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Bachelor's Thesis

Gaining Transfer Options through Administrative Insight

A Comparative Analysis of the Administrative Processes Behind California's and the European Union's Latest TV Efficiency Regulations.

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Declaration

I declare on oath that I authored the following paper independently and without assistance and that I only used the resources indicated in the paper.

All extracts that have been copied from publications, analogously or literally, are marked as such.

David C. Stephenson
Berlin, 31 August 2010 .....

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Abstract

As the Globalization-related interconnectedness of national politics has become a phenomenon of modern-day governance, so have the political problem fields, which governments are confronted with, become more and more similar. As a result, national politics and problem-solving institutions have been assimilating, which leads the nation states towards adapting other nations' practices and mechanisms. Such convergence of policy has turned into a growing scientific domain, mainly referred to as policy transfer or diffusion theoretic studies. Energy efficiency represents one such policy arena, in which environmental awareness and disputes on Global Warming have spurred the need for regulations while alongside unveiling opportunities of adapting good practice. An exemplary case study is found in the latest TV efficiency regulations of California and the European Union (EU), which both aim at reducing TV-related electricity consumption rates, yet through different instruments. While California and the EU are tackling the same issue of enhancing TV efficiency, there is a significant potential of mutual lesson learning and instrument transfer between the two.

In light of the "TRANSPOSE – Transfer of Energy Savings Potentials" research project association, this thesis lays out the administrative processes behind both TV-efficiency approaches, estimates their potential effect and, ultimately, suggests basic policy transfer options. A policy-oriented analysis of administration serves as analysis tool for displaying both TV efficiency regulations in comparable units. This analysis is followed by a estimate of their effectiveness and by a preliminary transfer suggestion.

Abbreviations and Acronyms

CA:	California
CEC:	California Energy Commission
CEWTP:	Clean Energy Workforce Training Program
DoE:	U.S. Department of Energy
EC:	European Community
EU:	European Union
EuP:	Energy-using Products
GHG:	Greenhouse Gas
IPP:	Integrated Product Policy
poV:	policy-oriented analysis of administration
TV:	Television
US/USA:	United States/United States of America

1. Introduction

The rising interdependence and interconnectedness of national politics has become a phenomenon of modern-day governance and has been subject to numerous Globalization or Global Governance studies (Touraine 2001, Nuscheler 2001, Wurzer 2000, Baylis/Smith 2005). Despite the scientific debate about the particular origins and effects of a globalized world, global networking has caused national policy fields to trans-nationalize (see Zürn 1998). As the well-being of one nation state now, in many ways, relies on the well-being of associated states and regions, an increasing number of state and regional governments are confronted with similar problem fields. As a result, national politics and institutions have been assimilating towards similar means of political problem-solving ('functional determinism", see: Rose 1991; Dolowitz and Marsh 2000). A growing scientific domain in political science has therefore become the analysis of such political convergence, policy transfer and diffusion of national politics (Rogers 1962/1995; Holzinger/Jörgens/Knill 2007).

With the rise of environmental awareness in the 1990s and recent public debates on Global Warming, energy efficiency policy represents a major policy field addressing both of these, by nature, transnational domains while just as well utilizing international cooperation networks. As resources are running low and greenhouse gas (GHG) emission rates are on the rise, the best resources in recent days are those that do not have to be used, in the first place. Despite world-wide efforts in enhancing energy efficiency, many energy savings potentials are left untapped and necessitate further exploitation (Bürger 2009). This necessity and the given urgency of addressing the matter before GHG emissions irrevocably harm the environment to an even greater extent, disclose various opportunities for diffusion processes.

An exemplary case study for analyzing the exploitation of energy savings potentials in the domain of energy efficiency is found in the recent television efficiency regulations of California (CA) and the European Union (EU). While most energy-hungry household appliances – such as washing machines, dryers, dish washers and cooling appliances – have been subject to efficiency regulations, televisions (TVs) have advanced to being the most energy-consuming electric household gadget without any such obligatory regulation. Over the last years, the traditional Cathode Ray Tube (CRT) television has been progressively giving way to new technologies such as the Liquid Crystal Display TV (LCD) and Plasma Display Panel TV (PDP), which by trend are larger in size and more energy hungry (Zangl, 2007, p. 31). Besides new technologies and mounting screen sizes, the growing number of TV sets per household and increased viewing time add up to televisions now consuming about 10 percent of the electricity of private households (see Crosbie 2008).

In November 2009, the State of California passed the United States' first-of-the-kind regulation (2009-AAER-1C) imposing efficiency standards for all televisions sold in the state, starting 1 January 2011. With this regulation, the California Energy Commission aims at cutting TV-induced electricity consumption and setting a noticeable regulatory example, in which footsteps other states, the US as a whole, or other regions could follow in the future.
Meanwhile, the European Union established so-called Ecodesign requirements for televisions (2009/642/EC, in effect by August 2010), which, inter alia, dictate certain energy consumption levels for new televisions, and included televisions in its compulsory energy labeling program (2010/30/EU; in effect by mid-2011), classifying televisions according to their energy efficiency (Michel et al, 2010).

In light of the research project association "TRANSPOSE – Transfer of Energy Savings Potentials"[1], this thesis paper aims at comparing both approaches through an administration analysis, in order to grasp the administrative drivers and processes behind these decisions, predict their potential effectiveness, and to unveil possible transfer recommendations. In the following, the administrative processes behind the latest Californian regulation as well as the European Union's Ecodesign and Energy Label for TVs will be analyzed. Dieter Grunow's policy-oriented analysis of administration is utilized as a fitting tool for shedding light on the purposes, processes, and power alignments behind the adaption of both TV efficiency regulations. Only by understanding the full administrative processes that shape the policy output is it possible to estimate whether policy transfer is advisable.

This thesis will, firstly, offer a methodological introduction, in which the scientific debate around the diffusion theory is explained and Grunow's model of a policy-oriented analysis of administration is presented. Secondly, the administration analysis will be applied to both the Californian regulation and the EU Directives. Following Grunow, the respective (1) administrative action, (2) the implementation structures, (3) the basic actor alignments, and (4) the (potential) implementation effects will be examined. Thirdly, these findings will be analyzed in light of possible "lessons learned" and transfer options. Finally, the findings will be summarized and personally commented on in a closing chapter.

[1] TRANSPOSE is a project association, funded by the Social-Ecological Research program of the German Federal Ministry of Education and Research, dedicated to identifying the most effective political instruments for saving electricity in private households and aims at understanding their effects and the conditions under which these could be transferred to Germany. This thesis aims at contributing to TRANSPOSE by displaying the administrative elements of the Californian and EU-European TV regulations, predicting their effect and suggesting basic transfer options. For more information and references on TRANSPOSE, see: www.uni-muenster.de/transpose.

2. Methodological Outline

When following the research focus of a transfer study it is necessary to be acquainted with its concrete theoretical propositions, its limits, and its boundaries to other existing theoretical approaches. Categorically, policy transfer studies have been assigned to the overriding theme of diffusion studies. The concept of diffusion originally emerged from socio-economic studies and, initially, was intended to describe the expansion of innovations through communication channels (Rogers 1962/1995). The politological use of the diffusion theory surfaced in the 1990s, as political scientists searched for an explanatory model for the transnational spreading of political innovations in policy fields such as social, economic or environmental policy. As diffusion theoretic studies can vary from analyzing policy adoption procedures to examining the reasons for policy convergence, the term diffusion either refers to an outcome or to a process (Braun 2007: 40). Depending on the explanatory interest, political science literature offers various theoretical models – such as Policy-Transfer (Dolowitz and Marsh 1996, 2000; Evans and Davies 1999), Lesson Drawing (Rose 1993; Jänicke and Weidner 1997), Convergence (Bennett 1991a) or Policy-Bandwagoning (Ikenberry 1990) – that allow for an analysis of diffusion mechanisms. While the macro-leveled traditional diffusion theory mainly concentrates on general adaption processes, policy transfer studies examine diffusion processes by means of individual policy adoptions. This micro-leveled approach centers on external policy-relevant knowledge that can be utilized for adaption, internally, and brings in so-called "Agents of Transfer" as key actors (Tews 2002, Fuchs 2007).

As this thesis aims at utilizing an administrative analysis with the intent of finding transferable elements, diffusion is seen as a potential process by means of policy transfer. Thereby, policy transfer is seen as dependent variable, relying on the insight gained through the administration analysis, rather than as independent variable.

Since the introduction of both TV efficiency innovations is a product of long implementation processes, it was necessary to find a way of displaying these multifaceted administrative processes while just as well enabling an estimation of their effectiveness and an outlook on transfer potential. Especially in a comparative analysis which aims at bringing a trans-national unit (EU) and a sub-national unit (California) to the same level of analysis, an analysis model was needed that breaks down the complex interactions – on whatever political level these may take place – into comparable units.

Dieter Grunow's 'policy-oriented analysis of administration' (poV)[2] is suited to enable such a comparable view on the administrative dynamics behind the transatlantic TV efficiency regulations. Based on the premise that administrative programs and innovation structures are only successful when these adequately depict the problems and characteristics of the policy field, Grunow's approach offers specific analysis categories for displaying the administrative involvement and dependency. His policy-oriented analysis of administration suggests the differentiation of (1) the administrative action programs, (2) the implementation structures, (3) alignments of actor groups, and (4) the effects of the implementations (Pamme 2010: 182). For Grunow, administrative processes must be recognized in their complexity in order to appropriately analyze their formation and later effect. In fact, the full process of administrative decision-making should be displayed – from the problem perception to the effectiveness of the program.

