

Energy Saving Obligations and Tradable White Certificates: Purposes and outcomes

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Introduction

The paradoxes of not sufficiently implementing end-use energy efficiency despite huge cost-effective potential all over Europe are well described (see e.g. IEA 2009; Jollands & Ellis 2009; Fischer & Sohre 2007). With the upcoming of a new policy instrument in the field of end-use energy efficiency, the so-called white certificate instruments (WCI), the question arises if this is a new way to close the efficiency gap.

A WCI is a hybrid instruments making on the one hand use of an energy saving obligation, and on the other hand allowing for some flexibility in reaching the target including some trading provisions. WCI are implemented in three European countries with rather different approaches and regulatory traditions in energy policy, Great Britain, France, and Italy. Why are these countries pioneering the introduction of a similar policy instrument? Suspicious minds would say that employing a hybrid instrument may water down its stringency and may be a good excuse to show action without doing anything. Others may see it in the context of growing European preferences for market-based policy instruments (MBIs) especially those making use of trading and highlight its cost-effectiveness.

Three major international research projects on WCI influenced the scientific debate: “White & Green” (2004-2005), “EuroWhiteCert” (January 2005-April 2007), and Task XIV of the IEA Demand-side Management project (June 2004-June 2006). The initial intention of these projects was to explore options for a European-wide White Certificates Scheme, or, to at least identify ways towards a scheme integrating different types of certificate such as Green Certificates and European Emissions Trading Scheme (EU ETS). The discussion about WCI can be located within the context of tradable permit schemes for climate protection (“White & Green”, EuroWhiteCert) and fostering learning processes on an international scale (IEA DSM Task XIV). Early research papers were dedicated to similar subjects and the discussion is still ongoing (Sorrell, Harrison, Radov, Klevernas & Voss 2002; Bertoldi & Rezessy 2006; Oikonomou & Mundaca 2008; Bürger & Wiegmann 2007). Especially the role of trading has been addressed by various scholars. Their research mainly concludes that there is limited evidence for the cost-effectiveness through trading. Similarly, experts see little room for a European wide trading scheme. They estimate that additional values of energy efficiency measures on a local/regional level are superior compared to the benefits of a broader certificates market (Langniß & Praetorius 2006; Mundaca, Neij, Labanca, Duplessis & Pagliano 2008; Radov, Klevernas, Sorrell 2006).

Up to now, there is, however, a lack of research analyzing this policy instrument from a political science point of view. This paper is part of a dissertation project that aims at filling this gap. The dissertation projects aims at explaining why this policy instrument has been

introduced in Great Britain, France, and Italy.

In order to understand the implementation of a WCI a range of explanatory factors, i.e. path dependent regulatory choices, actors' interests and the influence of ideas are explored in the course of the dissertation project. The underlying assumption is that understanding the introduction of a policy instrument and the effects it enfold has to entail both, the explanation of agenda-setting *and* the explanation of design choices. This paper focuses especially on the influence of framing for agenda-setting and design choices.

Theoretical approach

Historical institutionalism serves as a theoretical framework for the dissertation (Thelen & Steinmo 1992; Hall 1989; Hall 1993; Hall & Taylor 1998). It is inspired by authors that expanded the historical institutionalism to what is sometimes referred to as constructivist institutionalism as a fourth brand¹ of new institutionalism (Winscott & Hay 1998; Hay 2006; Schmidt 2008; Jabko 2006²). Instrument choice can be seen as an element of policy change, be it rather incremental or be it rather radical. To a certain extent, instrument choice can be seen as an indicator for policy change (Lascoumes & Le Galès 2007, Linder & Peters 1989). Analyzing policy instrument choice is a way "to make visible some of the invisible" (Lascoumes & Le Gales 2007:17). Focussing on policy instrument choice implies the extension of policy analysis towards taking into account not only agenda-setting but also the political process of design choice. In order to explain policy change, especially Baumgartner & Jones agenda-setting approach (Baumgartner & Jones 1993; Baumgartner 2007) and models of policy instrument choice (especially Linder & Peters 1989; Lascoumes & Le Galès 2007, Böcher & Töller 2007) will be the theoretical basis for the analysis. This paper focuses especially on one factor expected to influence policy instrument choice: the policy architect's framing of the policy instrument as a way to match its discourses with solutions. This is further set out as follows:

