheless, this strategy failed to move the CPI process forward, because it did not included any concrete targets nor additional plans beyond what was already in progress under initiatives such as SAVE and ALTENER (Adelle at al., 2009).

## 3.2. The EU Energy Policy and CPI in the in the 21st Century

Meanwhile, in November 2000 the Commission has released a *Green Paper Towards a European Strategy for the Security of Energy Supply* (European Commission, 2000a). This document presents an important shift in scope of EU

energy policy towards environmental considerations, despite the fact that it was grounded in the field of security of supply, it paid attention to the environmental objectives, which were by now gradually becoming recognised as the third core objective of the policy – next to security of supply and competitiveness (Adelle at al., 2009). Moreover, the Green Paper emphasized the significance of climate change as a driving factor in energy policy, highlighting the benefits of energy taxation, as well as pointing out a need for a long term rebalancing towards demand-side policies (Adelle at al., 2009).

Another important document towards CPI, was the *Communication On EU Policies and Measures to Reduce Greenhouse Gas Emissions: Towards a European Climate Change Programme* (European Commission, 2000b), which introduced the European Climate Change Programme. Due to this document, the range of energy-related measures has increased and it subsequently gave rise to new legislations in the fields of energy efficiency, renewable energy, research and development (Adelle at al., 2009).

In 2000 the *Action Plan to Improve Energy Efficiency in the European Community* (European Commission, 2000d) was launched (Adelle at al., 2009). This comprehensive document aimed to reduce energy consumption by improving energy efficiency (ibid.). In the same year, the *Green Paper on EU emissions trading within the European Union* (European Commission, 2000d) was published. It constituted the foundation for the Emission Trading Scheme (ETS), which by then should be implemented in order to reach the Kyoto Protocol goals (Adelle at al., 2009). It required major energy intensive industries (for example power plants) to obtain an greenhouse gasses emissions permit and regularly report their CO2 emissions output. This scheme was adopted in October 2003 with the first trial trading period of 2005 to 2007 and becoming EU's flagship policy (ibid.). However, the EU ETS had some difficulties, both political and practical, and finally ended with an outcome being less ambitious than planned (ibid.).

In 2001, the *Renewable Energy Directive* was adopted (European Commission, 2001). Even through it targets were very promising, they were not binding for the Member States, what gave considerable flexibility to the implementation process and made them difficult to be enforced (Adelle at al., 2009).

Two years later, in 2003, the funding programme called Intelligent Energy Europe was established as a follow-on of the earlier ALTENER and SAVE programmes (ibid.). The same year, a *Directive on the promotion of the use of biofuels or other renewable fuels for transport* (European Commission, 2003) was adopted. This legislation set indicative targets for renewable fuels market penetration in each Member State, which as result raised from 2 per cent at the end of 2005 to 5.75 per cent in 2010 (ibid.).

By 2004 the Commission had realised that greater commitment is needed to achieve the target of increasing the share of renewables in the EU's total energy consumption and published a *Communication on EU Renewable Targets* (European Commission, 2004). One year later, the Commission has subsumed IEE under a much larger Competitiveness and Innovation Programme (CIP) (ibid.). As a consequence, environmental and competitiveness issues were connected in CIP under the name of eco-innovation (ibid.).

The CPI integration further accelerated in 2006 with the *Green Paper on Energy Efficiency, Doing More with Less* (European Commission, 2005), which recognized energy efficiency and demand side management of being crucial to comply with the climate change and security of energy supply agendas (ibid.). Although, the following *Energy Efficiency Action Plan* (European Commission, 2006b) "contains over 70 proposed measures targeting buildings, transport and manufacturing, many of these are unlikely to make a significant impact on emissions" (Adelle at al., 2009: 31). Finally, the Commission released the *Renewable Energy Roadmap* (European Commission, 2006c) with the target of reaching 20 per cent of renewable energy by 2020 (ibid.). The European Council ratified this document in March 2007.

In 2006 a comprehensive debate on the EU's future energy policy started with the publication of the Green Paper *A European Strategy for Sustainable, Competitive and Secure Energy* (European Commission, 2006a). Shortly after in January 2007, the Commission has launched the so-called *'20-20-20'* energy and climate package thereby formally stressing the link between these two policy areas. Commissions President José Manuel Barroso stressed the importance of this package saying that "the proposals put forward by the Commission today demonstrate our commitment to leadership and a long-term vision for a new Energy Policy for Europe that

responds to climate change" (European Commission, 2006a). Indeed this package included important targets aiming to strengthen climate policy with EU's commitment to a 20 per cent reduction in emissions by 2020 (European Commission, 2007a) (Adelle at al., 2009: 38). Moreover, it contained the Communication on *An Energy Policy for Europe* (European Commission, 2007b) proposing an action plan to advance European energy policy in between 2007 and 2009. This action plan included: "a binding target to raise the EU's share of renewables to 20 per cent by 2020; an obligation for each Member State to have 10 per cent biofuels in their transport fuel mix by 2020, and a reaffirmation of the energy efficiency target to save 20 per cent of the EU's total primary energy consumption by 2020" (Adelle at al., 2009: 37). The '20-20-20' climate and energy targets displayed EU's clear and unified position in taking measures that bolster Europe's international leadership on this issue (Adelle at al., 2009: 38).

In January 2008, the Commission has published the *Climate Action and Renewable Energy Package* proposal, also commonly called 'Climate and Energy Package'. It included a proposal to update the EU ETS and tighten national reduction targets for greenhouse gas emissions not included in the ETS; amended guidelines on state aid for environmental measures; proposed a new directive on renewable energy with differentiated national targets for the uptake of renewable energy; and a legislative framework for carbon capture and storage (European Commission, 2008d). This package was than adopted in April 2009. Even through it included very promising changes, it was argued that "the package had been watered down in this compromise agreement" (Adelle at al., 2009: 38).
Nevertheless, "the speed at which the package progressed through the legislative procedure shows to some extent a high level of political will and also reflects the increased profile of the interaction between the energy and climate policy fields" (Adelle at al., 2009: 38).

The most current document in the field of CPI is the *Europe 2020 strategy* (European Commission, 2010). It includes five headline targets not only for climate and energy development, but also employment, social inclusion, research and development until 2020. Most importantly, one of these priorities included accomplished the '20-20-20' climate and energy targets. Thereby, seven flagship

initiatives were developed to reach these goals. Two of these initiatives are aimed at promoting sustainable growth: *Resource efficient Europe*, and *An industrial policy for the globalisation era*. Both initiatives focus on promoting resource-efficient, low-carbon economy based on energy efficiency and increased use of renewable energy sources as well as developing and deploying clean and efficient technologies for mobility (Kettner at al., 2011: 10) In this way, the promotion of eco-innovation was underlined (ibid.).

As shown in Figure 2., presenting an overview of the CPI in the EU's energy sector, there was rather little progress on this issue in the 1990s (Collier, 2002; Adelle at al., 2009). According to Collier (2002), the cause for this development was a rather missing support from Member States. However, the integration of climate policy objectives subsequently gathered speed after the Kyoto protocol, as displayed in the Figure 2.

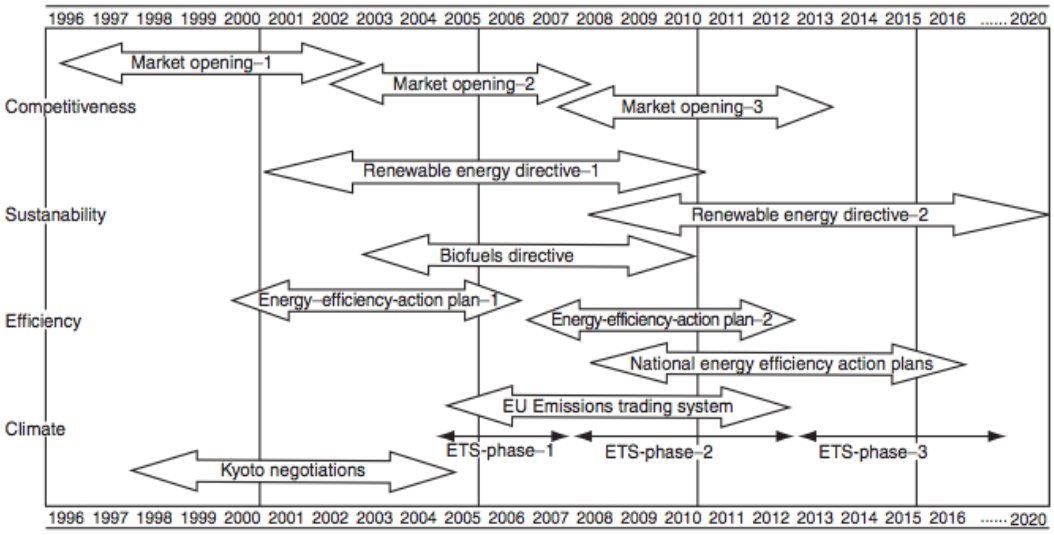


**Figure 2:** Development of EU energy policies over time. Source: Eurostat, 2009b: 3.

# 4. Establishing a Framework for CPI

Several attempts have been made to define the degree of climate policy objectives integration into the European energy policy (Dupont & Oberthür, 2011; Nillson & Persson, 2003; Rietig, 2012), however each of these papers considered different variables and focus either on the policy process or output. Therefore, this chapter will address the main purpose of my thesis, that is to create a comprehensive analytical framework for examining the degree of CPI in the EU's policies, which will be further applied to evaluate the degree of CPI in the EU's energy efficiency policy in following chapter. Thereby, I define framework as an accumulation of factors explaining CPI into a given policy area.

First, I will shortly present the two most comprehensive frameworks - one by Nilsson and Persson (2003) focusing on EPI and another by Dupont and Oberthür (2011), which specifically address CPI. Secondly, I will point out their shortcomings. Thirdly, I will complement Dupont's and Oberthür's (2011) as well as Nilsson's and Persson's (2003) variables with other important factors for evaluating the CPI. Thereby, the explanatory factors will be subdivided into two main perspectives: CPI as policy process and CPI as policy output. Fourthly, the method for establishing the degree of CPI in a given policy area will be presented. Finally, the results will be displayed in a table, in order to visualise the findings and make the framework easier to use in future research.

## 4.1. Current Frameworks for Analysing CPI

In general, even through integration of environmental policy objectives during the last years gained considerably on importance, there is a very limited literature concerning CPI (Tosun & Solorio, 2011: 10). Thus, it is especially challenging to define factors explaining CPI, which is necessary for a broader understanding of this issue (Dupont & Oberthür, 2011: 19). As today, there is just one paper specifically focusing on establishing analytical framework for CPI written by Dupont and Oberthür (2011).

Based upon European integration theories and EPI literature, Dupont and Oberthür (2011: 5) outline four core factors for explaining the levels of CPI: (1) the level of political commitment to climate policy and to CPI; (2) the nature of the functional overlap between climate policy and the other policy field in question; (3) the level of engagement of climate policy advocates and the level of procedural safeguards for CPI in the policy process; (4) and the institutional and policy context (ibid.). These variables consider the policy integration process as well as output. Moreover, the authors introduce a seven-steps scale for explaining the level of CPI ranging from no CPI, very low, low, medium, high, very high, to ideal/full CPI (Dupont & Oberthür, 2011).

Because the literature in the area of EPI is better elaborated than in the case of CPI, because it includes a broader variance of issues being integrated, I have selected an additional analytical framework that represents one of the most complex frameworks in the field of EPI. Even through this framework focuses on EPI, and not specifically CPI, it includes valid factors, which should be considered in my attempt of creating a comprehensive analytical framework for CPI. It was presented by Nilsson and Persson (2003).

Drawing on existing theoretical and empirical research, the analytical framework for explaining EPI encompasses: (1) policy-making rules and (2) assessment processes, but it also includes background factors such as (3) problem characteristics, (3) the international policy context and (5) political will (Nilsson & Persson, 2003). These factors were conceptualised from a *network perspective*, where "actors and actor coalitions are positioned according to their belief systems/frames, and EPI occurs through learning across frames when actors meet and create new debates and deliberations in the policy network or change actual policy outputs, including policy instruments, objectives and strategies" (Nilsson & Persson, 2003: 353). This perspective best describes policy systems characterized by multiple actors, interests and interactions and can be seen as an alternative to the hierarchic view of policy-making (ibid.). Additionally, the authors recognise the importance on defining EPI as a process as well as an output, thus criticising mainstream understanding of EPI from the process perspective (Nilsson & Persson, 2003: 335). This framework do not use any scale for evaluating EPI, but

instead it names examples of factors leading to stronger and weaker EPI in all of the four variables.

The analytical framework for CPI by Dupont and Oberthür (2011), as well as the framework for analysing EPI by Nilsson and Persson (2003) have been presented, because they constitute the two most well developed frameworks for analysing integration of environmental objectives into other policies from the still limited literature available in this field.

Interestingly, both frameworks stress importance of CPI/EPI factors as the *institutional context, policy issue characteristics,* and *the level of political commitment.* However, some of the factors were not overlapping in these frameworks, thus could complement each other in order to provide a bigger picture on this issue. These factors include the *international context, stakeholder's involvement,* and *assessment processes.* How these factors have been derived and why they are important for CPI analysis will be explained in the section 4.3.1.

## 4.2. Shortcomings of Given Frameworks

The analytical framework for CPI by Dupont and Oberthür (2011) and the framework for analysing EPI by Nilsson and Persson (2003), which have been presented in previous section (4.1.), make an important contribution to the research in area of CPI, however they also have their shortcomings.