Originally designed to identify the public administrative structures within Germany, the categorical approach of the policy-oriented analysis of administration just as well allows for an international comparison of public administration (ibid: 191). As a system theoretical approach, the poV respects the complexity of decision-making processes in political systems while alongside referring to the procedural steps of the policy-cycle.[3] In doing so, the often criticized tendency towards oversimplifying the policy-shaping process when applying the policy-cycle model is evaded.[4] The analysis categories are open for several theoretic concepts and thus do not per se limit the explanatory value of the approach. Since the focus is on the administration as the central "problem-solving machinery" (Grunow 2006: 23) the model risks an overrating of the administrative role in the process. Still, other means of governance are (at least adequately) integrated in the poV, since the analysis categories leave room for the influencing factor of other actors.

As an open analysis tool, instead of a closed theory, Grunow's policy-oriented analysis of administration can therefore be applied for the arrangement of a diffusion theoretic outlook (see Grunow 2006, p. 19). Its analysis categories set a broad frame for detailed evaluation, which enables a comparative governance analysis and supports the qualitative research design of comparing two individual administrative decision-makings. Further, it lays the foundation

[2] The abbreviation poV refers to its original German title as "**p**olitik**o**rientierte **V**erwaltungsanalyse" and will be recurred to in the following.

[3] The policy cycle divides the implementation process of any given policy into the steps of policy formulation, policy realization and policy learning (see http://www.transport-era.net/uploads/RTEmagicC_figure1.jpg.jpg, last checked 5 August 2010).

[4] The policy cycle model is criticized for being too static and for suggesting that the policy generation process is a stepwise procedure.

of further policy transfer considerations. In doing so, Grunow's premise of depicting administrative decision-making in its entireness is met, while just as well enabling an answer to the overriding diffusion theoretic research question as to which effective elements promise a successful transfer to or from the European Union or to Germany.

By outlining the diffusion theoretical propositions of policy transfer studies and pointing out the need for a comparative analysis of the administrative actions, the Californian and EU-European TV efficiency regulations will be introduced. This overall picture provides orientation as the administrative analysis dives into specific detail.

3. Introducing the TV Efficiency Regulations

The rise of new television technologies, increasing viewing time and the rising number of TV units per household are phenomena that affect the United States and European countries likewise. While California is pioneering national TV efficiency efforts, as with past efficiency policies[5], the European Union is issuing a top-down approach for harmonizing the member states' actions on TV efficiency. Despite the differences concerning the level of government which these approaches originated from, the basic substance of the approaches serves as an orientation point, from which to start an administrative analysis.

3.1 The Californian Way: The Setting of Efficiency Standards

On 16 November 2009, the California Energy Commission (CEC) unanimously approved the introduction of TV efficiency standards.[6] These standards regulate the on-mode power consumption of new televisions offered for sale in California beginning in 2011 (Tier I) and 2013 (Tier II).[7] The new efficiency requirements call for a two-staged implementation, whereas Tier I, starting 1 January 2011, will reduce TV energy consumption by average 33 percent and Tier II, starting 1 January 2013, will cut nearly 50 percent of TV energy consumption. In 2006, California had already adopted standby-mode consumption standards for televisions. Thus, besides introducing on-mode efficiency standards the Californian legislation is also enhancing these standby-mode standards (see Appendix, Figure 2). Also, power consumption rates are to be displayed on the units, as a means of consumer information.

Thereby, as the first federal state in the United States, California is significantly regulating the TV market via efficiency restrictions. As has been the case with several other regulations, the State of California is confident that other states will soon adapt to these new standards and initiate such an implementation process themselves. Since California represents the nation's largest market for televisions, while alongside being the most populated state, the home state of movie production and a driving region of worldwide technology innovation, a regulation

[5] A nameable example for California's forerunner role is the national implementation of the Californian automobile emission standards in the 1990s. Ever since, this so-called "California Effect" has been referred to, when discussing California's leading role in setting efficiency standards (see Fredriksson, P.G. and Millimet D.L. (2002)).

[6] The approval by the CEC, as the decision-making body for efficiency standard implementation in California, is the final and most crucial administrative step toward pronouncing the regulation as law. However, its official incorporation into applicable law needs the law's publishing by the California Office of Administrative Law. This publishing is in process and will be utilized in late-August 2010.

[7] "The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles or other mobile equipment." (CEC_Proposed Amendments to Appliance Efficiency Regulations (Express Terms)_2010, p. III)

spill-over to other states is very likely. Thus, the Californian regulation can be seen as a forerunner model, which the nation as a whole will follow sooner or later.[8] In the US, the voluntary EnergyStar labeling program serves as the main program in place for fostering the energy efficiency of televisions.

3.2 The EU-European Way: Ecodesign Requirements and Mandatory Energy Labeling

The European Union[9] is approaching a reduction of TV energy consumption through design requirements (Ecodesign) and a mandatory energy consumption label. The Ecodesign requirements for televisions mandate certain on-mode power consumption levels and information publishing regarding the measurement procedures, and came into force in July 2009 (European Commission 2009). Similar to the Californian standards, the EU standards will be introduced in two stages - the first (from August 2010), regulating minimum consumption levels for High Definition resolution televisions (HDTVs) and all other resolutions separately, and the second (from April 2012), requiring an even stricter combined level for all resolution types. This framework directive derives from the combination of two Commission initiatives: the first being the consideration of electrical and electronic equipments' impact on the environment ("EEE" working document), and the other being the establishing of energy-efficiency requirements for end-use equipment.

Furthermore, the EU is including televisions in its energy label program through the recast Energy Labelling Directive of Mai 2010. So far, televisions in the EU have only been subject to voluntary programs such as the Energy Star, the EU Eco-Label, or to national labels such as Germany's Blue Angel. This new mandatory label will indicate the respective televisions' energy efficiency in comparison to the average equivalent model and its average annual power consumption (see Appendix, Figure 4). Both, the Ecodesign regulations and the labeling directive are complementary parts of the EU's regulatory approach of promoting TV energy efficiency. Still, the existing voluntary label programs remain as a third pillar of propagating energy efficiency (see Appendix, Figure 6). By mid-2011, the EU member states will have to translate the Ecodesign criteria and the labeling regulations into national law.

[8] Even though the state-wise diffusion process is not subject and research object of this paper, it is important to see California not only as a diffusing unit of a transatlantic policy convergence in the fields of TV energy efficiency, but just as well as a pioneering state for the US.

[9] Via the ratification of the Lisbon Treaty the European Union succeeds the European Communities as legal personality. Following the terminology introduced via the Maastricht Treaty, the term EU will be used throughout this paper, even though some individual decisions were cast by EC institutions.

3.3 Preliminary Summary

Even though California and the EU show different ways of managing the problem of TV inefficiency, the basic means they use are very similar. Both regions are forming efficiency standards that mainly affect the design stage and restrict market access. Also, the labels are an integrated part of both approaches, despite the dissimilarities in their obligatory level. The main differences between the Californian standards and the Ecodesign requirements are the comparably stricter level of the Californian standards, as will be explicated in the following, and the more holistic approach of the EU's Ecodesign program. Further, the mandatory EU label also indicates the EU's more multi-pillared move on reducing TV electricity consumption.

4. A Policy-Oriented Analysis of Administration of Both Regulatory Approaches

In terms of the *policy-oriented* analysis of administration, individual policies must be seen as a part of the respective policy field they are formed in. The TV efficiency regulations can be assigned to the policy fields of both energy and environmental policy. Both fields have traditionally been policy fields beyond mere national scope and influence. Due to the single states' energy political and environmental dependence on other countries' resources, political behavior, relative power, or because of the boundlessness of the environment itself and, thus, some of its energy resources, energy and environmental issues have been ones of international relevance. Since the California Energy Commission and the European Commission's Energy Department respectively administered the efficiency policies, the regulations are of primarily energy political nature. Yet, the environmental imperative of reducing carbon dioxide emissions in light of Global Warming and to economize the resource consumption immediately sets a major priority for energy policy.[10] Therefore, the domain of energy efficiency must rather be seen as ranging on the overlapping area of energy and environmental policy.

In the following chapter, the Californian and the EU-European regulations of TV efficiency are examined by means of their core elements. Following Grunow's administration analysis

[10] For the EU, this imperative emerges from the EU's Sustainable Development Strategy (EU SDS), which forms "the overarching policy framework for all Union policies and strategies" (European Commission DG Environment 2010) and is "closely tied to climate change and energy policy" (Europa.eu 2010). In the US, the American Recovery and Reinvestment Act (ARRA) of 2009 gives energy efficiency measures a high priority as a means of minimizing energy consumption and reducing climate change. In California, the Energy Commission (CEC) utilizes, inter alia, efficiency programs for fighting climate change and argues that environmental and energy issues are "inextricably linked"(California Energy Commission 2010a).

categories, the action programs (chapter 4.1), implementation structures (chapter 4.2) and actor alignments (chapter 4.3) will be individually examined for both regulations. In doing so, the driving forces behind the administrative decision-makings become understandable, while potential effects become foreseeable (chapter 5) and transfer-related conclusions possible (chapters 6 and 7).

4.1 Administrative Action

An administrative act[11] consists of various elements, which collaborate to form the final decision-making. Since (A) the program targets, (B) the mode of achieving these targets, (C) the given procedural structures, and (D) the resources available to the deciding body can hardly be examined conjointly, an individual analysis of these administrative action drivers is necessary. The analysis of the elements proves that these are very dependent on the political level they are designed on. Yet, despite the EU and the State of California being confronted with certain limits as a regional actor or state-leveled actor, the individual elements highlight the very aims and functioning of the respective governance.