Instrument choice is seen as an example of institutional change in the process of policy change (cf. Bressers & O'Toole 1998: 223). Policies pursue goals. Ideally, policy instruments are the means to deliver these goals. But going beyond this functional understanding of policy instruments as tools for decision-makers, policy instruments themselves may enfold dynamic effects in the political process: Since policy-makers often attribute not only certain characteristics but also ideas and values to a policy instruments, the instrument may be politicized. The underlying historical institutionalist perspective assumes on the one hand that goals are emerging out of historically predefined institutional and ideational settings. On the

other hand, this approach acknowledges that goals can emerge and change endogenously in the political process of e.g. policy instrument choice. Policy instrument architects are expected to strategically frame the policy instrument (Jabko 2006). Strategically framing policy instruments is happening in the light of expectations about how the policy instrument would work. Research on policy instrument choice observed that a policy-makers strategy may be to 'de-politicize' or 'neutralize' policy instruments in order to gain broad political support (Lascoumes & Le Galès 2007: 17; Voß 2007: 59). Political support is expected to be higher, if a policy instrument matches with its (scientific and political) discourses (Böcher & Töller 2007). As developed above, issue framing is one possibility for policy architects to match policy instruments to goals/ discourses. However, since strategic action is understood as a social construct, an attempt to 'depoliticise' a policy instrument may fail and turn out to enforce a value-afflicted image. This is the more likely the less clear-cut goals are present in a political process. Strategic action as social construction has to be uncovered in the course of analyzing political processes. This may help to detect hidden goals of policy architects and accordingly causes of unexpected outcomes.

This also implies putting issue framing (problem, goals, and solutions) in context, by taking institutional, actor, and time dimensions into account. The political process and strategic action do not end by simply choosing a policy instrument. Rather, design choices belong to the political process and have therefore to be carefully included in the analysis. When examining energy saving obligations and tradable white certificates, understanding issue framing requires to strip down the complexity challenge of energy efficiency (problem, goals) and to grasp different understandings of market-based policy instruments (solutions).

Methodological implications and structure of the paper

It is part of the dissertation to trace policy processes of setting up the policy instrument from agenda-setting to design choices including changes over time. By doing so, predominant frames and perceptions are detected as well as the influence they enfold in the political process. This paper presents an analysis of how the framing of the policy instrument matches its purposes and actual design choices. In the context of this paper it is impossible to portray political processes in a comprehensive way. Rather, this paper is an extract that aims at giving the reader an idea about the dynamic process of policy instrument choice and the policy instrument under examination.

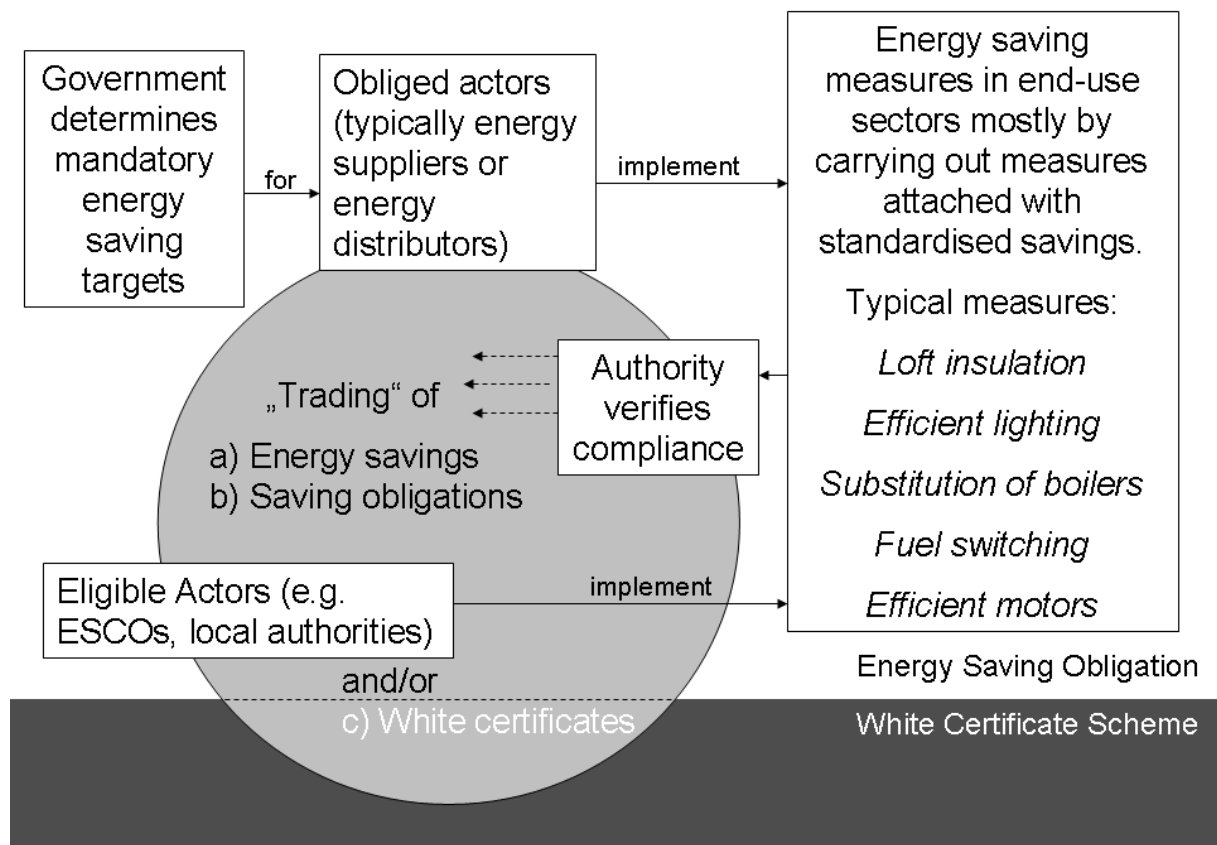
Process-tracing is done with the help of a qualitative content analysis (Gläser & Laudel 2006). Apart from analyzing primary documents (legal documents, position papers, parliamentary