First of all, in their study Dupont's and Oberthür's (2011) acknowledge that policy process as well as output are important for CPI, however during the evaluation of their case studies, they focus only on policy output (Dupont & Oberthür, 2011). Moreover, they do not mention how evaluation of policy output in field of CPI could be done. The Nilsson and Persson (2003) framework also emphasise the importance of including policy output into CPI analysis, but they do not include specific factors for measuring it.

Secondly, Nilsson and Persson (2003) are not measuring the actual level of CPI, but make examples of factors leading to stronger and weaker EPI in all of the four variables. These findings are important, but they do not give enough guidance in how to evaluate CPI. An evaluation scale would provide more guidance for other

researchers using this framework and would make the results of their analysis more comparable to each other. By contrast, Dupont and Oberthür (2011) apply a seven-steps scale. This might be a more useful approach than only providing some examples, however the choice of the scale has to be made carefully (Santori, 1970: 1036). The scale problematic will be discussed in more detail in section (4.4.).

Thirdly, the comparison between these two frameworks has already shown that they both have missed to include some important factors (i.e. international context, stakeholder's involvement, the assessment processes).

Finally, the variables presented by Nilsson and Persson (2003) as well as these from Dupont and Oberthür (2011) are rather broadly defined, leaving space for various interpretations and also misunderstanding. Therefore, I would like to create an analytical framework with variables being more precise and easier to understand as well as add other important factors for CPI, which were not taken into account in these two frameworks, in order to make the evaluation findings more reliable.

## 4.3. Relevant Explanatory Factors for CPI Framework

This section will present factors, which need to be included in order to create a comprehensive analytical framework for evaluating CPI. At the present time there exist no framework for CPI merging policy process and policy output in the analysis. Since I consider both perspectives important, I have decided to create a comprehensive analytical framework comprising them both. The idea of combining policy process with policy output perspective was also encouraged by Lenschow (2002). For this reason, the factors will be presented in two sections. First section presents factors, which explain CPI from a policy process perspective. This means that the focus lies on variables influencing the process of policy making. Second section lists factors for CPI viewed from the policy output perspective, namely focusing on the output of the policy process and final effectiveness of the policy.

### 4.3.1. Relevant Factors for CPI as Policy Process

When analysing CPI from a process perspective, the focus lies in general variables describing the policy-making process. In this context, Dupont's and Oberthür's (2011) as well as Nilsson's and Persson's (2003) frameworks discussed in previous sections (4.1. & 4.2.), both stress the importance of three particular factors: *institutional context*, *policy issue characteristics*, and *the level of political commitment*. I will explain how these three factors have been theoretically derived in order to enhance the readers understanding of their importance for my CPI analytical framework. These factors have been frequently mentioned in the literature to be of high importance and are also well grounded in theory.

The importance of ***institutional setting*** can be derived from the theory of institutionalism. The main premise of institutionalism is that institutions affect outcomes (Aspinwall & Schneider, 2000). Thereby, institutional rules and procedures are of vitally important in facilitating and assuring durable international cooperation (Wiener & Diez, 2009). These effects can vary over time and depend on institutional characteristics, policy issue and the kind of feedback it produces (Pollack, 2009). Thereby, the institutional feedbacks can either strengthen and so reinforce existing institutional system, or undermine it (ibid.). Moreover, new institutionalism recognizes that institutions contain formal as well as informal structures that influence actor's behaviour (Aspinwall & Schneider, 2000). In the case of EU, formal structures consist of voting or legislative procedures and informal rules comprise for example the aspiration for reaching consensus (ibid.). The institutional rules can either constrain or empower human action (ibid.). For example, some institutional structures on the national level, as national constitutions, might hinder the development of lasting transnational relations on the European level (ibid.). Furthermore, decision-making by qualified majority is stated to facilitate CPI, whereas a consensus rule would rather hinder it (Dupont & Oberthür, 2011).

According to Briassoulis (2004), the possibility of successful policies integration will increase if "horizontal linkages exist among the organizational and administrative apparatuses of individual policies, such as common, congruent,

non-conflicting, cooperative and coordinated structures and procedures, for properly formulating and carrying out joint, cooperative and integrated solutions to common problems." (Briassoulis, 2004: 16). Moreover, also vertical linkages among procedures and structures are vital for effective CPI (ibid.). It can be concluded that institutional setting is one of the most fundamental factors influencing CPI (Briassoulis, 2004: 16; Evans, 2012: 45, Dupont & Oberthür, 2011: 6; Lenschow, 2002: 17; Persson, 2004: 29; Nilsson & Persson, 2003: 346; Mitchell, 1994: 425).

The ***policy issue characteristic***, describes that even with the same institutional structures, it is possible to get differential policy integration depending on the type of problem (Nilsson & Persson, 2003). This idea correlates with the concept of *functional overlap*, which takes place between the two sectors being integrated (Dupont & Oberthür, 2011). Dupont and Oberthür (2011) distinguish two different attributes of functional overlap. Firstly, it can be more direct or indirect, what influences the strength of the resulting political demand for CPI (ibid.). Secondly, the functional overlap can be more synergistic or conflictual, what determines how easy or difficult it is to integrate climate objectives in other policies (ibid.). The European climate policy, which is highly interconnected with energy, transport, agriculture and other EU policies, constitutes an example of rather strong functional interdependence. In order to achieve a long-term environmental sustainability, actions in all policy areas interrelated to climate change need to take place.

The factor of policy issue characteristic was derived from the neofunctionalist theory that highlights functional *'spillover'* as a driver of European integration (Niemann & Schmitter, 2009). The concept of 'spillover' can be described as an "expansive logic of sector integration whereby the integration of one sector leads to technical pressures pushing states to integrate other sectors" (Niemann & Schmitter, 2009: 49). This definition indicates that some political sectors are so interdependent that it is impossible to isolate them. Such functional interdependence is most likely to take place in the presence of 'high issue density' (Niemann & Schmitter, 2009: 58).

Thereby, CPI is more likely to be achieved when policies goals are compatible, congruent, consistent, common, and when they share common actors whose relationship is characterised by cooperation (Briassoulis, 2004: 16).

The importance of a high ***level of political commitment*** for successful integration of climate policy objectives in other policy area is widely recognised (Briassoulis, 2004: 16; Collier, 2002: 189; Dupont & Oberthür, 2011: 6; Leschow, 2002: 16; Nilsson & Persson, 2003: 355; Persson, 2004: 28). It is grounded on the liberal intergovernmentalist theory, which focuses on the state, including intergovernmental politics and member state preferences (Moravcsik & Schimmelfennig, 2009). Liberal intergovernmentalism rests on two basic assumptions about politics (ibid.). Firstly, it is assumed that states are actors (ibid.). Accordingly, the Member States of the EU are the 'masters of the treaty' and enjoy a paramount decision-making power, what is usually demonstrated in conclusions of the European Council (ibid.). Thereby, the European Community can be seen just as "international regime of policy coordination" (Moravcsik & Schimmelfennig, 2009: 68). The second basic assumption of liberal intergovernmentalism states that actors are rational (ibid.). Correspondingly, EU Member States calculate the utility of alternative courses of action and choose the one, which maximises their utility under the given circumstances (ibid.). Thereby, the agreement to cooperate can be explained as a "collective outcome of independent (strategic) rational state choices and intergovernmental negotiations" (Moravcsik & Schimmelfennig, 2009: 68).

Political commitment is an important explanatory factor, "first, in terms of the EU's overarching commitment to combating climate change, and, second, in terms of commitment to promoting CPI" (Dupont & Oberthür, 2011: 6). In order to define the level of political commitment I will apply the Dupont's and Oberthür's (2011) scale. Thereby, low level is described when no or just little evidence of commitment can be found in statements, and high level applies if political commitment is supported by concrete targets and/or by assigning priority to climate objectives (ibid.). Hence, a strong political will bring about a stronger control of the outcome of the integration process (Nilsson & Persson, 2003: 355).

However, some of the factors, namely the *international context, stakeholder's involvement, and assessment processes*, were not overlapping in Dupont's and Oberthür's (2011) as well as Nilsson's and Persson's (2003) frameworks, thus they could complement each other. For this reason this factors will also be included into my CPI framework.

First, the importance of including ***international context*** is based on the assumption that "trends and ideas in Europe and globally create new framings of problems and issues" (Dupont & Oberthür, 2011: 346). According to Nilsson and Persson (2003), the political legitimacy of EPI was established internationally and therefore was pursued seriously and effectively. In addition, new regulations on the European level set new constraints on national policies, what stimulates innovative solutions and new ways of managing environmental issues (Dupont & Oberthür, 2011).
This factor is related to the concept of *international policy diffusion*, which "occurs when government policy decisions in a given country are systematically conditioned by prior policy choices made in other countries." (Gilardi, 2012: 2). These decisions are influenced by the international context, and in particular "by the ideas, norms, and policies displayed or even promoted by other countries and international organizations" (Gilardi, 2012: 1). However, diffusion can also take place within a country and spread different ideas, policy models, and instruments among its public and private actors (ibid.).

Dupont and Oberthür (2011) also include ***stakeholder's involvement*** into their set of factors influencing CPI. They focus especially on the access of policy advocates to the decision-making process (Dupont & Oberthür, 2011). Importance of stakeholder's involvement can be derived from institutionalist and neofunctionalist theory (ibid.). According to neofunctionalism, the multiplicity of actors in the decision-making process is very important (Niemann & Schmitter, 2009). Institutionalism on the other hand stresses the vitality of stakeholder's participation in day-to-day procedures for policy-making in the EU (Aspinwall & Schneider, 2000). Stakeholder's involvement into decision-making process is a basis for legitimate decisions (Evans, 2012: 193). The transparency and openness of the policy process for different interest groups and institutional actors (as for

example DG Environment/Climate Action, or the environment committee of the European Parliament) is substantial for ensuring consideration of environmental implications (Dupont and Oberthür: 2011: 6; Evans, 2012: 193; Leschow, 2002: 17; OECD, 2002: 3).

Finally, Nilsson and Persson (2003) emphasise the vitality of ***assessment processes***, which take policy assessments and especially research-based knowledge into consideration. However, in practice policy assessments are often not included in most of policy processes (Nilsson & Persson, 2003: 349). There are numerous causes for this. First, there are just few institutionalised mechanisms for assessments (ibid.). Second, often there are time and resource constraints (ibid.). Third, it depends on how the issue is framed and who is sitting in the committee or who is the chairperson (ibid.). Lastly, there seems to be a "considerable mismatch between what the research community is prepared to supply and what the policy system demands" (Nilsson & Persson, 2003: 350). Moreover, there is the question of who is providing the assessed material, as some stakeholders (especially in energy and industry sectors) usually have more resources to provide valid assessments (ibid.). However, even if there might exist some constraints in applying such evaluation methods, they are still important for achieving policy integration (Briassoulis, 2004).

Nevertheless, there are even more factors stated in the literature, which were not mentioned in previously presented frameworks, but should also be considered in evaluating CPI in other policies on the EU-level.

In connection with the previously discussed level of political commitment as well as international context (policy diffusion), it is also important to include ***public opinion*** (Evans, 2012: 62; Lenschow, 2002: 17; Persson, 2004: 28). The role of the individual in energy policy is important as he is both citizen and consumer (Brophy Haney et al., 2011). It is important to study public opinion of citizens in order to understand potential support for and opposition against specific national energy policies (ibid.). Societal backing is necessary for enforcement of CPI objectives, because "administrations rarely engage in path-breaking change unless they encounter the pressure from the outside (crisis) or 'below'" (Lenschow,

2002b: 243). In the case of environmental policies, if citizens do care about the environment the will put pressure onto the policy-makers, who on the other hand care about their re-election in the future and therefore will be forced to consider the public opinion. Thereby, public participation requires existence of institutions and rules that will allow all interested parties to take part in the decision-making process (Evans, 2012: 193). Good communication between the government, citizens, interest groups and other stakeholders is necessary in order to correctly frame environmental problems and decisions with considering the local communities (ibid.). Such cooperation will also improve the quality of taken decisions (ibid.).

A factor, which was not mentioned so far but constitutes an important determinant for the CPI is the ***budgetary capacity*** (Kettner at al., 2011: 27; Persson, 2004: 31). Resources allocated for promoting climate policies, but also spending in other areas that might have counterproductive effects for climate policy, need to be taken under consideration regarding the CPI in a given policy area (Persson, 2004: 31). Therefore, the budgetary capacity as a factor emphasizes "the need for an appropriate allocation of resources and capacity in order for policy-makers to carry out environmental policy integration effectively" (Persson, 2004: 31).

The ***accountability mechanisms*** are also influencing progress in CPI (Briassoulis, 2004: 24; Persson, 2004: 30; OECD, 2002). The main idea is to make sector departments in the EU internalise the principle of incorporating environmental objectives into policy-making (ibid.). As a result the departments are forced to take into account the sector's environmental impact and to establish their environmental capacities (ibid.). In order to create formal accountability an internal sector mechanism for monitoring could be established (OECD, 2002). In case of the EU, implementation of the accountability mechanism was encouraged through advising the sector council formations to establish sectoral strategies including timetables and targets (ibid.). Another option would be to create an external body responsible for monitoring and evaluation of CPI progress (ibid.).