(A) Elements of Target Setting

The very aims of policies point out the discrepancy between the problematic status quo condition identified within the respective social system and the desired target condition (Pamme 2010: 183). Since targets are mainly set manifested in legislation, the legislative frame leading to the target setting will be analyzed, in particular. Not only does the specificity of aims shape a reliable problem definition, but also an abstractness of such targets eludes an evaluation of the policy's effects. Thus, the driving elements of the target setting are important reference points for a program's evaluation.

<u>California</u>

Looking at the Californian regulation itself, the literal aim is to cut the on-mode electricity consumption of televisions up to 58 inches by a third (starting 2011 via Tier I), followed by a cumulative consumption cut of 50 percent (starting 2013 via Tier II), within the State of California (see Lifsher and Chang 2009). Both the Tier I and Tier II standards apply to televisions on sale from the respective year on and, thus, aim at cutting the consumption of only new televisions entering the Californian market. Besides the mere aspiration of cutting

[11] Grunow and Pamme use the unspecific term "action program", in order to enable an analysis of any type of implementing structure, which do not necessarily involve administrative bodies but also include private actors (Pamme 2010: 182).

TV energy usage, a wider perspective on the Californian bill sheds light on the broader target achievements these regulations were designed for:

The State of California has a long history of energy efficiency policy and has taken a leading and forerunner role for national and even world-wide efficiency regulations. Thus, the state seeks to maintain this role through periodical updates for "consideration and possible incorporation of new energy efficiency technologies and methods" (California Energy Commission 2010b). After the Energy Commission's approval, Gov. Arnold Schwarzenegger stressed that "[t]he benefits from such 'real, achievable policies' as the television energy standards are a hallmark of California's international leadership in the fight against global warming" (Lifsher and Chang 2009).

California's ambitious forerunner role is broadly anchored in the California State Legislature. As a state-led acknowledgement of the Kyoto Protocol, the Californian Global Warming and Solutions Act of 2006 requires that, by 2020, the state's GHG emissions be reduced to emission levels of 1990. This corresponds to "a roughly 25% reduction under business as usual estimates" (Wikipedia.org 2010a and California Health and Safety Code 2006). Especially, the Warren-Alquist State Energy Resources Conservation and Development Act of 1974 (commonly referred to as the Warren-Alquist Act), which originally created the CEC, has dictated the Commission's efficiency policies from its very beginnings. Via the Warren-Alquist Act, the Energy Commission is, inter alia, instructed to ensure a reliable energy supply (derived from PRC[12] § 25001), reduce the rate of growth of energy consumption (PRC § 25007), and exploit cost-effective measures to reduce the need for power plants and to protect the environment (derived from PRC §§ 25001-25009).

As the CEC elucidates in the media and in the rulemaking itself, the TV efficiency regulations cut the rise in TV-related energy consumption (see Appendix, Figure 1) and, thus, save approximately 6,515 GWh, which "will avoid construction of a new 615 MW power plant costing over $ 600 million" (California Energy Commission 2009: 8). In light of California's history in energy efficiency regulations and the consequential flat per capita electricity consumption in California, compared to a 40% consumption rise in the rest of the US, the TV efficiency regulations are a further step in its policy of keeping energy consumption flat for the future.

[12] By the abbreviation PRC is meant the California Public Resources Code, which is one of the 29 legal codes enacted by the California State Legislature. It sets the main framework for energy policy in California.

The issue of guaranteeing a reliable energy supply has been a sensible point of Californian energy policy since the California energy crisis in 2000 and 2001[13]. In several public documents the CEC stresses that "reducing demand increases system reliability because less demand means less strain on the electricity system since less energy has to be generated and delivered" (ibid: 22).

Further, the Commission's most commonly stated reasoning for regulating TV energy efficiency is its savings on consumers' electricity bills (Lifsher 2009 and California Energy Commission 2009b).

Altogether, the requirements set by the state legislature are savings for consumers, guarantee of reliable supply, security of the state's environmental quality, reduction of rise in demand, and minimizing the need for further power plants. The fulfillment of these requirements must be seen as a further aim of the Energy Commission, besides the reduction of TV energy consumption. In particular, California administrators seek a stepwise yet severe reduction of TV-induced electricity consumption of a third from 2011 and of a cumulative 50% from 2013, which add up to a savings of 6,515 GWh. In world-wide comparison, the Energy Commission's minimum efficiency formula for future TV on-mode power consumption sets the most severe efficiency standards (see Appendix, Figure 2, and for an EU-comparison, Figure 3). Another specific and measurable feature of the standard implementation is the proposed electricity savings of nearly $8 billion in energy costs. The CEC's more general aims of guaranteeing a reliable electricity supply or landing a forerunner role evade an exact examination and can be, at best, verified via national or international comparison.

European Union

In the European Union, the combination of the Ecodesign requirements and the labeling scheme has its own aims. While the incorporation of televisions into the EU's Energy Labelling Directive represents, above all, an instrument of consumer information, the Ecodesign requirements aim at improving the very energy performance of televisions. Both of these instruments must, however, be seen as a combined approach of enhancing TV energy efficiency.

The overriding force within the European Union calling for major cuts in energy consumption are the so-called 20/20/20 targets, which endeavor to, "by 2020, reduce by 20% the emissions

[13] The California electricity crisis resulted from a sudden and severe supply and demand imbalance of electricity, which followed the state's efforts of deregulating the electricity market. The crisis cost the state between $ 40 and $ 45 billion and has, ever since, made a reliable supply a key issue on the energy policy agenda (see Weare, 2003: The California Energy Crisis, p. v-x).

of greenhouse gases, increase by 20% the energy efficiency in the EU and to reach 20 % of renewables in total energy consumption in the EU" (Wikipedia.org 2010b). The individual targets derive from different legislation[14], yet are ultimately assembled in the European Commission's 'Europe 2020' strategy (European Commission 2010a).

As a signee and participator of the Kyoto Protocol[15], the European Union has designed various follow-up strategies and objectives for reducing energy consumption and greenhouse emissions. In its 2006 Action Plan for Energy Efficiency, the EU stresses that it "can and must lead the way in reducing energy inefficiency, using all available policy tools at all different levels of government and society" (European Commission 2006: 3) and prioritizes the implementation of energy labels and minimum energy performance standards (ibid: 10). Furthermore, the European Economic Recovery Plan[16] emphasizes that energy efficiency is one of the key priorities, "in particular the promotion of the rapid take-up of products "having as high potential for energy savings" such as televisions" (ibid: 10).

Through the consumer information tool of the energy label, the EU seeks to create further market transparency and incentives for innovation. The problem, as is perceived by the Commission, is that TV electricity consumption has "not been a decisive factor for the purchasing decision of consumers" (European Commission 2010b: 2). Also, the Commission claims that such information on energy consumption of televisions has neither been sufficiently accessible nor understandable to the consumers, and manufacturers have had only "little incentives to […] optimize the electricity consumption" (ibid: 3). The label is seen as a "substantial contribution to this process" (ibid) and, thus, represents a major tool (and a target in itself) for the EU to accomplish the cuts in TV energy consumption. The EU expects the TV energy label alone to save at least 15 TWh annually by 2020 (ibid).

In imposing eco-design requirements for televisions as an energy-using product (EuP), the European Union, generally, seeks to reduce the environmental impact of televisions, including the energy consumption throughout their entire life-cycle. Starting at the very early stage of product design, the aim is to minimize avoidable environmental harm and to guarantee a certain level of minimum energy efficiency of televisions. "The Directive is a concrete

[14] For example, the EU Action Plan for Energy Efficiency concretely lists the 20 percent target for energy efficiency (see European Commission 2006).

[15] By signing and ratifying the Kyoto Protocol, the European Union commits itself to a reduction of GHG emissions to the benchmark 1990 emission levels. The non-participation of the United States in the Kyoto Protocol gave way to strong EU presence in international climate debates. By wholeheartedly supporting the Kyoto Protocol and through subsequent strategies, the EU has ever since took advantage of this space (see Vogler, J. and Bretherton, C. 2006).

[16] The European Economic Recovery Plan, as a coordinated EU response to the economic crisis, aims at treating the symptoms of the crisis, while, inter alia, boosting the fight against climate change (European Commission 2008).

example of how the principles of the integrated product policy (IPP)[17] are applied. It demonstrates the Commission's determination to take account of environmental aspects in enterprise policies, and takes account of the objectives of the Sixth Community Environment Action Programme and the Commission Communication on industrial policy in an enlarged Europe" (Dimireva, I. 2009). Through the Ecodesign requirements for televisions, the EU estimates a minimum electricity savings of annually 28 TWh by 2020. The combined electricity savings of both measures add up to an estimated annual savings of at least 43 TWh by 2020 (more than the electricity consumption of Romania). The EU stresses that only the added benefits of these efforts lead to the desired energy savings, since it "implies that improvements which can be achieved with currently available cost-effective technology are captured by setting Ecodesign requirements, while incentives are created by energy labelling to invest into new energy efficient technologies and their market penetration is fostered, thereby ensuring rapid market transformation"(European Commission 2010b: 7).

All in all, the EU specifically aims at saving 43 TWh annually by 2020, while generally seeking to position itself as a key player in world-wide climate change and energy efficiency policy (see Appendix, Figure 5, and Spindelbalker, C. 2010). Compared to Californian target setting, the EU does not present concrete targets concerning electricity prices or consumers overall savings. However, it becomes obvious that the EU is seeking a more holistic approach of TV efficiency enhancement. This partly explains why the EU's formula for maximum TV efficiency regulation is not as strict as the Californian standards (see Appendix Figure 2 and 3). While not as pressing as in California, the security of energy supply also plays a role in the EU's strive towards energy efficiency.