reports and written material from consultation processes), in total 30 expert³ interviews have been carried out. The transcripts of the semi-standardized interviews are filtered according to the categories ‘perceived purposes’, ‘mode of actions’, and the ‘significance of design choices’ attached by the expert. The following operationalising questions are guiding through the analysis: What have been the purposes and expected benefits of introducing energy saving obligations? How did actors express the modes of actions, objectives and main characteristics of this policy instrument in the different countries? Are these perceptions and expectations reflected in design choices and first implementation results and did they change over time?

The paper is divided into the following subsections: First, the policy instrument is introduced in order to understand the range of mode of action associated with it. Second, the three WCI schemes in the UK, France, and Italy are presented. Each case study comprises four parts: agenda-setting, design choices, outcomes (achieving target, routes of delivery, and trading), and a summarizing part connecting the other parts by highlighting the framing of the policy instrument. Third, the most important results are discussed in an overall comparison. The conclusion goes finally back to the initial question and identifies further need for research.

White Certificate Instruments – General Mechanism⁴

A White Certificate Instrument (WCI) is a policy instrument to save energy in the end-use sectors. In this context it is understood as a regulatory intervention by the government: the government imposes an energy saving obligation on energy companies (supplier, distributor, or generator). The instrument provides some flexibility for obligated actors to comply with their obligation. A variety of measures and programs leading to energy savings in the end-use sectors by an increase in energy efficiency are principally eligible to count towards the target. The scheme may also create the possibility for obligated companies to involve partners helping them to carry out the projects. This flexibility entails some kind of trading but does not necessarily require the issuing of ‘certificates’. Apart from trading ‘white certificates’, there are other possible ways of trading. This includes trading of the obligation, trading of the energy saving projects, or trading of the savings attached to that project. This definition of WCI does not include voluntary approaches, i.e. white certificates trading without a mandatory saving target. Graph 1 illustrates the general mode of action of WCI.



Graph 1: General mode of action of White Certificate Instruments source: own illustration

WCI instruments are usually referred to as market-based policy instruments. As a hybrid instrument, or smart regulation, it makes use of different modes of action – coercion on the one hand, and freedom of strategy choice on the other hand. There are, however, major differences of mechanisms employing a cap and leaving the solution entirely to the individual company's choice (European emissions trading schemes), and project- or program-based mechanisms (WCI). The latter baseline-and-credit schemes require much more rules and regulatory intervention. It is the design choices that will determine which mode of action (coercion vs. freedom of choice) is dominant. There are several points in designing the policy instrument where the steering actors (be it the ministry, be it the regulator, be it influencing associations) can influence not only the way a certain outcome is achieved. Their decisions will also determine the substance of the outcome, i.e. its effectiveness to reach its objective. Generally, there are two ways to enhance the flexibility of the scheme: trading provisions and determining the range of measures eligible to count towards the target.