Another important factor for my analytical framework is the ***coordination and communications mechanism*** (Briassoulis, 2004: 16; Evans, 2012: 193; Persson,

2004: 30). This factor is especially important, because of the increased institutional fragmentation in the EU, which "has given rise to a tendency towards competition between sector departments to realise their interests" (Persson, 2004: 30). Persson (2004) emphasizes the vitality of interministerial committees and task forces as well as networking schemes for providing needed coordination and communications between sector departments (ibid.). This factor touched upon the concept of *transparency*, which enables a broader access to information and greater awareness about policies implemented and planed for the future (in our case) between sector departments. Moreover, this factor could also include the relationship among policy actors. According to Briassoulis (2004: 15), if two policies share common actors involved or responsible for policy making, they are more likely to be integrated.

The ***time perspective*** is as well important, especially in the field of climate policy, where policies need a lot more time to take full effect (Persson, 2004: 29). Thus, a long-term perspective is vital in order to achieve CPI, because "a lack of long-term vision makes it difficult to appreciate the link between previous behaviour and future conditions and to redefine problems and opportunities in the light of new circumstances" (Persson, 2004: 29). In general, individuals are likely to care more about their own future than about the utility of future generations (Karp & Tsur, 2011: 26). It is even more visible in parties' electoral cycles, where policy makers want to secure their re-election, what in turn gives the incentive to make short-term policies (ibid.). Therefore, the time perspective is also included in my analytical framework.

Another vital factor is the ***use of knowledge and science*** (Briassoulis, 2004: 22; Haas & Haas, 1995: 259; Nilsson & Persson, 2003: 340; Persson, 2004: 29). It can be pointed out that nowadays, knowledge is becoming to an increasing extent very technical and specific, what makes it more difficult to be used by policy decision-makers (OECD, 2002). It is therefore necessary to assure them a broad access and use of comprehensive scientific materials.

Another problem might be that "organizations tend to resist knowledge that calls into question their belief systems" (Nilsson & Persson, 2003: 340). This assumption touches upon the concept of *learning*, as a mechanism for policy

change (Haas & Haas, 1995: 259). Thereby, EPI can be seen as social learning whereby the worldviews, values, and norms are changed during the process into a more comprehensive whole (ibid.). This learning, taking place between actors in a given policy network, results in creating new mandates of environmental concerns and knowledge about possible environmental consequences, which in turn changes the processes of sector policy-making (Nilsson & Persson, 2003: 340). Moreover, a high degree of consensus about that knowledge is of crucial importance, especially in the case of complex and interconnected issues as for example climate change (Haas & Haas, 1995: 259).

Finally, the ***use of policy instruments*** to achieve CPI should also be considered (Briassoulis, 2004: 17). These can include for example financial mechanisms, other marked-based instruments, spatial planning or environmental management instruments (ibid.). The use of compatible, non-conflicting, and mutually reinforcing policy instruments increase the possibility of achieving a high degree of CPI (Briassoulis, 2004: 17). Thereby it is reasonable to take into account the design of other policy instruments in order to avoid possible conflicts of compatibility (ibid.). The effective coordination of policy instruments is strongly dependent on the policymaking procedures and their role of guiding the combination of instruments (ibid.).

### 4.3.2. Relevant Factors for CPI as Policy Output

Elaborating factors for CPI from the policy output perspective is more difficult, because "it is likely to involve more subject specific variables and requires knowledge about substantive environmental-sector linkages." (Persson, 2004: 23). Therefore, analysing CPI as policy output will require a set of substantive factors (ibid.). These factors will measure the effectiveness of the EU's energy efficiency policies in integrating environmental policy objectives.

Therefore, the term *effectiveness* needs to be defined. According to European Environment Agency (2001), the *effect* is not the same as *effectiveness* and is measured differently. First, *effect* describes "causality between a policy and its impact on the outside world" (EEA, 2001: 19) and most importantly it is

judgement-free (ibid.). On the other hand, assessing *effectiveness* implies "judging whether and how far the observed effects of a policy measure up to the explicit objectives set for it, and this involves comparing intentions with performance." (EEA, 2001: 19). Therefore, I define *effective policy* as a policy, which attains it goals and fulfils (in best case scenario) all below-mentioned criteria.

I have chosen a comprehensive set of 'cross-cutting elements to guide policies to sustainable development' proposed by OECD (2001a), which uses reasonable factors also applicable in evaluating the CPI as policy output (Persson, 2003: 40). These include the following factors: *long-term planning horizon, pricing, delivery of public goods, cost-effectiveness, environmental effectiveness, precaution, international cooperation, transparency, accountability mechanisms, high level of political commitments, improved governance, resource and capacity building, policy implementation instruments, monitoring/reporting/information, greening of sector policies, and changes in states and impacts* (OECD, 2001a).

Some of these factors are similar or the same as these mentioned in previous section (4.3.1.), which focus on the policy process. It was pointed out by Persson (2003) that the boundary between the policy process and policy output oriented factors "is not always clear" (Persson, 2003: 23). In this case some of the factors are simply as important for the policy process as for the policy output. These include: ***long-term planning horizon*** (*time perspective* as a factor for CPI as a policy process), ***transparency, accountability mechanisms,*** and ***high level of political commitments***. Literature supporting the importance of these factors for CPI was presented in the previous section (4.3.1.).
Furthermore, even if these factors are both included in the evaluation of CPI from the process and from the output perspective, it is vital to include them in both analysed groups (policy process and output). For example, if no *accountability mechanisms* were used during the policy process it might still produce a policy outcome in form of establishing new institution responsible for deploying *accountability mechanisms*. This example demonstrates that policy process and policy output are two different things.

Nevertheless, the OECD list comprises some more factors, which were not mentioned in the previous section (4.3.1.). These specific factors for measuring effectiveness include: *delivery of public goods, cost-effectiveness, environmental effectiveness, precaution, international cooperation, improved governance, resource and capacity building, greening of sector policies, and changes in states and impacts.* In order to stress the significance and reliability of these factors for describing CPI as policy output, I will further explain and briefly present literature supporting them.

The ***delivery of public goods***, as for example basic research, information, education and health, includes the notion of limiting environmental degradation and introducing policies, which aim to preserve ecosystems and assure the well-being of current and future generations (OECD, 2001a: 4). Moreover, many of these public goods have a global outreach; and benefit several countries at the same time (OECD, 2001b). In order to provide public goods effectively, it is required to overcome co-ordination obstacles, for example through introducing burden-sharing rules that acknowledge the different capacities of individual countries to take action (OECD, 2001b).

The ***cost-effectiveness*** is a factor often mentioned in evaluating policy effectiveness (EEA: 2001; EEA, 2004; OECD, 2001a; OECD, 2001b; European Commission, 2009a). It is desirable to achieve policy objectives at lowest cost (EEA, 2004: 2). Moreover, cost-efficiency is a clear benchmark for policy efficiency as it "allows the minimisation of aggregate costs and the setting of more ambitious targets in the future" (OECD, 2001b: 8).

According to the OECD (2001b), ***environmental effectiveness*** policies should secure four objectives: regeneration, substitutability, assimilation and avoiding irreversibility. First, *regeneration* comprises the idea of efficient use of renewable resources, thereby not exceeding their rates of natural regeneration (ibid.). Second, *substitutability* means that renewable resources have to be used efficiently and, if possible, they should be used instead of non-renewable resources (ibid.). Third, *assimilation* describes that releases of harmful or polluting substances to the environment need to remain below established critical levels in order to protect

human health and the nature (ibid.). Fourth, *avoiding irreversibility* means that hazardous and irreversible effects of human activities on the environment should be avoided (ibid.).

The ***precaution*** is a factor, which should be applied in cases of scientific uncertainty (OECD, 2001b). It is especially the case when the threats of exceeding critical thresholds in the regenerative capacity of the environment are uncertain (ibid.).

Considering the factor of ***international cooperation***, stress the importance of cooperation between countries in order to solve problems with global implications (for example climate change) (OECD, 2001b). Thereby, "with deepening international interdependency, spill-overs become more pervasive" (OECD, 2001b: 8). Cooperation based on a big range of countries and organisations will support CPI (ibid).

The ***improved governance*** includes all kind of improvement enhancing the effectiveness of the governance (European Commission, 2009a). For example, the institutional setting could be changed in order to allow an (higher) involvement of stakeholders and thereby improving the legitimacy and quality of taken decisions.

The ***resource and capacity building*** focus on enhancing countries capability to manage their resources in a responsible manner (OECD, 2001b). The process might include the development of human, material and financial resources (ibid.). Such improvements could include for example sustainable management of natural resources (ibid.).

In order to make a statement about the ***implementation instruments***, it is necessary to compare how effective the measures implemented have been in achieving policy targets (OECD, 2001a). Thus, an appropriate mix of instruments as well as institutions, which are capable of implementing them, is necessary to achieve CPI (ibid.).

The ***greening of sector policies*** includes integration of environmental aspects and policies into other policy sectors not necessarily having environment as their main objective, such as agriculture and energy policy (Persson, 2003). According to Lenschow (2002a), greening of sector policies has introduced more flexible and participatory regulatory forms, which linked its effectiveness to specific governance characteristics.

Finally, analysing the ***changes in states and impacts,*** it is expected that a introduced policy measures have caused some positive economic, social or/and environmental improvements (OECD, 2001a).

To sum up, all factors mentioned in section 4.3.1. and 4.3.2. constitute a comprehensive framework, which will enable an complex and reliable analysis of CPI in the given policy area. Analysing all these established factors will provide a comprehensive evaluation of CPI in the EU's energy efficiency policy (section 5).

## 4.4. Methodology for Evaluating the Degree of CPI

The CPI factors established in the previous sections (4.3.1. and 4.3.2.) will be analysed one by one through studying documents concerning the policy area under consideration. As this paper focus on the EU's energy efficiency policy, the analysis will be based on conclusions of the EU Councils of Ministers, strategic documents adopted by the European Commission and the European Parliament, as well as other documents and articles on this subject.

For the purpose of making a statement about the degree of CPI in another policy field, in our case the EU's energy efficiency policy, it needs to be decided if a scale is needed.
I have decided not to use the scale proposed by Dupont and Oberthür (2011), because it consist of too many intervals (7), what makes it difficult to divide observations and requires access to very detailed data, what is not always given. It might constitute a constraint especially in analysing the EU's energy efficiency policy, which so far has not been in-depth evaluated and where the amount of

documents available for the analysis is limited. As some of the policy fields on the European level are from higher importance than others, there are less documents and agreements available on the less developed policies. For this reason, I consider it more reasonable to provide a framework applicable to any policy field under consideration, independently on its degree of legislative development. Therefore, I will not use a scale with very detailed intervals as applied by Dupont and Oberthür (2011). Moreover, I will not estimate a percentage-point degree of CPI, as it was done by them, because I consider it rather to be difficult to evaluate all factors in my framework according to such strict numbers (Sartori, 1970: 1036).
Furthermore, Nilsson's and Persson's (2003) framework does not use a scale at all, because it aims to display which factors are important for EPI and how they correlate within the framework. My approach is closer to the approach of Nilsson and Persson (2003), as I also aim to compile a list of all-important factors for explaining the degree of CPI in other policy fields.

Therefore, I will simplify the evaluation process by exploring a general trend of CPI in another policy areas. For this purpose I will use the "*more-and-less*" approach introduced by Sartori (1970). According to Sartori (1970), "for fact finding purposes it is more profitable to exaggerate in over-differentiation than in over-assimilation" (Sartori, 1970: 1039). Therefore, I will first of all evaluate each factor according to two categories: *not supporting CPI* or *supporting CPI*. Thereby the category *not supporting CPI* will also be marked if the evaluated factor is not present. Secondly, I will base my final evaluation on two categories: *rather low- and rather high degree* of CPI in the EU's energy efficiency policy. The *rather low degree* of CPI will take place if less than half of the factors are supporting CPI. The *rather high degree* category will describe the situation when more than half of the factors will be CPI supportive.
This division implies the two prerequisite assumptions about classification characteristics (Sartori, 1970). Firstly, every classification has to be exclusive, namely the same phenomenon cannot belong to the more than one category (ibid.). Secondly, the classification has to be exhaustive, that is, no phenomenon can be left outside the classification (ibid.). These two prerequisites are met in my evaluation categories. A more detailed and complex classification scale would provide more precise findings, however for the purpose of this paper and

considering the space and time constraints, the goal is to establish a general trend of CPI in given policy area (in the case the EU's energy efficiency policy). Moreover, simplifying the evaluation categories will make my framework more accessible and easier to use by other researchers or policy makers.

Finally, the findings will be presented in a table, what should make it easier to apply my framework on a given case study and visualise the findings.

# 5. Assessing the Degree of CPI in the EU's Energy Efficiency Policy

The purpose of this section is to apply my analytical framework on a case study, which is the EU's energy efficiency policy, in order to analyse and establish the degree of CPI in this policy area. This analysis will be structured as followed. First, I will explain why I have chosen the EU's energy efficiency policy as a case study. Second, the new framework will be applied. Thereby, CPI in the EU's energy efficiency policy will be analysed separately as a policy process as well as a policy output. Finally, the degree of CPI in the chosen policy area will be established.

## 5.1. Explaining Case Study Choice

The energy efficiency policy of the EU was chosen for three reasons.