(B) Operative and Instrumental Elements

The focus on the operational and instrumental elements of the regulations seeks to distinguish between the modes of operation and the instrument types that were chosen in order to achieve the abovementioned objectives. Each mode gives the person, public agency or government concerned an either higher or lower level of freedom in carrying out the policy.[18] While the EU as a supranational actor still depends on member state enforcement, California is a state in charge of its own efficiency policy and equipped with state-owned agencies for direct enforcement.

[17] For detailed information on the EU's IPP, see http://www.integrated-product-policy.com/

[18] For a very helpful and comprehensive overview of operative elements that are discussed in political science, see Grunow 2006, pp. 42-44. Grunow distinguishes between (i) the regulatory mode, (ii) the incentives mode, (iii) the persuasive mode, (iv) the services mode and (v) the control mode.

California:

The Californian TV efficiency regulations, first of all, regulate the market access of televisions, by banning inefficient televisions from the inner-state market. In doing so, the Energy Commission clearly engages in market forces on the supply side. Further, an Executive Director supervises the enforcement of the TV efficiency regulations, as of any other Californian appliance efficiency standard, and, by non-appliance, subjects the respective party to contempt sanctions.[19] Both the market engagement and the sanctioning procedure indicate that the Californian TV efficiency standards are, first and foremost, a *regulatory mode* of achieving TV-related energy savings.

In addition, the CEC is publishing detailed information on the rulemaking procedure – including stakeholders' critics and amendment proposals – while just as well highlighting the benefits of the efficiency regulations.[20] This supply of information is not the mere result of a general transparency policy in California[21], but was also induced for back-up and legitimacy reasons. The regulatory order that is given the Californian manufacturers and salespersons enhances the need for these parties to feel involved in the rulemaking process. By proving the stakeholder involvement and explaining the need for the regulations, the Commission countervails this need, while alongside attesting to job market and energy price considerations, which are the key concerns among the population. Especially, the publishing of CEC's correspondence with the Consumer Electronics Association (CEA) – being the main opposer of the TV efficiency regulations – unveils the legitimacy function of the information. Thus, the CEC seeks to take precautions against potential critics who might claim that the regulations are merely top-down or that the regulations neglect their effects on the job market. On top of the information on the process as such, an information campaign is launched parallel to the standards implementation, as a means of promoting public awareness of efficiency issues. The fact that the CEC runs an own Public Programs Office which engages in its efficiency programs shows that information campaigns are a well-calculated means of pushing the issue of energy efficiency from inside the population. Thus, the information

[19] According to the California Government Code (CGC) section 11445.10-11445.60. Article 12. Enforcement Of Orders And Sanctions.

[20] For the Commission's official website offering detailed documents pages for appliances rulemaking, please see http://www.energy.ca.gov/appliances/2009_tvregs/index.html .

[21] Indeed, Governor Schwarzenegger is dedicated to improving the Californian government transparency. For further information, please see http://gov. ca.gov/index.php?/print-version/press-release/12429/ or http://documents.reportingtransparency.ca.gov/ Home.aspx .

represents a *persuasive mode* of gaining legitimacy, enhancing a smooth enforcement, and, thus, of ultimately achieving TV-efficiency as the policy's main target.

Even though not being explicitly mentioned in the TV efficiency regulations as such, the voluntary EnergyStar program still represents an additional pillar. It, firstly, served as a central reference point in the design stage of the standards. Secondly, it will remain a complementary means of forwarding the matter of TV efficiency, as the CEC sees the actual EnergyStar 4.1 (and more so the upcoming EnergyStar 5.1 program) for televisions as a tool for stimulating competition. Yet, the CEC also stresses that "the voluntary ENERGY STAR® program […] would only obtain 27% of the calculated $8.1 billion in potential energy efficiency savings from the efficiency standards" (California Energy Commission 2010c) and, thus, underlines its complementary value.

Overall, the CEC's TV efficiency standards represent a *conditional program*, which clearly defines the conditions as well as the enforcement procedure of the TV efficiency standards. Through a strong regulatory mode, at the core, and reinforced by means of information and Public Services, the Californian standards define the exact way which manufacturers and retailers have to comply with.

The European Union:

The European Union's bi-tracked approach more or less implies the use of different modes. Just as the Californian approach, the EU Ecodesign requirements exclude certain televisions from entering the EU-European market, yet through different literal efficiency requirements[22] and additional ecology-friendly characteristics. As a means of harmonizing the European Single Market, the EU's IPP program sets the frame for the Ecodesign program. Nevertheless, the EU thereby regulates the market forces and only grants certain televisions access to the market. Even though the EU itself is not able to sanction non-compliance, since this falls into the member states' field of responsibility, the member states are called to "[n]otice the importance of avoiding non-compliance" (European Parliament 2005) through market surveillance. However, based on its regulatory power in energy policy deriving from the Lisbon Treaty, the EU is designing civil sanctions for non-compliance of Ecodesign as well as of energy labeling requirements. Thus, the Ecodesign requirements are a *regulatory mode* of the EU to foster TV energy efficiency from the design stage on.

[22] As mentioned above, the TV efficiency formula applied in the EU is not as strict as the Californian approach.

By adding the so-far voluntarily labeled televisions to the EU's mandatory labeling scheme, the EU is mandating a means of consumer information on manufacturers and creating incentives for TV-efficiency innovation. While the Ecodesign program regulates the efficiency characteristics of televisions to be placed on the EU market, the (recast) Energy Labelling Directive creates an enforced competition via the continuous rating scheme. This *incentives mode* rewards the production of above-average televisions, with regard to their energy-efficiency standing, with a higher rank in the labeling scheme. In doing so, the primary incentive is one of status and comparative standing. However, this standing results in higher or lesser sales quantity of the respective unit. Therefore, the Energy Labelling Directive functions as a status-related and, ultimately, as a financial incentive.

Furthermore, the EU points out that "Member States must take the necessary measures to […] launch educational and promotional information campaigns aimed at encouraging more responsible use of energy by private consumers" (Europa.eu 2008). The supply of information is essential for the success of the rulemaking since it functions as an operative element of the regulations, by enhancing public awareness. As with California, the EU thereby utilizes an additional *persuasive mode.*

All in all, the EU's target achievement is run by a *purposive program* and contains a regulatory mode of ordering and sanctioning Ecodesign requirements and a labeling scheme, an incentives mode of promoting status rewards and consequential sales advantages via the labeling scheme, and a persuasive mode of shaping public awareness and spreading information on the EU's efficiency measures. Compared to the Californian regulations, the EU approach is not as regulatory, since a certain leeway is given the member states for enforcement and surveillance. Instead, it relies more on a set of different modes.

(C) Procedural Elements and Competence Structures

The policy arena, in which the respective efficiency policy is embedded, is an important aspect in the administrative analysis. Energy-related policies depend, in terms of their effectiveness, on specific procedural structures and administrative hierarchies with regard to the enforcement of the policy. These - together with the policy-specific demands - affect the activities of the respective agency in charge and can be crucial parameters of a program's effectiveness.

California:

The federal energy and environmental policy of the United States does not have major impacts the Californian efficiency policy. Since "[t]he governmental authority on environmental issues in the United States is highly fragmented"[23], the procedural effectiveness of environmental policies is dependent on the number and types of agencies in charge depending on the respective environmental policy domain. US energy policy, in contrast, is mainly regulated by the U.S. Department of Energy (DoE) and state-specific agencies for energy policy.

Key federal-leveled legislative framework for energy efficiency policy, are the Energy Policy Acts of 1992, 2005 and 2007. These acts addressed energy efficiency as a central political issue, gradually increased the budget for the energy (efficiency) sector and established efficiency standards for several appliance categories. In 1996, the DoE published a Final Rule "Procedures for Consideration of New or Revised Energy Conservation Standards for Consumer Products (61 FR 36974)", which elaborates on the procedures and tools to be used in standard setting (EES 2005). Another nameable federal guideline for state-leveled energy policy is the National Action Plan for Energy Efficiency (2005), which recommends means of achieving cost-effective energy efficiency, removing barriers towards such efficiency and broadly communicating the best practices available. Facilitated by the DoE and the U.S. Environmental Protection Agency (EPA)[24], this Action Plan represents a non-binding national vision ("Vision for 2025: A Framework for Change), which state officials are urged to follow. However, the Leadership Group behind the Action Plan enhances the plan's quasi-bindingness for the State level. The Leadership Group members represent entities at the State and local level that are responsible for implementing the recommendations. Since "[f]ederal law leaves jurisdiction and oversight of energy efficiency […] to State and local governments, and not to the Federal government"[25], it is particularly the Leadership Group that increases the federal influence in state-led efficiency policy. As the DoE states, "[t]hese recommendations are significant not just for their content, but perhaps, more importantly, because they were debated, developed and then issued by the Action Plan's Leadership Group" (ibid).

Overall, the federal agencies leave the CEC enough leeway in the implementation and enforcement of efficiency policies. While the DoE does design federal efficiency standards preempting state-led standards, California has been operating more stringent standards for

[23] see http://en.wikipedia.org/wiki/Environmental_policy_of_the_United_States; even though EPA as initiator of EnergyStar and act upon Presidents Executive Order (Eos) (see above?!)

[24] an environmental policy agency linked to the domain of energy efficiency via its Clean Energy program

[25] see http://www.oe.energy.gov/eeactionplan.htm

nearly every product category. Should the DoE design nation-wide TV efficiency standards which, in fact, is under consideration these would preempt Californian standards. The procedural competence, thus, lies mainly on state level with the CEC as central actor. Besides the CEC relying on mandates from the Governor's Office, it collaborates with local governments in order to effectively implement new policies.

The European Union:

Even though the initial supranational treaties leading to the later European Communities (EC) and European Union were inspired by, inter alia, energy political concerns, energy policy long remained an intergovernmental domain under member-state sovereignty.[26] However, the establishment of an internal market led EC legislators to phase in the overarching principle of sustainable development via the Treaty of the European Union (1992) and the follow-up Amsterdam Treaty (1997), which directly affected national energy policy. The EU's competence in harmonizing the internal market, safeguarding competition and removing trade barriers, eventually brought about the liberalization of European energy markets (see Pamme 2010, p. 4) and formed the groundwork for the EU's later pocketing of European energy policy via the Lisbon Treaty (2007).[27] European energy efficiency gained momentum in the 1990s as energy policy became a key domain for fashioning climate policy, in which the EU strived for a world-wide leadership role, particularly after signing the Kyoto Protocol (1997). The EU Green Papers on Energy Efficiency (2005) and on the European Energy Strategy (2005) and the Energy Action Plan (2007) ultimately affirmed the EU's role in governing energy policy and have been the source of the EU's subsequent post-Kyoto commitment. The EU energy package[28] emerging, for the most part, from these strategies represents the manifestation of the so-called 20-20-20 targets and the groundwork for subsequent efficiency regulations such as the Ecodesign Directive and the Energy Labelling Directive, to which the TV efficiency rulemakings were assigned.

Still, the functioning and the success of the abovementioned efficiency strategies are dependent on the very member states. While the EU mainly guidelines European efficiency efforts via Directives it is the member states which cause such projects to succeed or fail. As

[26] The European Coal and Steel Community (1951) and European Atomic Energy Community (1957) initiated a supranational control of the coal and, later, the atomic industry, which represented the main industrial energy sources. However, the early European Communities did not manage to include follow-up energy sources such as oil, gas and electricity, which soon became natural competitors to coal.

[27] The Lisbon Treaty, in force since 1 December 2009, introduced a legal basis for the energy policy of the EU as well as other significant changes such as energy solidarity.

[28] With the Energy Package are meant the completeness of the EU-European Energy Policy measures.

directives, the Ecodesign requirements and the labeling scheme can be realized mainly through the respective national institutions. The 20-20-20 targets are not mandatory for the member states and the national energy efficiency action plans (NEEAPs) can independently opt for individual ways in achieving these targets. The Commission may not sanction the member states for non-compliance.

The EU is gaining more harmonizing competences via the Lisbon Treaty, yet remains dependent on member state's energy ministries and agencies for the implementation of the Ecodesign and the Labelling Directive.

(D) Available Resources

The resource-related elements of the efficiency policies, first of all, concern the budgetary aspects of the rulings. When trying to grasp the effectiveness drivers and barriers of individual policies, the funding structures grant insight on the possibility limits or dependencies. Financial dependency as such or multilateral accountability towards multiple funders can bias the implementation or determine its effectiveness.

California:

As the Californian TV efficiency standards only apply to state level, the implementation and enforcement of these are operated by Californian institutions alone. Basically, federal government agencies do not financially interfere[29] with the Californian standard setting, as such standard implementation beyond the given federal efficiency standards falls under state or also local government responsibility. Instead, public utilities negotiate the funding of the Energy Commission through the California Public Utilities Commission. This ratepayer-supported funding system supports the CEC's building and appliance standards, which the TV efficiency standards emerged from. Besides being in charge of implementing efficiency standards, the CEC works together with local government to enforce the standards. The CEC however provides its own workforce, which is in charge of the enforcement and coordinates local implementation. It is important to note that Californian standards require workforce engagement on many levels. On federal level Californian personnel is in charge of promoting the Californian standards for other states or for nation-wide TV standards. On state level, these standards were and still are subject to the entire implementation procedure of policy formulation, policy realization and policy learning, including stakeholder involvement and

[29] "The first states to fund energy efficiency programs did so by using federal funds known as Petroleum Violation Escrow (PVE) funds. PVE funds are composed of fines paid in the 1980s by major oil companies, which had violated federal oil price caps that were in place between 1973 and 1981." (Brown 2008)

information campaigns. And on local level, the enforcement of these standards must be coordinated. Even though a large workforce is required solely for the successful adaption of the new TV efficiency standards, the Energy Commission has succeeded in administering previous efficiency policies and can utilize the given know-how, infrastructures and communication channels. As with any ratepayer-supported funding structure, programs count as successful, as long as the benefits to society exceed the costs and the designed programs effect lasting changes in the market (Poirier, J. 1999: Table 1). Furthermore the federal American Energy Recovery and Reinvestment Act of 2009 (ARRA), as a state-led stimulus package for job creation and investment promotion, leveled additional $ 300 million for the State of California. Thus, the CEC's resource factor for implementing the standards is sufficient and does not represent a main barrier of the programs effectiveness.

European Union:

The European Union's Ecodesign regulations and its labeling scheme only mandate the implementation and enforcement of the Directives. It leaves the member states some leeway in deciding about the budgetary and workforce implications. While the national and state levels remain in charge of substantiating the orders deriving from the Directives, the EU is intending to base its labeling program on product-specific EU regulations, instead of mere target-setting directives (BMWi 2010). When issued, these regulations would require EU funds to be tapped. Besides the EU's resource dependence on national administrative structures, a prediction of the resource-related effectiveness of the Directives is hardly possible. By expanding both the Labelling Directive and the Ecodesign to televisions, the EU does load the member states with "significant additional costs", since the display, the surveillance and the design readjustments through retailers and manufacturers must be compensated for, on member state level.

4.2 Implementation Structure

Despite the individual elements concerning the administrative action as such, it is often the implementation structure that causes disturbances or brings up unexpected barriers. Implementation describes the administrative process of factually launching the respective policy through practical day-to-day activities via assigned institutions (Grunow 2006: 29). This realization of policies particularly highlights the role of public administration, since the

respective bodies stand responsible for proving the problem-solving ability of the administrative system. Given the trend of outsourcing administrative duties to the private sphere and the rapid changing of policy fields, public administration is challenged to design effective programs and include private actors where necessary. Since the practical implementation of the Californian and the European Union's TV efficiency programs is still in the offing, this chapter rather focuses on the implementation structures that have been utilized by the administration than on the implementation procedure as such.

California:

In California, the Energy Commission is the central administrative actor for implementing efficiency standards in the state. It coordinates efficiency programs, as an officially assigned body, and usually seeks the assistance of local jurisdiction for implementing the standards. Throughout the rulemaking process, various stakeholders were engaged to assure the program's later effectiveness. Generally, the CEC further acts through public-private partnerships (PPP) in its efficiency programs, for example via an energy partnership programs or efficiency financing programs for schools and hospitals (California Energy Commission 2010e). The implementation of TV efficiency standards, however, merely implies that the manufacturers be informed and change the television designing accordingly. Thus, broad PPP engagement or a heterogeneous incorporating of different agencies is not pursued by the CEC. Instead, the CEC's internal staff is in charge of informing the manufacturers about the television standards and urging these to comply with the regulations. Through contractors, the compliance of the manufacturers is monitored and contempt sanctions are delivered.

Yet, in an attempt to countervail a possible development of an internet 'black market' for non-compliant televisions, the Energy Commission is "working with major online retailers to ensure that televisions sold in California comply with the new energy efficiency regulations" (California Energy Commission 2009b). It thereby actively involves retailers that are not necessarily located in the state in the implementation process. Still, internet sales remain a noteworthy gateway for by-passing the standards, even more so should television costs rise in the course of standard implementation.[30]

The Commission, which is based in Sacramento (CA), acts as a locally concentrated administrative body and collaborates with the Governor's office and local government. Thus,

[30] The standard's potential effect on the sales price of televisions is controversial (see Europe Economics 2007). However, the main drivers of television prices are seen in its product features and the brand (ibid).

the implementation can be categorized as a rather decentralized approach, being vertically integrated with state and local governance.

The implementation process of the TV efficiency standards and of other efficiency programs are underpinned by a recent $75 million investment by the California Government, for the training of more than 20,000 so-called Clean Energy Workers. This Clean Energy Workforce Training Program (CEWTP) represents the nation's largest state-sponsored green jobs training program and "leverages federal American Recovery and Reinvestment Act (Recovery Act) funds, public-private partnerships and state and local funding, to train more than 20,000 new or re-skilled clean energy workers to build a workforce capable of performing the jobs necessary to meet the state's goals of renewable energy development, climate change reduction, clean transportation and green building construction for a new green economy" (Office of the Governor 2009). As one of the initiators of the CEWTP, the CEC has been involved in promoting and supplying 'green jobs' in an attempt to build a workforce "poised to grow a low-carbon, clean energy economy" (California Energy Commission 2010d). This proves that the Commission's TV efficiency standards meet the government's strive for an advanced state-wide energy efficiency commitment. Since energy efficiency is a long-lasting and a hallmark topic of California's political agenda, it is unlikely that the TV efficiency program will lose its priority status or get lost in California's day-to-day politics. However, in case further product groups call for regulatory ruling and the Tier II standards of 2013 are not backed by follow-up standards, certain inefficiencies could arise.

Overall, the implementation structure does not present any major potential disturbances for the execution of the TV efficiency standards. As a locally concentrated state commission, the contact with and the briefing of the manufacturers does not run in situ, yet merely requires sporadic contact, in any case. Also, a qualified workforce is being generated via budget-intensive programs. The only noteworthy loophole for potential ineffectiveness is an internet black-marketing, which however is being countervailed by engaging online retailers.