First, energy efficiency policy is an important part of EU's energy policy. It is even mentioned in the *Treaty on the Functioning of the European Union* (European Union, 2008), which declares energy efficiency as one of four main priorities of the EU's energy policy in Article 176a: (1) ensuring the functioning of the energy market; (2) ensuring security of energy supply in the Union; (3) promoting energy efficiency and energy saving and the development of new and renewable forms of energy; and (4) promoting the interconnection of energy networks (European Union, 2008).

Second, from these four priorities, the energy efficiency is the most important policy for reducing CO2 emissions and mitigation of climate change (Adelle at al., 2009: 31). The significance of energy efficiency policies was also recognised by the European Commission, which stands that "energy efficiency is the most cost-effective and fastest way to increase security of supply, and is an effective way to reduce the greenhouse gases emissions responsible for climate change" (European Commission, 2011:1). Thereby, considering the rising energy prices, an increased dependency on energy imports, as well as the effect of climate change, the energy efficiency policies are gaining on importance (Adelle at al., 2009: 31). Moreover,

successful implementation of energy efficiency policies will increase the international competitiveness of European industries (Energy Efficiency Watch, 2009: 5).

Third, there are not many evaluations of energy efficiency policy at the European level, since much more literature focuses on the national level - the policy implementation in the Member States. Moreover, there is much less publications available on energy efficiency than on other EU's energy policies as for example renewable energy. Finally, most importantly, there is no evaluation of the EU's energy efficiency policy available, which would analyse CPI from policy process as well as from policy output perspective.

For these reasons, I have chosen the EU's energy efficiency policy as a case study and will analyse it extensively in the following section (5.2) by the use of my framework. Thereby, an in-depth analysis of more than one European policy is beyond the scope of this paper.

## 5.2. Appling the New Framework on the EU's Energy Efficiency Policy

In the following, the new analytical framework will be applied on the EU's energy efficiency policy. For the purpose of making the structure of my analysis clear, I divided it into two subsections. First, I will apply factors explaining CPI as a policy process. Secondly, I will examine factors explaining CPI from the policy output perspective.

Thereby, a rich and extensive body of literature will be analysed. These include main strategic documents of the EU's energy efficiency policy as the *Treaty on the Functioning of the European Union* (European Union, 2008); and *Europe 2020 A strategy for smart, sustainable and inclusive growth* (European Commission, 2010a); as well as other more specific strategic energy policy documents: the Green Paper *A European Strategy for Sustainable, Competitive and Secure Energy* (European Commission, 2006a); the Communication *An EU Security and Solidarity Action Plan* (European Commission, 2008b); the *Energy 2020, a strategy for competitive, sustainable and secure energy* (European Commission, 2010b); the Communication *Energy infrastructure priorities for 2020 and beyond -*

*A Blueprint for an integrated European energy network* (European Commission, 2010c); *The Energy and Climate Package* (European Commission, 2008a); *The Strategic Energy Technology (SET) plan* (European Commission, 2009b); *the* Communication *Energy efficiency for the 2020 goal* (European Commission, 2008c); *the Action Plan for Energy Efficiency (2007-12)* (European Commission, 2006b); *the Proposal for the Global Energy Efficiency and Renewable Energy Fund* (European Commission, 2006c); *the Proposal for a New Energy Efficiency Directive* (European Commission, 2011a); and *the Communication Energy Efficiency Plan 2011* (European Commission, 2011c) and some more.
Moreover, in order to base this study on more varied sources and include findings describing some of the analysed factors; I will also consider other researcher's publications on the topic of the EU's energy efficiency policy.

### 5.2.1. Evaluating CPI in the EU's Energy Efficiency Policy - Policy Process Perspective

***Institutional setting:*** In the case of EU, formal structures consist of voting or legislative procedures and informal rules comprise for example the aspiration for reaching consensus (Aspinwall & Schneider, 2000). Informal rules, as the EU's aspiration to reach consensus in decision-making, is certainly supporting CPI (ibid.). Considering the formal structures, EU's system of governance can be described as "a unique set of multi-level, non-hierarchical and regulatory institutions, and a hybrid mix of state and non-state actors" (Hix, 1998: 39). The EU has well-established institutional framework, which is based on the principle of cooperation between the institutions, which was recognised by the Court of Justice as a general principle of Community law (Europa, 2010). Thus, institutional cooperation is characterised by: (1) exchanges of letters between the Council and the Commission; (2) inter-institutional agreements; and (3) joint declarations of the European Parliament, Council and Commission (ibid.). Thereby, most of the decisions are taken by the qualified majority, which is stated to facilitate CPI (Dupont & Oberthür, 2011). Furthermore, the multi-level system of the EU implies remarkable complexity, with a diverse set of actors (institutional

and non-institutional, national and transnational, political, public and private, social and economic) interacting on various levels.

According to Briassoulis (2004), the possibility of successful policies integration will increase if horizontal as well as vertical linkages among procedures and structures are available. Such integration in EU is visible for example in the Article 6 of the consolidated European Community Treaty, which requires that environmental protection is integrated into the definition and implementation of all Community policies and activities, in particular with a view to promoting sustainable development, established as a Community objective in Article 2 of the Treaty. For this reason, the Commission has published the Communication *A strategy for Integrating Environment into EU Policies* (European Commission, 1998b). This document stresses the need of changing the European energy sector practices and putting in place policies for increased energy efficiency (European Commission, 1998b). All together it can be stated that the institutional setting supports the process of CPI.

***Policy issue characteristic:*** In the circumstances of increased risk of climate change, rising energy prices, and increased dependency on energy imports the issue of energy efficiency gained considerably on importance (Adelle at al., 2009: 49). In spite of that, Europe continues to waste at least 20 per cent of its energy due to inefficiency (European Commission, 2006c). Therefore, energy efficiency is a key element of EU's energy policy. Thereby, a certain degree of interdependence between energy and climate policies is widely acknowledged (Adelle at al., 2009; Dupont & Oberthür, 2011; Tosun & Solorio, 2011; Persson, 2003). It becomes especially apparent by raising taxes on energy use and emission of air pollutants (Tosun & Solorio, 2011). By decreasing energy consumption, less CO2 emissions will be produced, which will contribute to climate change mitigation. Thus, energy efficiency is one of the key components of EU climate change policy (Adelle at al., 2009). Moreover, by lessening external dependence on fossil fuels, energy efficiency has a significant impact on energy security, which is one of EU's priorities (ibid.). However, from the fuel security point of view, "only serious energy efficiency and renewables-focused diversification would seem able to resolve Europe’s growing dependence on externally-sourced, climate-damaging fossil fuels, contributing to both climate change and energy

security objectives, that is to say produce win-win solutions." (Adelle at al, 2009: 23). Thereby, the energy efficiency policy objectives are more compatible with the climate goals than other energy policies (Energy Efficiency Watch, 2009: 8). For example, energy security, as an important policy area of the EU, aspires to move away from the risk-prone fuels. This however could lead to the use of resources, which are not as environmental friendly, but are abundant in a given geographical area and therefore are extracted. To the contrary, the energy efficiency policy aims to reduce energy consumption and at the same time decrease CO2 emissions. All things considered, the policy issue characteristic of energy efficiency is in synergy with climate objectives, as it reduces the energy demand and in this way also moderates the energy security problem.

***Level of political commitment:*** The EU became engaged with environmental regulation in 1972 when it published its first Environmental Action Programme. Its role in environmental protection was subsequently extended also in the field of energy policy (as described in section 3). Nowadays, energy efficiency is a key element of EU's energy policy and published a great number of strategic documents on this issue (see section 5.2.). Most importantly, it is stated in Article 176a *the Treaty on the Functioning of the European Union* (European Union, 2008), that energy efficiency is one of four main priorities for the EU's energy policy. Moreover, Europe 2020 Strategy (European Commission, 2010a) is putting "Resource Efficient Europe" as one of its seven flagship initiatives. The goal of this initiative is to "decouple economic growth from the use of resources, by decarbonising our economy, increasing the use of renewable sources, modernising our transport sector and promoting energy efficiency." (European Commission, 2010a: 32). Another important documents is the Action Plan for Energy Efficiency (European Commission, 2006c) aiming for a 20 per cent cut in Europe's annual primary energy consumption by 2020. Vital for analysing the level of the EU's political commitment is also the Energy Efficiency Plan (European Commission, 2011), which propose several measures to increase efficiency at all stages of the energy chain: generation, transformation, distribution, and final consumption (ibid.). These measures focus on the public transport and building sectors, where the potential for savings is assumed to be the greatest (ibid.). Other measures

include the introduction of smarter devices (which encourage consumers to manage their energy use better), and clearer product labelling (ibid.).
From the analysis of extensive amount of directives and initiatives it follows that, the political commitment is backed up by concrete targets and climate objectives are taken under consideration. Therefore, according to Dupont's and Obethür's (2011) evaluation scale for the level of political commitment, the EU's energy efficiency fulfils the criteria for a high degree of political commitment.

***International context:*** On the one hand, "improved energy efficiency is a shared policy goal of many governments around the world." (International Energy Agency, 2008: 3). The EU has also recognised energy efficiency as an important policy for increasing the security of supply, reducing the greenhouse gases emissions responsible for climate change, and at the same time increasing the international competitiveness of European industries (European Commission, 2011a). Thereby, many strategic documents for energy efficiency were ratified by the Member States, what indicates their support for these policies.
On the other hand, the International Energy Agency has declared that "the current rate of energy efficiency improvement is not nearly enough to overcome the other factors driving up energy consumption." (International Energy Agency, 2008: 3). Moreover, it is pointed out that the rate of energy efficiency improvement has slowed substantially, with the efficiency gains of just about half those seen in previous decades (ibid.). Even the European Commission itself sees "a lot of room for energy generation and transmission efficiency" (European Commission, 2008a: 7).
Furthermore, the context of the global financial crisis in 2008, which in 2010 was followed by a government debt crisis in Europe resulting among others in severe budgetary cuts, has hindered further CPI. Currently the governments focus on economic growth and decrease of unemployment rather than on environmental concerns.

***Stakeholder's involvement:*** The preparation process on energy efficiency policy strategic documents was open for NGOs, stakeholders, and climate advocates in the Commission, Parliament, and Council to hear their opinions on the proposal, mainly due to the normal consultation and coordination procedures under the co-

decision procedure (Dupont & Oberthür, 2011). Additionally, formal as well as informal consultations took place during the process (ibid.). A number of public consultations have taken place, as for example in the case of Green Paper on Energy Efficiency (European Commission, 2005) or the Action Plan for Energy Efficiency (European Commission, 2006b). Moreover, in each of the analysed strategic documents for energy efficiency, the importance of all relevant public and private stakeholders involvement in the consultation process is emphasised (European Commission, 2006a, European Commission, 2006b; European Commission, 2006c; European Commission, 2006d; European Commission, 2008a; European Commission, 2008b; European Commission, 2010a; European Commission, 2010b; European Commission, 2010c, European Commission, 2010c; European Commission, 2011a; European Commission, 2011b; European Commission, 2011c).

***Assessment processes:*** An example of an assessment process was presented in the Energy Efficiency Plan 2011 (European Commission, 2011c), where the Commission propose a two-step approach of target setting. First, Member States should set their national energy efficiency targets and programmes, which will be evaluated later on to assess likely achievement of the overall EU target (ibid.). Thereby, the Commission will "support the Member States in the elaboration of their energy efficiency programmes and closely monitor their implementation through its revised legislative framework and within the new framework provided under the Europe 2020 process." (European Commission, 2011c: 3). Finally, in 2013, the Commission will present an assessment of the results obtained and whether the programmes will, in combination, deliver the European 20 per cent objective (ibid.). Thus, if this review should prove that the overall EU target is unlikely to be achieved, then as a second stage the Commission will put forward legally binding national targets for 2020 (ibid.).

Furthermore, the Action Plan for Energy Efficiency (European Commission, 2006b), also includes an Impact Assessment Report with an "individual impact assessment" (European Commission, 2006b: 9).

The Directive on Energy End-Use Efficiency and Energy Services (European Commission, 2006d), as well includes assessment processes: "This Directive will also enable an assessment of an EU-wide White Certification Scheme in 2008,

taking into account developments in Member States and progress with the EU harmonised measurement system for energy efficiency improvements." (European Commission, 2006b: 11).

In summary, assessments processes were mentioned in all examined documents on energy efficiency and therefore further support CPI (European Commission, 2006a, European Commission, 2006b; European Commission, 2006c; European Commission, 2006d; European Commission, 2008a; European Commission, 2008b; European Commission, 2010a; European Commission, 2010b; European Commission, 2010c, European Commission, 2010c; European Commission, 2011a; European Commission, 2011b; European Commission, 2011c).

***Public opinion:*** According to public opinion survey (ESRC Electricity Policy Research Group, 2011), "since the global financial crisis of 2008, energy and environmental concerns have decreased in priority, and respondents are more sceptical about government interventions in electricity markets." (ESRC Electricity Policy Research Group, 2011: 1). Nevertheless, even though energy concerns decreased in the population, the energy efficiency is still an important factor of consumer choices. According to the survey, energy efficiency is the second (right after price) most important factor in the purchasing decisions (ESRC Electricity Policy Research Group, 2011: 27). Moreover, 73,8 per cent of respondents would support a law that makes manufacturers include energy saving features, and 48,6 per cent of people asked would support such measure even if appliances would become more expensive (ESRC Electricity Policy Research Group, 2011: 29). Furthermore, the measures for energy efficiency had higher uptake than in previous years (ibid.). It becomes visible, that energy saving affords (as for example investment in efficient light bulbs and window/roof insulation) are undertaken especially in areas, where saving energy also saves money.