The European Union:

As a supranational actor the implementation structure in the EU is even more complex and multi-facetted. Besides the decision-making institutions being located in different European countries, the EU depends on collaboration with the member states for implementing energy political Directives. Thus, the responsible agencies are not locally concentrated, but instead spread up geographically and over various institutional levels. Given the fact that smaller

member states lack a sufficient workforce compared to other member states, these inequalities and imbalances among the member states are potential barriers for the programs' effectiveness. The EU's efforts of issuing regulatory measures supporting the implementation of the obligations from the Directives are a means of tackling this incalculable variable. Since the coming into effect of the Lisbon Treaty, European energy policy is more and more becoming an EU-led domain. While further harmonizing energy policy and the enhanced centralization of coordination brings benefits for the implementation, the harmonization in itself is a labor- and resource intensive undertaking for the EU.

The expansion of both the Ecodesign criteria as well as the Energy Labelling Directive to televisions directly affects the manufacturers (Ecodesign and Energy Labelling) and the retailers (Energy Labelling) (Europa Economics 2008: 24). Thus, the program success is prone to their ability of compliance. As a means of facilitating the implementation of the Ecodesign Directive and the energy label, national NGOs, agencies and energy political institutions are offering schoolings and programs for retailers and manufacturers, of how to effectively manage the concrete implementation of Directives without major disturbances. Partly, these programs are funded by the EU, which also rises the issue of additional costs resulting from the implementation of the efficiency regulations.

As the EU is following a continuous process of energy labeling and Ecodesign requirements, the Directives did not derive from a short-term call for (TV) efficiency, but rather from a calculated approach of expanding the existing Directives when feasible and economically justifiable. Even though energy efficiency currently is a top priority of European energy policy and might be superimposed by future topics, the fact that the EU has legally manifested its efficiency objectives in various Directives, Action Plans, and Green Papers, ensures the topics importance for the foreseeable future.

Altogether, potential structure-related disturbance arenas for the introduction of the TV efficiency programs can be found in the disadvantages of the high vertical integration from EU level to, ultimately, local level. The implementation costs for briefing governance officials, local manufacturers and retailers of different countries, speaking different languages are a noteworthy challenge. While the complexity of coordinating member states actions and ensuring the quality of the brands Ecodesign and Energy Label correlates with high costs on each administrative level, the inclusion of televisions in the existing Directives can nevertheless be seen as less cost-intensive than designing an independent program. Also, the mere utilization of voluntary labels (EU Eco-Label and EnergyStar) or the non-regulation of

TV energy consumption would have produced more costs in the long run, than the current incorporation of the program (Europe Economics 2008).

4.3 Actor Analysis

Grunow stresses the importance of a separate view on the actors, e.g. on the actor groups (Grunow 2006: 52). By distinguishing between the interested, the addressed, and the affected actors, the policy effects can be comprehended and assigned to the individual groups. While interested actors represent those, in whose interest the implementation process is carried out (such as those involved in the policy field discourse or the commentatorship of the media), the addressed actors are those, whose performance shall be changed through the policy. By affected actors are meant those individuals or groups that are intentionally or unintentionally affected by the administrative action.

California:

Since the 1970s, California has pioneered energy efficiency policy in the United States and developed a tradition of the nation's forerunner model. On the one hand, California is known throughout the nation for its high crime rates, overcrowded jails, immigration problems, or its lean state budget (Grunwald, M. 2009). However, energy efficiency has developed to one of the State's most widely-known and pace-making topics. The Californian media as well as NGO representatives showed wide support for the TV efficiency standards in the preparation stage of the rulemaking (Horowitz 2009, Lifsher and Chang 2009, Kegel 2009). The interests for TV efficiency programs were high prior to the approval and so are the expectations of media, NGOs and the government regarding the implementation. The Consumer Electronics Association (CEA), which is the main opposer of the standards, has issued concerns about the program effectiveness. Even though the CEC has published various documents explaining the flaws in the Association's calculations, the CEA could still emerge as an influencing actor should television prices rise or should the standards cause job losses in the consumer electronics industry.

The *addressees* of the Californian standards are, first and foremost, the television manufacturers. As with previous efficiency regulations, the CEC chooses to reduce the energy consumption in the designing stage of the product. In doing so, the public issue of TV-related energy consumption is tackled by changing the manufacturers' design 'behavior' on the

supply side. Furthermore, the energy efficiency information campaigns maintained by the CEC are a means of influencing the demand side through consumer behavior. These add to the voluntary EnergyStar program in affecting consumer awareness, yet are not as strongly a demand-sided instrument as the mandatory EU labeling scheme.

The *affected actors* are mainly the Californian consumers, who are being led to equip themselves with energy efficient televisions as soon as the purchase of a new unit is necessary or desired. The CEC stresses the consumers' benefits in terms of electricity savings, reduced electricity bills, and up-to-date technology (see California Energy Commission 2009a). Even though the CEC is optimistic about the positive job market effects, the standards stand chances of disrupting market forces and causing job losses (Varshney and Tootelian 2009, California Energy Commission 2009b). The innovation incentives, which the CEC sees as the main driver for market stabilization, is not a state-of-the-art market stabilizer.

Altogether, as long as innovation picks up, the willingly affected actors (consumers) are adequately supplied with equal prices while the innovation competition enhances job opportunities. Should market forces disrupt however, the CEA is a potential actor of launching a new debate on the necessity of the programs, which could hinder the implementation process as such.

The European Union:

The European efficiency programs generally received broad approval among member states, stakeholders and relevant NGOs. In an impact assessment prior to the extension of the Directives, nearly 90 percent of the interviewed stakeholders appraised the extension of the Ecodesign to televisions as useful (Europe Economics 2007: 62) while 75 percent saw high energy savings potential in this extension (ibid: 61). Thus, the support for both efficiency programs is high and the EU regularly manifests its dedication towards an 'energy efficient future' by means of the complementary programs. Yet, some critics claim that the EU label will confuse consumers with it's A+, A++, and A+++ categories, instead of leaving A as the lead category. The same critics suggest that "the European Commission only caved in to pressure from manufacturers seeking a new marketing gimmick" (Facultas 2010). Also, the extended Ecodesign was criticized by BusinessEurope, the European employers' lobby, which claimed that "[l]egislating for the eco-design of products should not be the priority route for enhancing the eco-design of products, as this should be left to industry and driven by market forces"(Rankin 2008). Other criticisms range from a need of an improved harmonization of

the Ecodesign and the Label to the minimum efficiency level of the Ecodesign being too hesitant (ECEEE 2009a).

The *addressees* of the programs are the manufacturers (Ecodesign, Energy Label), the retailers (Energy Label) and the consumers (Energy Label). By expanding both Directives, the EU is distributing the efforts and not exclusively burdening the manufacturers. Through the IPP program, the EU combined various standards affecting the European industry and thereby enabled a important tool for incorporating of the Ecodesign. This leaves the manufacturers with clear guidelines as to product categories, which had previously criticized that "European industry already faces a number of directives that touch on green standards" and "warned the Commission not to present a proposal that is too prescriptive" (ibid). Similar to the Californian, the consumers are supposed to gain energy and money savings through reduced TV energy consumption. Also, the energy label aims at giving consumers an understandable information tool to evaluate their television purchase from a cost-energy-effective viewpoint.

Overall, these effects are very likely to appear. However it is difficult to account for untapped electricity savings of consumers not fully understanding the label or misinterpreting the A-to-A+++-categories.

5. Potential Effectiveness

The actual implementation of the Californian TV efficiency standards and the EU's Directives on Ecodesign and Energy Labelling will offer more insight on the programs' performances. Even with the programs coming into force in early-2011, the true effectiveness will only start showing as soon as a significant amount of televisions have exceeded their life-cycle and are being replaced. Since market forces and innovation depend on general economic development and on complex interactions between various supply and demand drivers, the effects of the concrete standards or labels are difficult to tap and indicate. Nevertheless, the target elements (chapter 4.1-A) define the problem definition and serve as a key reference point of evaluating (potential) effectiveness.

<u>California</u>

Originally, the perceived problem of the Californian government was the costs that energy wastage had on consumers, the industry, the market and the state budget as such. By putting the CEC in charge of administering efficiency programs (1974) in various energy-related

domains, the general aim of the Commission is to reduce the State's energy wastage or rather increase the energy efficiency. Thus, even if the TV efficiency standards do not deliver as proposed, the 'efficiency program' is not ineffective per se. However, since the TV efficiency standards rulemaking introduced concrete targets, these serve can indicate the strict effectiveness of the isolated cause of televisions. First, the targets were designed to cut on-mode electricity by certain rates (Tier I, Tier II). Secondly, an overall energy savings of 6,515 GWh are proclaimed. Thirdly, the Commission promises the consumers to save approximately $8.1 billion in energy costs, while individually saving $18 to $36 per TV unit.
The Commission's general aim of the guaranteeing a reliable electricity supply does not per se depend on the standards implementation success and remain an overall guideline from which to evaluate the CEC's action as a whole.
The CEC follows a conditional program, which seeks to achieve these targets through regulating the design stage of televisions and by defining the conditions of implementation and enforcement. By additionally running information campaigns on (general) energy efficiency the public awareness is meant to be shaped, to enhance the demand-sided call for energy efficiency. A further demand-sided instrument remains the voluntary EnergyStar label, which serves as guideline for nation-wide comparisons of efficiency levels as well as consumer information tool. The California State Legislation grants the CEC sufficient authority and funds through which to coordinate and carry out these operative elements. While California's efficiency policy is not yet preempted by DoE standards, federal regulations do not interfere with the proposed standards. This gives the Commission enough leeway to pursue their state-led conditional program.
However, the conditional program is merely one approach leading to TV efficiency. Scientific literature points out that the combination of label programs and minimum efficiency standards achieve much higher efficiency rates (Nadal 2002, International Energy Agency 2000). While the CEC is materializing a strong regulatory approach, the inclusion of mandatory label programs could possibly enhance the achievement of TV-related electricity efficiency. Also, should the television prices or the job market be noticeably disturbed through the standards, the CEA, as an influential 'interested actor', could mobilize retailers and manufacturers and harm the implementation. Yet, due to the State's ambitious CEWTP program for Green Workers, the job market should be sufficiently bolstered.
Overall, the Californian standards are likely to reduce the energy costs and the TV-related energy consumption and are therefore a potentially effective tool for tapping necessary TV

electricity savings. However, mandatory labels represent a further possible savings potential due to their proven compatibility with standards.