Additionally, Europeans have a rather high level of awareness about climate change. According to the Eurobarometer (2008), when respondents were asked to give their first direct association with the word 'environment', 'climate change' was the second most often given response with 19 per cent (Special Eurobarometer, 2008: 5). Moreover, climate change was ranked as a top environmental concern with the absolute majority of 57 per cent (Special Eurobarometer, 2008: 8). For

these reasons, public opinion on energy efficiency is compatible with the goal of CPI.

***Budgetary capacity:*** The current Multi-Annual Financial Planning Framework (MFF) covers the period 2007-2013 and defines the overall budget for this time period (Kettner at al., 2011: 27). Additionally, it assigns the categories for expenditure, which are compatible to the EU's main areas of activity (ibid.). The current MMF covers four, so called, budgetary headings: (1) sustainable growth; (2) preservation and management of natural resources; (3) citizenship, freedom, security and justice; (4) EU as a global player.

Analysing the MFF, it is important to acknowledge that this budget consist mostly of expenditure connected to the Common Agricultural Policy (Preservation and management of natural resources), where the spending for environment (Life+) accounts for barely 0.2 per cent of the budget (Kettner at al., 2011: 28). Moreover, climate change is not explicitly mentioned as a budgetary priority (ibid.). Overall environmental issues are seldom mentioned. Looking specifically at energy efficiency within the EU's cohesion funding; only €9 billion have been spent on energy efficiency measures, and €32 billion on climate friendly transport (Medarova-Bergstrom at al., 2011). In total it is not a big amount of funding, because €41 billion were allocated to road transport, which has a negative impact for the climate (ibid.). Even through recommendations for the next MFF acknowledge the importance of a stronger focus on climate change policies; the current MFF does not explicitly mention energy effectiveness as a budgetary priority (ibid.). Thereby, only a small part of the budget is allocated to policies promoting climate change mitigation (including energy efficiency) (Kettner at al., 2011). Therefore the current budgetary capacity for CPI is limited.

However, this situation might change for the better, as the European Commission has lately proposed that at least 20 per cent of the EU's budget for 2014-2020 should be spent on climate-relevant measures (Climate Action, 2013). Still, it is questionable if the European Parliament as well as the Council will agree upon this distribution.

***Accountability mechanisms:*** An extensive literature review has shown that even if the official documents mention the importance of "a system of regular monitoring

and review" (European Commission, 1998b: 6) at the European level, there does not exist an external body responsible for monitoring and evaluating the CPI progress. It was found that it is much more the obligation of the Member States to provide a monitoring of policy implementation, as shown in the Art. 7 of the Energy Efficiency Directive (European Commission, 2012: 15). Therefore, there is room for further improvement and implementation of accountability mechanisms at the European level.

***Coordination and communication mechanisms:*** The Commission recognises that integration of environment into other policies requires an involvement and cooperation of all Community institutions (European Commission, 1998b: 6). Moreover, this communication encourages adoption of "logical, practical and meaningful" (ibid.) procedures in order to enable EPI. Thereby, the "Commission should ensure that all key policy initiatives integrate concern for environment" (European Commission, 1998b: 6), and "the European Council should periodically review environmental integration into key sectoral policies" (European Commission, 1998b: 7). Moreover, "the Parliament should identify priorities for integrating environment into key policy areas" (ibid.).
Likewise, legislations and strategic documents that integrate energy efficiency and environment with many other policy areas as transport (European Commission, 2010c), buildings (European Commission, 2010d), agriculture (European Commission, 2009c) etc. have been adopted, what indicates coordination and communication between sector departments supporting CPI.

***Time perspective:*** Analysing the strategic documents in the field of energy efficiency, most of the policies have a rather short time perspective till 2020 (European Commission, 2006a, European Commission, 2006b; European Commission, 2006c; European Commission, 2006d; European Commission, 2008a; European Commission, 2008b; European Commission, 2010a; European Commission, 2010b; European Commission, 2010c, European Commission, 2010c; European Commission, 2011a; European Commission, 2011b; European Commission, 2011c). The only document with the currently longest time perspective is the *Roadmap for moving to a competitive low carbon economy in 2050* (European Commission, 2011b), which is mentioning energy efficiency as an

important policy goal, however without proposing any long term targets for the future development in this policy field. Energy efficiency issues seems to be perceived in a similar manner as the energy security issues that are "usually viewed in the short to medium time frame with concerns over securing energy supplies and returns on investments in the next decade" (Adelle at al., 2009: 49). For this reason the time perspective of policy documents in the energy efficiency policy is not supporting CPI.

***Use of knowledge and science:*** First of all, there is a consensus in European institutions that policies for climate change mitigation, which also implies energy efficiency, are needed, and constitutes a pre-condition for use of knowledge and social learning (European Commission, 2006a, European Commission, 2006b; European Commission, 2006c; European Commission, 2006d; European Commission, 2008a; European Commission, 2008b; European Commission, 2010a; European Commission, 2010b; European Commission, 2010c, European Commission, 2010c; European Commission, 2011a; European Commission, 2011b; European Commission, 2011c). Furthermore, there exist a broad access and use of scientific materials for the decision-makers, which was used in all the important strategic documents (European Commission, 2006a, European Commission, 2006b; European Commission, 2006c; European Commission, 2006d; European Commission, 2008a; European Commission, 2008b; European Commission, 2010a; European Commission, 2010b; European Commission, 2010c, European Commission, 2010c; European Commission, 2011a; European Commission, 2011b; European Commission, 2011c).

***Use of policy instruments:*** There are several measures proposed in most of the strategic documents (European Commission, 2006a, European Commission, 2006b; European Commission, 2008a; European Commission, 2008b; European Commission, 2010a; European Commission, 2010b; European Commission, 2010c, European Commission, 2010c; European Commission, 2011a; European Commission, 2011b; European Commission, 2011c). For example, in the *Energy Efficiency Plan 2011* (European Commission, 2011c), the following measures are mentioned: "measures dealing with public purchasing of goods, services and works; renovation of public buildings; energy performance contracting; split

incentives to upgrade energy performance; energy service companies; efficiency of energy generation; grid access for electricity from combined heat and power; energy saving obligations; energy audits; information services for energy consumers; and energy efficiency in grid regulation." (European Commission, 2011c: 15). The *2030 Framework for Climate and Energy Policies* (European Commission, 2013) refers to already implemented measures as for example a comprehensive legislative framework at EU level, ecodesign and energy labelling measures on energy related products, measures to address the energy consumed in the building stock (in particular heating and cooling purposes), development of energy efficient technologies, and standards for light duty vehicles, which "have led to substantial reductions in greenhouse gases emissions" (European Commission, 2013: 6).

Furthermore, energy efficiency policy goals are also connected with the EU ETS, which is a market-based document aiming CO2 reduction by trade of emissions allowance rights (Adelle at al., 2009: 42).

These policy instruments seem to be compatible, non-conflicting with other policy goals (as for example energy security or decreasing CO2 emissions), as well as mutually reinforcing, which increases the possibility of achieving a high degree of CPI.

### 5.2.2. Evaluating CPI in the EU's Energy Efficiency Policy - Policy Output Perspective

***Long-term planning horizon:*** As explained in previous section (5.2.1.), most of the current energy efficiency legislations are short-term policies with a time horizon till 2020 (European Commission, 2006a, European Commission, 2006b; European Commission, 2006c; European Commission, 2006d; European Commission, 2008a; European Commission, 2008b; European Commission, 2010a; European Commission, 2010b; European Commission, 2010c, European Commission, 2010c; European Commission, 2011a; European Commission, 2011b; European Commission, 2011c). The only document with the currently longest time perspective is the *Roadmap for moving to a competitive low carbon economy in 2050* (European Commission, 2011b), which is mentioning energy

efficiency as an important policy goal, however without proposing any long term targets for the future development in this policy field. In sum, the European policies on energy efficiency have not resulted in long-term policies, thereby decreasing the possibility for successful CPI.

***Delivery of public goods:*** The goal of energy efficiency policy implies to guarantee the well-being of the Europeans. Through decreasing greenhouse gasses emissions also the air pollution will decline, which has a beneficial impact on public health (European Environmental Agency, 2012). Moreover, the energy efficiency policies mitigate climate change, which otherwise could result in hotter and longer heat waves having severe impacts on European agriculture, water availability, as well as public health (ibid.). Over the period 1990-2010, total greenhouse gasses emissions in the EU decreased by 15.4 per cent as result of European and national states greenhouse gasses mitigation policies (European Environmental Agency, 2012: 6).

Furthermore, since 1992 the EU has started a funding instrument for the environment called LIFE. The current phase of the programme, LIFE+ runs from 2007-2013 and has a budget of €2.143 billion (Environment LIFE programme, 2013). This money is invested among others in projects connected with energy, which focuses on increasing energy efficiency awareness, information and education (ibid.).

Therefore, the EU's energy policies, energy efficiency in particular, are delivering a wide variety of public goods for the Europe's citizens and support further CPI.

***Cost-effectiveness:*** It is difficult to evaluate cost-effectiveness of a policy, because it needs resources, special skills and it is very time demanding. Therefore, for the purpose of this paper, I will evaluate the cost effectiveness of the EU's energy efficiency policies relying on already available evaluations and literature in this field. According to the European Court of Auditors (2012: 6), since 2000, the EU has spent almost €5 billion on co-financing energy efficiency measures in the Member States. The Court found that "the projects selected by Member State authorities for financing did not have rational objectives in terms of cost-effectiveness, i.e. cost per unit of energy saved." (European Court of Auditors, 2013: 1). Moreover, the Member States Czech Republic, Italy and Lithuania, the

biggest receiver for energy efficiency measures from the Cohesion Fund and European regional development fund (2007–13), have been accused of using the money for public buildings refurbishment, thereby regarding energy efficiency as a secondary concern (ibid.). Finally, the audit report concludes: "the audited energy efficiency projects in public buildings were not cost-effective." (European Court of Auditors, 2012: 24).

Another important point is made by Deloitte (2011: 193), stressing the relatively small size of the budget in relation to overall spending on sustainable energy. Thereby, the increase in the budget would better facilitate achievement of the programmes objectives, in particular concerning the "limited time remaining to achieve these before 2020 and the delays incurred to date vis-à-vis certain sustainable energy development objectives." (Deloitte, 2011: 193).

Based on these findings I assume a rather low support of this factor for CPI.

***Environmental effectiveness:*** The production and consumption of energy significantly impacts the environment (European Environmental Agency, 2012). A decreasing energy consumption would unfold a positive impact on the ecosystems. According to the European Environmental Agency (2012: 6), total greenhouse gasses emissions in the EU decreased by 15.4 per cent between 1990 and 2010 (Figure 3.).

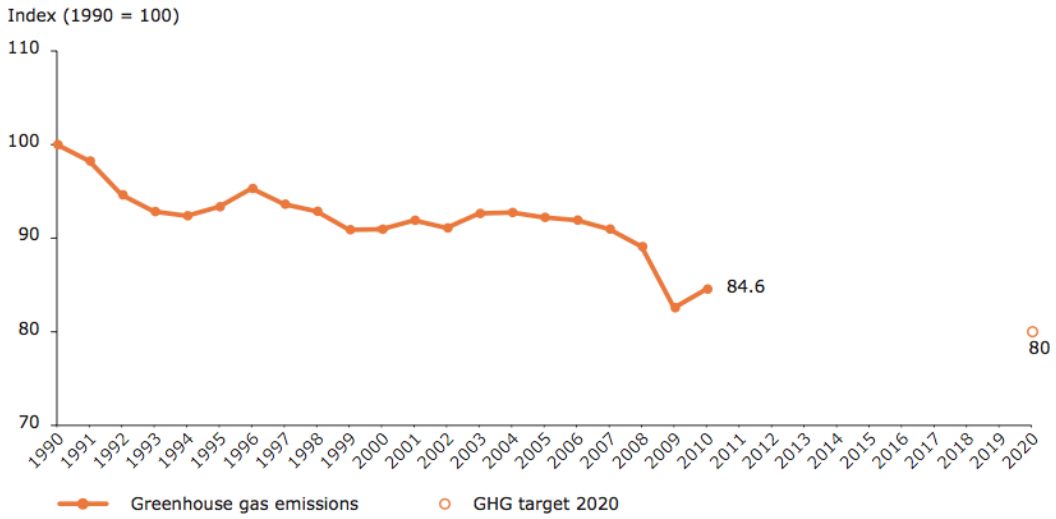


**Figure 3:** The greenhouse gases domestic emissions in the EU between 1990 and 2010. Source: European Environmental Agency, 2012: 6.

However, it is evident that the sharp fall in 2009 was caused by the financial crisis and not by the EU's climate policies (IEA/OECD, 2012: 7). If the decline in 2009 is not taken into account the level of greenhouse gasses emissions would be at least 5 percentage points higher than otherwise. This would result in a reduction between 1990 and 2010 of barely 10 per cent. Therefore the environmental effectiveness of the EU's energy policies in respect to climate change mitigation can be evaluated as insufficient.

***Precaution:*** The whole energy efficiency policy is based on a precautionary principle - its goal is to not exceed the critical thresholds, and thereby assure that in future enough resources for a functioning of our economy will be available as well as the consequences from extreme events caused by climate change will be mitigated (European Commission, 2006b). This factor further supports CPI.

***International cooperation:*** The most prominent international agreement, strongly connected with energy efficiency, is the Kyoto Protocol, which sets binding obligations on greenhouse gas reduction in industrialised countries over the period 2008-2012. In this framework, the EU agreed on an 8 per cent reduction of their greenhouse gasses, which should be achieved through a 'burden sharing' agreement with at this time 15 Member States.

In addition, EU is a member of the International Partnership for Energy Efficiency Cooperation, which is a high-level international forum on cooperation in the field of energy efficiency on a global scale (IPEEC, 2013).

Moreover, in 2011 the European Commission has implemented a new Agreement on the EU-US ENERGY STAR programme for office equipment with the United States (European Commission, 2011). This programme was first introduced for the time period 2001-2006 with the goal to encourage producers and consumers in purchasing energy efficient office products (ibid.).

The international cooperation of the EU with third countries was further endorsed through the Communication *On security of energy supply and international cooperation* (European Commission, 2011d). Therefore, this factor is supporting CPI.

***Transparency:*** A high level of transparency in the EU is assured through well-developed online information-distribution systems, as for example *ec.europa.eu/transparency*, which is giving access to legislation, open consultations and other documents, as well as providing information about the EU's institutions and officials. Therefore, this factor is supporting CPI.

***High level of political commitments:*** Energy efficiency is a key element of EU's energy policy and there are a great number of strategic documents on this issue already in place, which forecast further development in this field. However it is difficult to evaluate the level of political commitment, as current policies are still on-going (mostly till 2020) and few evaluations are now available at the present day. Concerning one of the main policy goals in this sector, 20 per cent energy saving by 2020 (European Commission, 2011c), recent estimations of the Commission have already pointed out that the "EU is on course to achieve only half of the 20% objective" (European Commission, 2011c: 2). However, the cause for this situation seems to lie in the insufficient effort of some Member States to reach the 20 per cent objective (ibid.).
For this reason, even through the level of political commitment is lower in the policy output than during the policy process, it is still ambitious and supporting CPI.

***Improved governance:*** Considering the energy efficiency governance at the European level over the period 1990-2010 a significant increase in the number of energy efficiency measures in all four sectors and in the general cross-cutting measures has taken place (Figure 4.). Thereby, in sectoral comparison, the industrial sector had the lowest improvement, nevertheless it also is characterised by a notable increase in the number of measures over time.

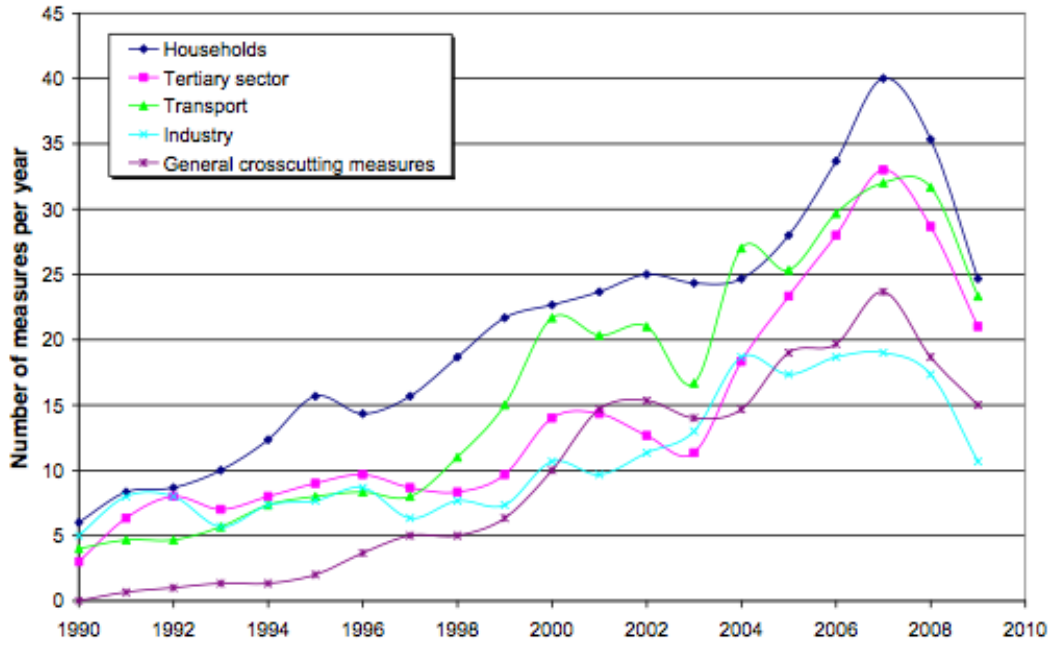


**Figure 4:** Number of energy efficiency measures in all sectors over time. Source: MURE database.

Furthermore, it should be analysed if there has been some kind of changes in the institutional setting of the EU. An especially important alteration was the creation of a Directorate-General for Energy on the 17th of February 2010. Before it was part of Directorate-General for Transport, and now it become an independent body, thereby increasing the importance of the energy policy and creating other institutions for supporting policy-making and implementation in these policy sector (as for example the European Energy Research Alliance, or the International Partnership for Energy Efficiency Cooperation).

***Resource and capacity building:*** The process of resource and capacity building might include the development of human, material and financial resources (OECD, 2001b). Considering the two first areas of possible development (human and material), the Intelligent Energy - Europe programme should be mentioned. It was launched in 2003 lasting 10 years and offering a budget of €730 million to fund projects promoting EU energy efficiency and renewable energy policies (Intelligent Energy Europe, 2013). This programme is open to all EU Member States as well as Norway, Iceland, Liechtenstein, Croatia and the Former Yugoslav Republic of Macedonia (ibid.). Since 2003, more than 600 projects across Europe have been co-funded by the Intelligent Energy - Europe programme (ibid.).

Thereby, these projects have covered various areas as education and electrical appliances (ibid.).

Analysing the financial resources put in place for energy efficiency policies, the findings indicate a small amount of funding in the current MFF (2007-2013). The budget consists mostly of expenditure connected to the Common Agricultural Policy (Preservation and management of natural resources), and the spending for environment (Life+) accounts just for 0.2 per cent of the budget (Kettner at al., 2011: 28). Moreover, neither the climate change nor energy efficiency is explicitly mentioned as a budgetary priority (ibid.). Considering energy efficiency within the EU's cohesion funding; only €9 billion have been spent on energy efficiency measures, and €32 billion on climate friendly transport (Medarova-Bergstrom at al., 2011). However, in total it is not a significant amount of funding, as €41 billion were allocated to road transport, which has a negative impact for the climate (ibid.). Thereby, only a small part of the budget is allocated to policies promoting energy efficiency, thus limiting the CPI.

Therefore, it is nowadays widely acknowledge that the funding and financing for climate change policies needs to be improved (Energy Efficiency Watch, 2009: 9). The European Commission has lately proposed that at least 20 per cent of the EU's budget for 2014-2020 should be spent on climate-relevant measures (Climate Action, 2013). Still, it is questionable if the European Parliament as well as the Council will agree upon this distribution. For this reasons, the resource and capacity building is not supporting CPI.

***Implementation instruments:*** According to the Energy Efficiency Watch survey (2012), which consisted of 655 questionnaires combined with qualitative survey with experts from all 27 Member States, energy audits are one of the most successful measures for implementing energy efficiency policies (see Figure 5.). However, this measure could be further improved (Energy Efficiency Watch, 2012: 10).

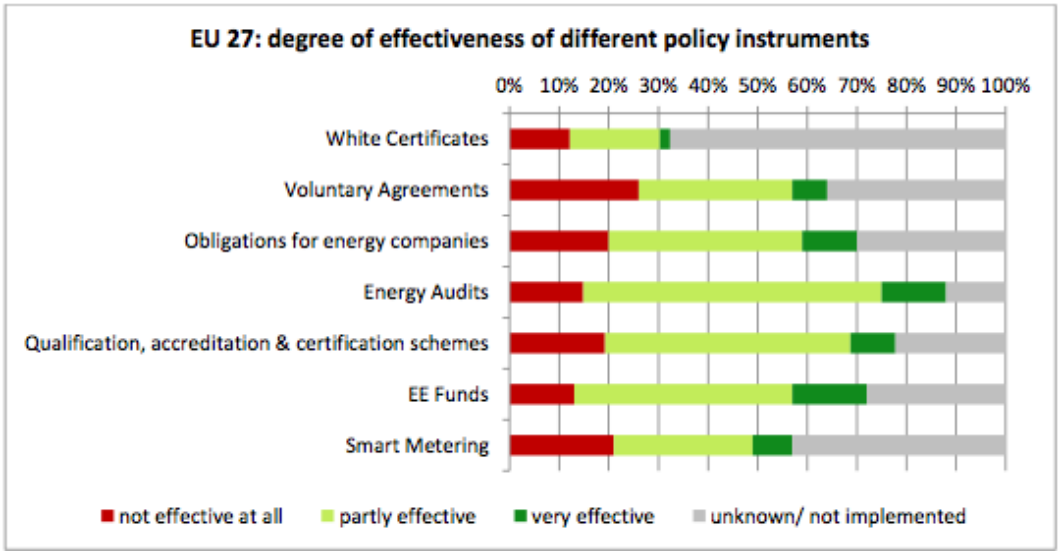


**Figure 5:** The degree of effectiveness of different policy instruments in the EU. Source: Energy Efficiency Watch Survey report, 2012: 10.

Furthermore, it is interesting to notice the big percentage of the measures are unknown or have not been implemented, what is the responsibility of the Member States. However, in comparison all of the implemented measures are considerably more partly/very effective than not effective at all.

Moreover, there is a variety of different measures available (thus not all are presented in the Figure 5.). The *2030 Framework for Climate and Energy Policies* (European Commission, 2013), mention before, implemented measures as for example a comprehensive legislative framework at EU level; ecodesign and energy labelling measures on energy related products; measures to address the energy consumed in the building stock (in particular heating and cooling purposes); development of energy efficient technologies; as well as standards for light duty vehicles, which "have led to substantial reductions in greenhouse gases emissions" (European Commission, 2013: 6). Therefore, this factor is rather supporting CPI.

***Accountability mechanism:*** There does not exist an external body just responsible for monitoring and evaluating of CPI progress at the European level. In fact, it is much more the obligation of the Member States to provide a monitoring of policy implementation, as shown in the Art. 7 of the Energy Efficiency Directive (European Commission, 2012: 15). Yet, due to the lack of harmonised methodologies for monitoring and evaluating, the quality of Member States

accountability mechanisms differs considerably, what makes it difficult to compare and draw conclusion about general trends (Energy Efficiency Watch, 2009: 75). Even the Commission itself recognises a lack of harmonised methodologies for monitoring progress and impacts on the Member State level, which are necessary for achieving energy efficiency targets (European Commission, 2013: 5). Therefore, there is potential for further improvement of accountability mechanisms at the European level as well as, in case of some Member States, at the national level (Energy Efficiency Watch, 2009).

***Greening of sector policies:*** Considering the sector policies, there have been improvements in energy efficiency in industry, household, transport policy fields (European Environmental Agency, 2013a).

From 1990 till 2010 the energy efficiency in industry has improved in Europe by 29 per cent (at an annual average rate of 1.7 per cent/year) (ibid.). Therefore, the energy consumption in the paper, steel and chemicals industry, which constitutes the three most energy intensive sectors, has decreased per unit of physical output, by 11 per cent, 27 per cent, and 53 per cent respectively (ibid.).

Over the period 1990-2010, energy efficiency in the household sector increased by 27 per cent (at an average rate of 1.6 per cent/year) (ibid.). Especially important for the improvement was the progress made due space heating (1.8 per cent/year) and large electrical appliances (1.4 per cent/year) (ibid.).

In the transport sector, the energy efficiency increased by 15 per cent over the period 1990-2010 (at an annual rate of 0.8 per cent/year) (ibid.). Thus, this increase in efficiency results from "the combined effect of higher fuel prices and several types of EU and national policy measures" (ibid.). For this reason, this factor is supporting CPI.

***Changes in states and impacts:*** According to European Environmental Agency publication on the *Progress on energy efficiency in Europe* (2013a), over the period 1990-2010 energy efficiency for final consumers has improved by 20 per cent, at an annual rate of 1.1 per cent/year (see Figure 6. below). The energy efficiency index ODEX measures "the energy efficiency progress by main sector (industry, transport, households) and for the whole economy (all final consumers). For each sector, the index is calculated as a weighted average of sub-sectoral

indices of energy efficiency progress; sub-sectors being industrial or service sector branches or end-uses for households or transport modes." (European Environmental Agency, 2013b). Thus, a value of ODEX equal to 90 means a 10 per cent energy efficiency gain (ibid.). Moreover, it constitutes the most often used indicator to measure energy efficiency (ibid.). Figure 6 visualises that over the period 1990-2010 energy efficiency for final consumers in EU has improved by 20 per cent, at an annual average rate of 1,1 per cent/year, as measured by ODEX index (European Environmental Agency, 2013a). However, since 2007 the progress on improving energy efficiency has significantly slowed down and the trend was even reversed in 2009, because of the economic recession (ibid.). For this reason, between 2005 and 2010, energy efficiency on the European level improved only by 0.9 per cent/year on average (ibid.).