The European Union

The European Union intends to tackle the perceived lack of consumer information on TV electricity consumption and improve the energy performance of televisions. These intentions are driven by various individual targets and observances. First of all, the EU's commitment to the Kyoto Protocol and its follow-up forerunner role in fighting climate change put the EU in a position where it must lead the way towards minimizing GHG emissions by 2020. Secondly, the EU's remaining 20-20-20 targets, of increasing EU energy efficiency by 20% and reaching 20% of renewables in total EU energy consumption, have spurred the EU to expand their energy efficiency efforts. Thirdly, just as in California, the advancing of televisions into a significantly energy-consuming household appliance motivated the EU to react. The overriding targets deriving from the EU energy strategy do not directly relate to the TV efficiency programs and can theoretically be achieved without it being successful.

Yet, the EU concretely aims at saving a 43 TWh annually by 2020 through the combined utilization of the Energy Label (annual saving of 15 TWh by 2020) and Ecodesign (annual savings of 28 TWh by 2020). Also, a declared aim is to take a key role in world-wide climate change and energy efficiency policy.

The EU's design of a purposive program includes a persuasive mode of public relations campaigns, a regulatory mode, regulating efficiency standards, and an incentives mode, through the reward system of the label. While the Ecodesign and the energy label, as complementary instruments, are a promising way of reducing TV energy consumption, the effectiveness can still be hampered. The readability and comprehensibility of the label must be verified through real market experience. The fact that the EU issued a number of impact assessment tests prior to the implementation does not exclude the possibility of the label not reaching desired effectiveness. Even though the EU-assigned assessment tests advise the use of the actual label (ultimately ranging from A+++ to D, see Appendix, Figure 4), the label has a potential for misinterpretation. This might only mean a misinterpretation of the A categories (A, A+, A++, and A+++), however even a misreading of these top categories would nonetheless gouge the label's savings potential. Also, the ECEEE found that "[t]he requirements for achieving class A should be made stricter" (ECEEE 2009b).

While the Ecodesign requirements were also closely analyzed in preliminary assessment tests and designed accordingly, a potential hindrance to full effectiveness could be its comparably

mild requirements.[31] For example, the European Council for an Energy Efficient Economy (ECEEE), a stakeholder involved in the implementation process, regrets "the delay taking into account that the preparatory study was finished in August 2007" (ECEEE 2009a: 1) while others criticized the rather low requirements considering the market movement.

All in all, the EU had to ensure that all member state's, regardless of their economic standing, could comply with the Directives. Both Directives show no major hindrances towards reaching the proposed targets. The combination of the demand-sided and supply-sided efforts promises high effectiveness, since it adds to existing labeling schemes and IPP efforts. Still, the potential of consumers misinterpreting the label as well as Ecodesign requirements being too low could slow down innovation competitiveness, which is the key driver of the proposed savings.

6. Transfer options

Generally, policy transfer illustrates the transference of individual policies or institutions from one political system to another (Holzinger et al 2007: 13). Specifically, however, it describes "the process by which knowledge about policies, administrative arrangements, institutions and ideas in one political system (past or present) is used in the development of policies, administrative arrangements, institutions and ideas in another political system" (Dolowitz and Marsh 2000: 5). Thus, the utilizing of knowledge is the crucial parameter and driver of transfer processes.

Since public administration, above all, functions as a problem solving body[32] it is depends on the input of good practice in order to maintain its problem solving ability in an ever changing political sphere. Both the European Union and the State of California were confronted with the fact that televisions are consuming nearly 10 percent of average household electricity and regulations were not in place. As both regions claim an international leadership role in climate change, e.g. efficiency policy, and represent leading economies with broad networks and expertise, it seems that cooperation and exchange would suggest itself. Surprisingly, however, the information exchange between both governances turned out to be rather sparse. Neither the CEC, nor the respective EU institutions mention an active transatlantic involvement between the departments. Especially on staff level, there are no institutionalized

[31] For a comparative overview of the EU Ecodesign, the US Tier I and Tier II standards, EnergyStar standards and Japan's TopRunner model (not dealt with in this thesis), see: http://www.kegel.com/energy/television/ .

[32] Grunow brings up the term ‚proble-solving ameba' to describe administration's absorbing of individual problems or problem fields.

communication channels between the two and a regular exchange is not documented.[33] Instead, California individually collaborates with various EU member states on energy efficiency issues. This lack of institutionalized exchange could have several reasons: First of all, the differences in the governance levels could complicate a fruitful communication. Secondly, the EU member states' hitherto responsibility of actually implementing EU efficiency Directives could have drawn the member state level to conduct individual exchange of good practice. Thirdly, the individual implementation structures might have been perceived as too particular to advise best practice. Despite these considerations, there is a noteworthy potential for a political exchange that exceeds the actual level of exchange, since the EU is more and more becoming a key player of European energy policy.

Besides the general potential of enhancing institutionalized agency exchange, the administrative analysis has unveiled two transfer potentials:

For the EU, the knowledge of California successfully running comparably strict standards in past efficiency programs, and again having designed the most stringent TV efficiency standards on the market, bears potential. While the EU is hoping to achieve TV energy savings through complementary means, it also aims at forwarding the existing top-rank TV efficiency technologies through its approach. California's comparably strict standards result from the inclusion of actual best practice. By considering best practice in follow-up Ecodesign requirements, the EU could also tap additional savings potentials (see TopTen.Info 2010: 4 and 6 for a comparative table).

For California, the consideration of enhancing label quality is a promising option for future efficiency enhancement. Its operative elements and implementation structure already sees consumer information as a vital tool, yet so far, only on voluntary basis. By utilizing the EU's experience in mandatory labeling, California could increase public awareness and competition and tap further electricity savings potentials. Especially since the DoE is considering federal standards that might surpass and thereby preempt the Californian standards, an increase in label quality such as a quasi-mandatory label lends itself.

[33] This does not mean that there are no mutual learning channels. For example, several Californian and European universities tend to have joint panels on energy policy, efficiency science or sustainability. Nevertheless, institutionalized lesson learning between the respective agencies does not seem in place.

7. Final Conclusion

All in all, the policy-oriented analysis of administration has disclosed the various elements of which the Californian and EU-European TV efficiency regulations exist. While the administrative action reveals California's strong regulatory mode for reaching its proposed targets, the EU shows a more complementary approach. These modes were mainly formed by the respective frame legislation, in which the TV efficiency rulings were included. In California, the CEC's Appliance Efficiency Standards program was extended to include television and also in the EU, the IPP-driven Ecodesign Directive and the Energy Labelling Directive served as docking units. On the one hand, this absorbing of the television consumption issue seems necessary, considering the legislative and procedural traditions of both regions. On the other hand, perhaps a more independent approach could have been designed for televisions to do justice to its market features. Different than washing machines or refrigerators, televisions are subject to high competition and are purchased by a wide-ranging consumer group. Thus, a more market-driving than market regulating option could have been designed, alternatively.

Nevertheless, both the Californian standards and the European Directives are likely to achieve the desired effectiveness. The Californian implementation structure does not bring up any serious barriers, supplies the CEC with ratepayer-based funds and is not exposed to sudden policy changes. The EU's implementation structure reveals its relative dependency on member state compliance for achieving the proposed 20-20-20 targets, since the compliance is subject to variable conditions among the state administrations. However, the harmonization of energy policy gives the EU more regulatory power and centralizes the administrative efforts of launching such efficiency policies. Ultimately, both approaches will prove effective in mere light of the targets, while alongside revealing potentials of effectiveness improvement.

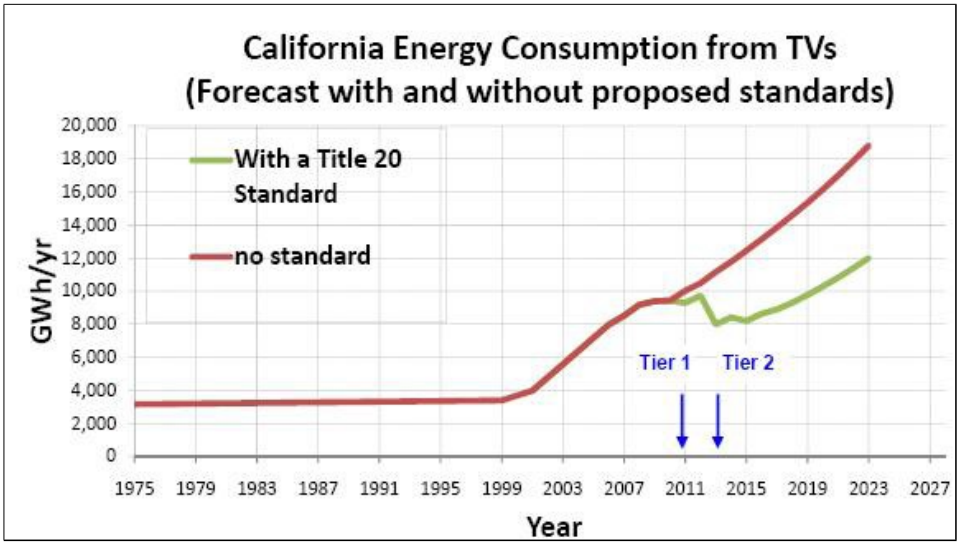
The transfer potentials derived from the administrative analysis identify the weak points of both rulings and reveal future savings potentials. Further, it shows that the institutionalized trans-nationalization of policy exchange suggests itself in such a trans-nationalized policy domain as energy policy. While utilizing Grunow's poV in the case study of television efficiency programs enables a detailed categorizing of the policies' elements, the administrative focus of the approach obstructs the view on other agents' influence.[34] Nonetheless, the analyses of public administration, as the key 'problem-solving ameba' in transatlantic efficiency policy allows for an estimate of effectiveness. In the end, the further

[34] The analysis focus of the ‚implementation structure' does grant the categorizing of the structure as 'open to other actors' or 'heterogeneous', yet including a further analysis tool for particularly studying (transfer) agents proves necessary.

implementation process and the target-result comparison will reveal the limits and potentials of such policy-oriented analysis of administration.

Appendix

Figure 1: Estimated Effects of Californian Tier I and Tier II standards



Source: California Energy Commission (CEC): Supplemental Slides to Legislative Hearing, Presentation, 21 October 2009

Figure 2: Californian formula for TV power consumption

Effective Date	*Screen Size (area A in square inches)*	*Maximum TV Standby-passive Mode Power Usage (watts)*	*Maximum On Mode Power Usage (P in Watts)*	*Minimum Power Factor for (P ≥ 100W)*
January 1, 2006	All	3 W	No standard	No standard
January 1, 2011*	A < 1400	1 W	P ≤ 0.20 x A + 32	0.9
January 1, 2013	A < 1400	1 W	P ≤ 0.12 x A + 25	0.9

Source:
California Energy Commission (2010): Proposed Amendments to Appliance Efficiency Regulations (Express Terms): 7-8.
See: http://energy.ca. gov/2009publications/CEC-400-2009-023/CEC-400-2009-023-CMF.PDF

Figure 3: EU formula for TV on-mode power consumption

For comparing the Californian formula with the EU formula the screen area "A" must be brought to a consistent measuring unit. While the EU uses dm², California uses in².

1. ON-MODE POWER CONSUMPTION

1. From 20 August 2010:

The on-mode power consumption of a television with visible screen area A expressed in dm^2 shall not exceed the following limits:

	Full HD resolution	All other resolutions
Television sets	20 Watts + A · 1,12 · 4,3224 Watts/dm^2	20 Watts + A · 4,3224 Watts/dm^2
Television monitors	15 Watts + A · 1,12 · 4,3224 Watts/dm^2	15 Watts + A · 4,3224 Watts/dm^2

2. From 1 April 2012:

The on-mode power consumption of a television with visible screen area A expressed in dm^2 shall not exceed the following limits:

	All resolutions
Television sets	16 Watts + A · 3,4579 Watts/dm^2
Television monitors	12 Watts + A · 3,4579 Watts/dm^2

Source:
European Commission (2009): Commission Regulation (EC) No 642/2009: 46.
See: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ: L:2009:191:0042:0052:EN:PDF

Figure 4: EU Television Efficiency Labels from 2010-2019

Source: (European Commission 2010d: 15).

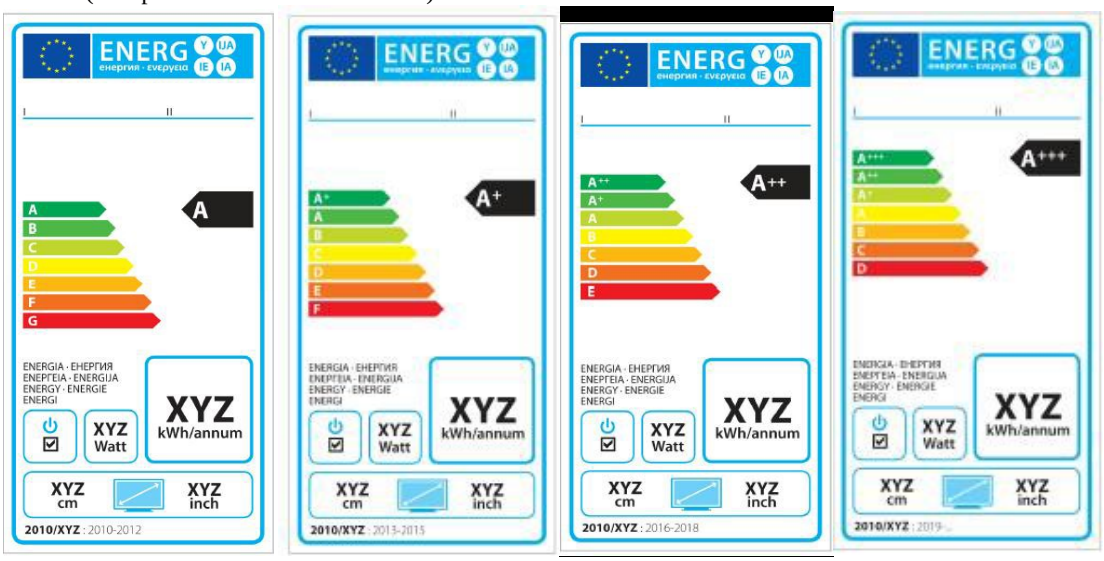
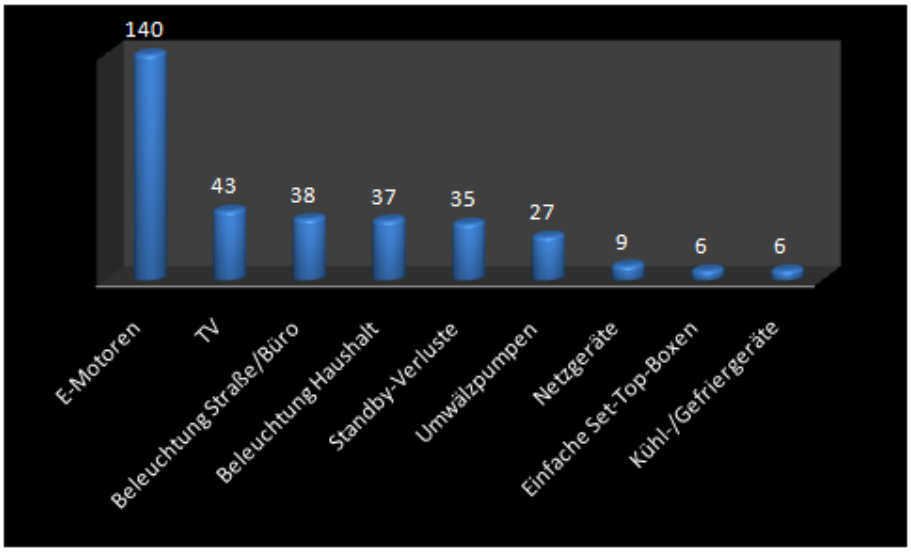


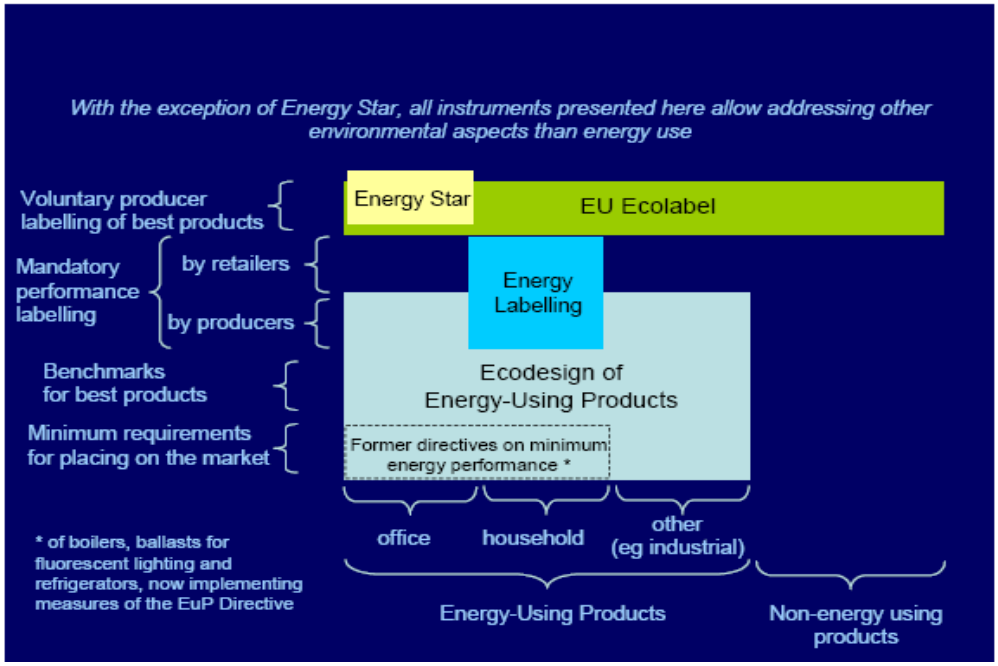
Figure 5:



Source:
Spindelbalker, C. (2010): EU Ökodesign-Richtlinie. Europa forciert integrierte und nachhaltige Produktpolitik – eine Information des WIFI Unternehmerservice.
http://portal.wko.at/wk/format_detail.wk?AngID=1&StID=317456&DstID=6963

Figure 6: Relationship between EU policy instruments regulating energy consumption
This overview shows which efficiency programs the EU is following. However, the recent update of the Ecodesign requirements are not included in this graphic. The Ecodesign now covers non-energy using products, as well, which hitherto had only been covered by the voluntary EU Ecolabel.

Figure 5.2: Relationship between different policy instruments



Source: Europe Economics 2008: 25.
http://www.europe-economics.com/publications/2008_consultation_energy_labelling_mainreport.pdf

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