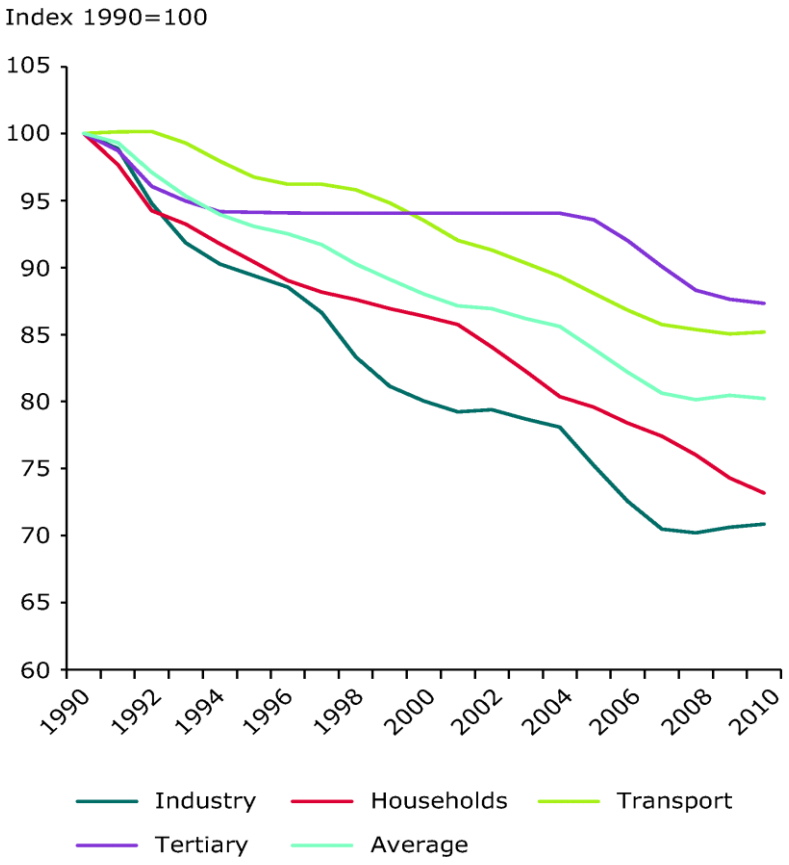


**Figure 6:** Progress on energy efficiency in the EU. Source: European Environmental Agency (2013).

Furthermore, recent Commission estimates imply that "the EU is on course to achieve only half of the 20% objective" (European Commission, 2011c: 2) of energy saving till 2020.
Comparing the increased amount of legislation in the field of energy efficiency in last years (Figure 4.) to the resulting rather small progress in improving energy efficiency in Europe, as well as the difficulty of some Member States to reach the goal of 20 per cent energy saving by 2020 (European Commission, 2011c: 2), I would acknowledge an rather insufficient policy output.

## 5.3. The Degree of CPI in the EU's Efficiency Energy Policy - Final Results

After evaluating each of the factors according to whether it supports the CPI in the EU's energy efficiency policy or not, the results have been displayed in Table 1.
I will first analyse the results for the policy process and then for the policy output.
Accordingly, the evaluation of the thirteen factors describing CPI as a policy process resulted in four factors not supporting CPI and more than double (nine) factors, which support CPI into the EU's energy efficiency policy. Since more than half of the factors are supporting CPI into this policy field, a *rather high degree* of CPI in the EU's energy efficiency policy can be acknowledged. This result is further strengthened, because the three factors (*institutional setting, policy issue characteristic, level of political commitment*), which importance have been often mentioned in the literature and which are also well grounded in theory, are in favour of CPI in the EU's energy efficiency policy. Interestingly, while recent strategic documents for energy efficiency refer to climate change as one of most important guiding principles within the EU's energy policy, this point of view is not reflected in the EU budget and needs to be changed in the future (to turn rhetoric into action). Further areas of improvement include *accountability measures, time perspective,* and *international context*.

On the other hand, analysing the fourteen factors describing CPI as a policy output, I have identified six factors not supporting CPI and eight factors in support of CPI into the EU's energy policy. The areas, which need further improvement,

include *long term planning horizon, cost-effectiveness, environmental effectiveness, resource and capacity building, accountability mechanism,* as well as *changes in states and impacts.* In this case a bare majority of eight factors supporting CPI into this policy field has proved a *rather high degree* of CPI in the EU's energy efficiency policy. It is remarkable, that even through the EU has a high level of political commitments and a large amount of strategic documents, its policy output (especially *changes in states and impacts*) is at lower level than expected. Nevertheless, the EU's policies as well as measures for energy efficiency have proven to be largely successful.

The fact that the analysis of rather different sets of factors (policy process/output perspective) has produced the same results further supports the *rather high degree* of CPI in the EU's energy efficiency policy. Furthermore, factors, which were similar in both analysed groups, stayed the same during the policy process as well as in the final policy output. This was the case in the *level of political commitment, accountability mechanism, budgetary capacity/resource and capacity building, time perspective/ long-term planning horizon, use of policy instruments/implementation instruments.* For example, the level of political commitment was high during the policy process and it stated high also after policies implementation.

| | FACTORS | *Case study:* **EU's Energy Efficiency Policy** | |
|---|---|---|---|
| | | ***not supporting CPI*** | ***supporting CPI*** |
| **POLICY PROCESS** | Institutional setting | _ | **X** |
| | Policy issue characteristic | _ | **X** |
| | Level of political commitment | _ | **X** |
| | International context | **X** | _ |
| | Stakeholder's involvement | _ | **X** |
| | Assessment processes | _ | **X** |
| | Public opinion | _ | **X** |
| | Budgetary capacity | **X** | _ |
| | Accountability mechanism | **X** | _ |
| | Coordination & communication mechanism | _ | **X** |
| | Time perspective | **X** | _ |
| | Use of knowledge and science | _ | **X** |
| | Use of policy instruments | _ | **X** |
| **POLICY OUTPUT** | Long-term planning horizon | **X** | _ |
| | Delivery of public goods | _ | **X** |
| | Cost-effectiveness | **X** | _ |
| | Environmental effectiveness | **X** | _ |
| | Precaution | _ | **X** |
| | International cooperation | _ | **X** |
| | Transparency | _ | **X** |
| | High level of political commitments | _ | **X** |
| | Improved governance | _ | **X** |
| | Resource & capacity building | **X** | _ |
| | Implementation instruments | _ | **X** |
| | Accountability mechanisms | **X** | _ |
| | Greening of sector policies | _ | **X** |
| | Changes in states and impacts | **X** | _ |

**Table 1.** Evaluation framework for CPI in other policy area, whereby "X" defines if the factor is supporting or not CPI. Source: Own illustration.

# 6. Conclusion

Climate change represents one of the most serious threats to international environmental, social, economic security and the well-being of human kind (IPCC, 2007). However, the EU is fostering it with its fossil fuel combustion accounting for 98 per cent of CO2 emissions, including energy production and use, which accounts for more than 70 per cent of CO2 emissions, and the rest coming from the transport sector (DG for Energy, 1999). Moreover, fossil fuels are largely externally sourced, thus increasing the EU's dependency upon a handful of suppliers, many of which are volatile politically or economically. This dependency on imported fossil fuels is set to grow from 50 per cent today to 70 per cent in 2030 under a business as usual scenario (European Commission, 2006a).

For this reasons, the energy sector has a tremendous impact on fostering climate change and constitutes one of the highest potential to cut CO2 emissions. This potential has been recognised by the EU, which declares energy efficiency as one of four main priorities for the EU's energy policy (European Union, 2008). Considering the rising energy prices, an increased dependency on energy imports as well as the effect of climate change, as a result the energy efficiency policies are gaining on importance (Adelle at al., 2009: 31). Moreover, successful implementation of energy efficiency policies would also increase the international competitiveness of European industries (Energy Efficiency Watch, 2009: 5).

In this thesis I have discussed the concept and factors influencing CPI and established an analytical framework for evaluating the degree of CPI in policies of the EU. Thereby, the goal was to create a user-friendly tool comprising all-important factors as well as a simplified evaluation methodology. In addition, the new framework was applied to evaluate the degree of the EU's energy efficiency policy, which has not been so far evaluated from policy process as well as from policy output perspective.

To assess the level of CPI presents a considerable challenge and therefore I have investigated factors, which help to explain CPI in the EU's policies and thus facilitate comprehensive as well as reliable findings. I have presented the factors according to two different perspectives on climate policy integration: CPI as a

policy process and CPI as a policy output. To analyse the policy process perspective, following explanatory factors were assessed: *institutional setting; policy issue characteristic; level of political commitment; international context; stakeholder's involvement; assessment processes; public opinion; budgetary capacity; accountability mechanism; coordination & communication mechanism; time perspective; use of knowledge and science; use of policy instruments.* Thereby, the three first factors (*institutional setting; policy issue characteristic; level of political commitment*) have been most often mentioned in the literature and are also well grounded in theory, what makes them particularly important for evaluating CPI.

In order to establish the CPI as policy output, the analytical framework comprised following factors: *long-term planning horizon; delivery of public goods; cost-effectiveness; environmental effectiveness; precaution; international cooperation; transparency; high level of political commitments; improved governance; resource & capacity building; implementation instrument; accountability mechanisms; greening of sector policies; and changes in states and impacts.*

In general the new framework has been proven to be a useful tool for evaluating the degree of CPI in other policy areas at the European level. The division into policy process and policy output ensures a comprehensive analysis and guarantee that a broader perspective on the issue under consideration. Additionally, a big variety of factors (thirteen for policy process and fourteen for policy output) further enhance the reliability of the findings.

The empirical research has indicated a rather high degree of CPI in the EU's energy efficiency policy. The fact that the analysis of rather different sets of factors for policy process and policy output perspective has produced the same results, increases the findings reliability. The analysis has revealed that while recent strategic documents for energy efficiency refer to climate change as one of most important guiding principles within the EU's energy policy, this point of view is not reflected in the EU's budget. Furthermore, even though the EU has a high level of political commitments and a big amount of strategic documents; its policy output can be regarded to be lower than expected. Nevertheless, the EU's policies as well as measures put in place have proven to be largely successful in decreasing CO2 emissions.

It should be emphasised, while discussing CPI in the EU's energy policies that the EU as a supra-national body has only limited competencies in energy policy sector (Collier, 2002: 177). It is up to the Member States to introduce an energy mix or taxation on energy products. This power relationship is stressed by Collier (2002): "While around 100 directives, regulations and decisions are in existence relating to energy, these have been relatively inconsequential, with the real power remaining with the Member States." (Collier, 2002: 177). Thereby, Member States have been very reluctant to hand over their sovereignty in the field of energy policy (ibid.). Consequently, even if there is a high political commitment of the EU to increase energy efficiency, it will only take full effect if Member States implement and enforce the European legislations. Thus, the output of European policies is heavily dependent on the effectiveness of actions taken on the national level.

However, this study has also its shortcomings. First of all, some of the explanatory factors (*accountability mechanism; cost-effectiveness; and resource & capacity building*) were difficult to determine. Therefore it might be useful to operationalize them into sets of measurable attributes. Secondly, this conceptual framework would benefit from further testing and application, in order to clarify the relationship between policy process and policy output and if both or maybe just one of these perspectives is sufficient for evaluating policy effectiveness. Finally, I have chosen energy efficiency as it is one of the EU's priority policies in the field of energy, however, it these policy goals are generally in synergy with climate change objectives and therefore a rather high degree of CPI could be expected. It would be interesting to evaluate CPI in policies, which have much less in common and where conflict of interest is more prevalent (for example agricultural policy).

Research on CPI in the EU is still in its infancy. My framework constitutes another step in diminishing this gap. Much potential lies in expanding this research domain and applying the analytical framework outlined above to the examination of CPI in other policy sectors. Additionally, an analysis of the discrepancies between variables as well as broader research on the impact of CPI on furthering the European integration project would provide interesting research task for the future.

# References


Adelle, C.; Pallemaerts, M. and Chiavari, J. (2009). *Climate Change and Energy Security in Europe - Policy Integration and its Limits.* Swedish Institute for European Policy Studies, No. 4.

Aspinwall, M.D. and Schneider, G. (2000). *Same Menu, Seperate Tables: The Institutionalist Turn in Political Science and the Study of European Integration.* European Journal of Political Research 38(1).

Briassoulis, H. (2004). *Policy Integration for Complex Policy Problems: What, Why and Wow.* Paper presented at the 2004 Berlin Conference "Greening of Policies: Interlinkages and Policy Integration" Berlin, December 3-4, 2004.

Brophy H.A.; Jamasb, T.; Plarchkov, L. and Pollitt, M.G. (2011). *Demand-side Management Strategies and the Residential Sector: Lessons from International Experience.* Cambridge Working Papers in Economisc 1060, Cambridge.

Collier, U. (1997). *Energy and the Environment in the European Union.* Aldershot: Ashgate.

Collier, U. (2002). *EU Energy Policy in a Changing Climate.* In: Lenschow, A. (2002). Environmental Policy Integration: Greening Sectoral Policies in Europe. Earthscan Publications Ltd. London.

Climate Action (2013). What is EU doing about Climate Change? Available at: ec.europa.eu/clima/policies/brief/eu/index_en.htm Accessed: 20.04.13

Dupont, C. and Oberthür, S. (2011). *Insufficient Climate Policy Integration in EU Energy Policy: the Importance of the Long-Term Perspective.* Institute for European Studies, Brussels.

Energy Efficiency Watch (2009). *EEW Final Report on the Evaluation of National Energy Efficiency Action Plans.* Berlin.

Europa (2010). *The Principle of Cooperation Between the Institutions.* Available at: http://europa.eu/legislation_summaries/institutional_affairs/decisionmaking_process/l10125_en.htm Accessed: 18.04.13.

European Commission (1973). *Guidelines and Priority Actions for Community Energy Policy.* Bulletin of the European Communities. Suplement 6/73. Brussels.

European Commission (1992a). *Towards Sustainability*. COM (1992) 23 final, Brussels.

European Commission (1992b). *A Community Strategy to Limit Carbon Dioxide Emissions and to Improve Energy Efficiency.* Communication from the Commission. COM (1992), 246 final, Brussels.

European Commission (1995). *White Paper - An Energy Policy for the European Union.* COM (1995) 682, Brussels.

European Commission (1998a). *Strengthening Environmental Integration within Community Energy Policy*. COM (1998) 571, Brussels.

European Commission (1998b). *A Strategy for Integrating Environment into EU Policies.* COM (1998) 333, Brussels.

European Commission (2000a). *Green Paper: Towards a European Strategy for the Security of Energy Supply.* COM (2000) 769, Brussels.

European Commission (2000b). *On EU Policies and Measures to Reduce Greenhouse Gas Emissions: Towards a European Climate Change Programme (ECCP).* COM (2000) 88, Brussels.

European Commission (2000c). *Action Plan to Improve Energy Efficiency in the European Community.* COM (2000) 247, Brussels.

European Commission (2000d). *Green Paper on a EU Emissions Trading Within the European Union.* COM (2000) 87, Brussels.

European Commission (2001). *On the Promotion of Electricity Produced from Renewable Sources in the Internal Electricity Market.* COM (2001) 77, Brussels.

European Commission (2004). *Renewable Energy: Progressing Towards the 2020 Target.* COM (2004) 0031 final, Brussels.

European Commission (2005). *Green Paper on Energy Efficiency, Doing More with Less.* COM (2005) 265, Brussels.

European Commission (2006a). *Green Paper: A European Strategy for Sustainable, Competitive and Secure Energy.* COM (2006) 105, Brussels.

European Commission (2006b). *Action Plan for Energy Efficiency.* COM (2006) 545, Brussels.

European Commission (2006c). *The Global Energy Efficiency and Renewable Energy Fund.* COM (2006) 583, Brussels.

European Commission (2006d). *Energy End-Use Efficiency and Energy Services*. COM (2006) 32, Brussels.

European Commission (2006e). *Towards a European Strategic Energy Technology Plan.* COM(2006)847, Brussels.

European Commission (2007a). *Limiting Global Climate Change to 2 Degrees Celsius the way ahead for 2020 and beyond.* COM (2007) 2, Brussels.

European Commission (2007b). *An Energy Policy for Europe*. COM (2007) 1, Brussels.

European Commission (2008a). *Energy Efficiency: Delivering the 20% Target.* COM (2008) 778, Brussels.

European Commission (2008b). *Second Strategic Energy Review: a EU Energy Security and Solidarity Action Plan.* COM (2008) 781, Brussels.

European Commission (2008c). *Energy Efficiency for the 2020 Goal*. COM (2008) 772, Brussels.

European Commission (2008d). *The Climate Action and Renewable Energy Package.* COM (2008) 0085 final, Brussels.

European Commission (2009a). *Scoping Study on Cost- Effectiveness of EU Environmental Policy.* Available at: ec.europa.eu/environment/enveco/economics_policy/pdf/scoping_study2009.pdf Accessed: 29.04.13.

European Commission (2009b). *Investing in the Development of Low Carbon Technologies (SET-Plan).* COM (2009) 519, Brussels.

European Commission (2009c*). On the Promotion of the Use of Energy from Renewable Sources.* COM (2009) 30, Brussels.

European Commission, (2010a). *Europe 2020, A Strategy for Smart, Sustainable and Inclusive Growth.* COM (2010) 2020, Brussels.

European Commission (2010b). *Energy 2020. A Strategy for Competitive, Sustainable and Secure Energy.* COM (2010) 639, Brussels.

European Commission (2010c). *Energy Infrastructure Priorities for 2020 and Beyond - A Blueprint for an Integrated European Energy Network,* COM (2010) 677, Brussels.

European Commission (2010d). *Energy Performance of Buildings.* COM (2010) 31, Brussels.

European Commission (2011a). *Proposal for a Directive on energy efficiency and repealing Directives 2004/8/EC and 2006/32/EC*. COM (2011) 370, Brussels.

European Commission (2011b). *A Roadmap for Moving to a Competitive Low Carbon Economy in 2050.* COM (2011) 112, Brussels.

European Commission (2011c). *Energy Efficiency Plan 2011.* COM (2011) 109, Brussels.

European Commission (2011d). *On Security of Energy Supply and International Cooperation - the EU Energy Policy: Engaging with Partners Beyond our Borders.* COM (2011) 539, Brussels.

European Commission (2012). *Energy Efficiency Directive.* COM (2012) 125, Brussels.

European Commission (2013). *A 2030 framework for climate and energy policies*. COM (2013) 169, Brussels.

European Council (1999). *A Strategy for Integrating Environmental Aspects and Sustainable Development into Energy Policy.* Available at: www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/misc/08490.en1.html Available: 29.04.13.

European Court of Auditors (2012). *Cost-Effectiveness of Cohesion Policy Investments in Energy Efficiency.* ECA, Luxembourg.

European Court of Auditors (2013). *EU Energy Efficiency: investment targets not achieved; average pay back period exceeds 50 years (in extreme cases 150 years).* ECA, Luxemburg.

European Environmental Agency (2001). *Reporting on environmental measures: Are we being effective?* EEA, Copenhagen.

European Environmental Agency (2004). *Towards a new EU framework for reporting on environmental policies and measures - Paper 1: Defining criteria for evaluating the efectiveness of EU environmental measures.* EEA, Copenhagen.

European Environmental Agency (2012). *Annual European Union greenhouse gas inventory 1990-2010 and inventory report 2012.* EEA, Copenhagen.

European Environmental Agency (2013a). *Progress on energy efficiency in Europe (ENER 037).* Available at: http://www.eea.europa.eu/data-and-maps/indicators/progress-on-energy-efficiency-in-europe/assessment Accessed: 22.04.13.

European Environmental Agency (2013b). *Definition of the energy efficiency index ODEX.* Available at: http://www.monitoringstelle.at/fileadmin/docs/de/Diverse_Dokumente/Definition_Odex.pdf Accessed: 22.04.13.

Environment LIFE programme (2013). *The LIFE Programme*. Available at: ec.europa.eu/environmental/life/about/ Accessed: 23.04.13.

Eurostat (2009). *Panorama of Energy: Energy Statistics to Support EU Policies and Solutions. European Communities.* Eurostat, Luxembrg.

ESRC Electricity Policy Research Group (2011). *2010 EPRG Public Opinion Survey: Policy Preferences and Energy Saving Measures.* Cambridge Working Paper in Economics, No. 1149. Cambrige.

Evans, J.P. (2012). *Environmental governance.* Routledge, London.

European Union (2008). *Treaty on the functioning of the European Union*. Brussels.

Gilardi, F. (2012). *Transnational diffusion: Norms, ideas, and policies.* In: Walter Carlsnaes, Thomas Risse and Beth Simmons (eds) (2012), Handbook of International Relations, Thousand Oaks, SAGE Publications, pp. 453–477.

Haas, P.M. and Haas Ernst, B. (1995). *Learning to learn: improving international governance.* In: Global Governance, Vol. 1., pp. 255-285.

Hill, Ch. and Smith, M. (2011). International Relations and the European Union. Oxford University Press (2nd ed).

IEA/OECD (2012). CO2 Emissions from Fuel Combustions – Highlights. IEA, Paris.

IPCC (2007). *Summary for Policymakers*. In: Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, pp. 7-22.

International Partnership for Energy Efficiency Cooperation (IPEEC) (2013). *IPEEC members.* Available at: www.ipeec.org/MEMBERS.aspx Accessed: 22.04.13.

Inteligent Energy Europe (2013). *IIE programme*. Available at: ec.europa.eu/energy/intelligent/about/iee-programme/index_en.htm Accessed: 26.04.13.

Jordan, A., and Lenschow, A. (2008). *Environmental Policy Integration: an Innovation in Environmental Policy?* In: A. Jordan & A. Lenschow (Eds.), Innovation in Environmental Policy? Integrating the Environment for Sustainability (pp. 313-341). Cheltenham: Edward Elgar Publishing Ltd.

Kulovesi, K.; Morgera, E., and Muñoz, M. (2010). *The EU's Climate and Energy Package: Environmental Integration and International Dimensions.* Edinburgh Europa Paper Series, 2010 (38).

Lafferty, W.M. and Hovden, E. (2003). *Environmental Policy Integration: Towards a Analytical Framework.* Environmental Politics, Vol 12, No.3. London.

Lenschow, Andrea (2002a). *Environmental Policy Integration: Greening Sectoral Policies in Europe.* Earthscan Publications Ltd. London.

Lenschow, Andrea (2002b). *'Greening' the European Union - are there lessons to be learned for international environmental policy?* In: Global Environmental Change 12. pp. 241-245.

Karp, L. and Tsur, Y. (2011). *Time perspective and climate change policy.* Journal of Environmental Economics and Management, Vol. 62. pp. 1-14.

Medarova-Bergstrom, K.; Volkery, A.; Schiellerup, P., Withana, S. and Baldock, D. (2011). *Strategies and Instruments for Climate Proofing the EU Budget.* IEEP, Brussels.

Mickwitz, P.; Aix, F.; Beck, S.; Carss, D.; Ferrand, N.; Görg, C.; Jensen, A.; Kivimaa, P.; Kuhlicke, C.; Kuindersma, W.; Máñez, M.; Melanen, M.; Monni, S.; Branth Pedersen, A.; Reinert, H.; and van Bommel, S. (2009). *Climate Policy Integration, Coherence and Governance*. PEER Report No. 2. Available at: biocityleipzig.com/news-de/1m235-peer-report2.pdf Accessed: 29.04.13.

Mitchell, R.B. (1994). *Regime Design Matters: Intentional Oil Pollution and Treaty Compliance.* International Organization, Vol. 48, No.3. pp. 425-458.

Moravcsik, A (1995). *Liberal Intergovernmentalism and Integration: a Rejoynder.* In: Journal of Common Market Studies. Vol. 33, No. 2.

Moravcsik, A. (1999). *The Choice for Europe: Social Purpose and State Power from Messina to Maastricht.* London: UCL Press.

Moravcsik, A. and Schimmelfennig, F. (2009). *Liberal Intergovernmentalism.* In A. Wiener and T. Diez (Eds.), European Integration Theory (2nd ed.). Oxford: Oxford University Press.

MURE database (2013). *MURE II Database on Energy Efficiency Policies and Measures*. Available at: www.muredatabase.ord/index.htm Accessed: 26.04.13.

Niemann, A. and Schmitter, P.C. (2009). *Neofunctionalism.* In: Wiener, A. and Diez, T. (Eds.), European Integration Theory (Second ed.). Oxford: Oxford University Press.

Nilsson, M. and Persson, A. (2003). *Framework for Analysing Environmental Policy Integration.* Journal of Environmental Policy & Planning, Vol. 5, No.4.

OECD (2001a). *Sustainable Development: Critical Issues.* Policy Brief. OECD, Paris.

OECD (2001b). *Policies to Enhance Sustainable Development.* OECD, Paris.

OECD (2002). *Improving Policy Coherence and Integration for Sustainable Development: A Checklist.* OECD, Paris.

Persson, A. (2004). *Environmental Policy Integration: an Introduction. PINTS - Policy Integration for Sustainability*. Background Paper (Draft). Stockholm Environment Institute.

Pierson, P. (1996). *The Path to European Integration: a Historical Institutionalist Analysis*. Comparative Political Studies, Vol. 29, No.2.

Pollack, M.A. (2009). *New Institutionalism and European Integration.* In: Wiener, A. and Diez, T. (Eds.), European Integration Theory (Second ed., pp. 67-87). Oxford: Oxford University Press.

Rietig, K. (2012). *Climate Policy Integration Beyond Principled Priority: a Framework for Analysis.* Centre for Climate Change Economics and Policy Working Paper No. 99.

Sartori, G. (1970). *Concept Misformation in Comparative Politics.* The American Political Science Review, Vol. 64, No. 4 (Dec., 1970), pp. 1033-1053.

Solorio, I. (2011). *Bridging the Gap between Environmental Policy Integration and the EU's Energy Policy: Mapping out the 'Green Europeanisation' of Energy Governance*. Journal of Contemporary European Research. Vol. 7, No.3, pp. 396-415.

Special Eurobarometer (2008). Attitudes of European citizens towards the environment. European Commission, No. 295. Available at: ec.europa.eu/public_opinion/archives/ebs_295_en.pdf Accessed: 29.04.13.

Tosun, Jale, and Israel Solorio. (2011). *Exploring the Energy-Environment Relationship in the EU: Perspectives and Challenges for Theorizing and Empirical Analysis*. In: Tosun, Jale, and Israel Solorio (eds) Energy and Environment in Europe: Assessing a Complex Relationship, European Integration online Papers (EIoP), Special Mini-Issue 1, Vol. 15, No. 7.

Underdal, A. (1980). Integrated Marine Policy: What? Why? How? Marine Policy, Vol. 4, No.3. pp. 159-169.

Wiener, A. and Diez, T. (2009). *European Integration Theory*. Oxford University Press.