Additional value of energy efficiency projects and the role of trading

The idea to include trading in WCI is to enhance the cost-effectiveness of the scheme by allowing third actors, who are able to generate cheaper energy savings than the obligated actor, to participate in the scheme. Under certain conditions, the value of carrying out the measures themselves may have an additional value that is not reflected in the white certificate but is bound to the measure⁵. This is true for both, obligated actors and general public interest. In a very homogenous market, where all participants have a similar role and compete in similar areas, carrying out energy efficiency projects may increase the competitiveness of a company. It can help these actors to advertise their brand to customers and diversify their offer. The choice to implement certain measures (e.g. changing boilers to a new gas boiler) may be advantageous for more integrated markets than in markets where the services are unbundled. On the contrary, if the energy efficiency measure has no additional value in the eyes of the obligated actor, trading becomes important. Third parties would then be the actors carrying out the actual projects and selling the projects, savings, or certificates. There is, however, not necessarily an incentive for spot trading compared to longer-term contracts.

The general public also benefits from energy savings beyond overall purposes such as security of supply, or climate protection. Certain measures may steer innovation and market transformation processes. Another additional benefit of certain measures over others may be an increase in comfort factor allowing households to keep their houses warmer without raising their energy bill.

Choice of measures

In an open-ended scheme with many eligible measures to count towards the target, the strategic choices for the obligated actors become greater and the flexibility of the whole scheme increases. Also the way savings are measured and verified influences the degree of coercion: strict baselines and strong additionality criteria will lead to stricter control and reporting requirements and/ or well-defined saving values by default. Measurement on-site (or estimates based on modeling assumptions combined with some on-site measurements) may on the one hand allow for more strategic choices but will lead on the other hand to more bureaucracy and an increase in administration costs.

Apart from the number of measures, the kind of eligible measures have an influence on the strategic choice of the obligated actors (can they use some measures to pursue some of their individual goals as well?). Some design choices may incentivize the uptake of certain measures over others. An example allowing the obligated actor freedom of choice and representing flexibility in the scheme would be to apply a weighing factor to the savings

generated by certain innovative measures in order to reward their implementation. Other design choices may make use of coercion in order to incentivize carrying out certain projects over others. This can simply be done by restricting the list of measures, by imposing certain additional obligations, or by restricting cost-recovery to certain measures.

	Objective	Initial targets	Current targets	Obligated actors	Target sectors	Measures other than standardized ex-ante values	Cost-recovery, penalty, buy-out	Particularities in design choices
Great Britain	Climate Protection & Fuel poverty	62 TWh (EEC1) & 130 TWh (EEC 2) fuel standardised lifetime discounted; (2005-2008)	185 MtCO ₂ lifetime savings (~ 4,2 MtCO ₂ /a) (2008-2011)	currently 6 electricity and gas suppliers; (> 50,000 customers); currently 6 suppliers	Households	Innovative action (max 10% EEC2); Demonstration projects, flexible measure priority group, microgen & chp (max 12%; CERT)	Penalty up to 10% of companies' turnover	Separate priority group target; Increasing eligibility of innovative technologies, e.g. micro-generation;
France	Security of supply, affordable energy prices, climate protection	54 TWh cumac/ 2006-2009	At least 100 TWh cumac/a	> 2400 energy suppliers (electricity, gas, heating & cooling (all selling > 400 GWh/y); LPG (selling >100 GWh/y), domestic fuel (no threshold);	Non-EU ETS	„opérations spécifiques“	Buy-out of 0.02 €/kWh	More than 2000 suppliers obligated
Italy	Security of supply, Kyoto-obligation, compensate impacts of liberalization	Initially: 2.9 Mtoe/a by 2009	Expanded: 3.2 Mtoe/a by 2009; 6 Mtoe/a by 2012	currently 75 electricity and gas distributors (> 50,000 customers);	Open-ended	Engineering approach, energy monitoring plan	Cost recovery, initially 100 €/toe, currently 88.92 € per toe	Electronic trading platform for white certificates

Table 1: Comparison of WCI Design Choice; own compilation

WCI in Great Britain

Agenda-setting

The British WCI was originally attached to the debate on the state's role of providing energy or energy-related services. The precursor of the current WCI was the so-called Energy Efficiency Standard of Performance (EESoP) back in 1994. It was targeting the household sectors and therefore a market section which was not yet open to competition. While it was initially believed that no state intervention was needed to ensure a certain level of energy efficiency (cf. e.g. Helm 2004), the scheme continued also after completing the liberalization of energy markets. When New Labour came into power and the director general lost his weight in the regulatory authorities, there was a shift in responsibilities concerning this policy instrument. It was then no longer the regulator determining the target, but the environmental ministry. What was originally collected as a surcharge on the customers' bill and then accordingly spend on energy efficiency projects in private households mainly with the help of the Energy Saving Trust then fully turned into a new scheme. Cost-recovery was now matter of the competitive market and the development of projects was left to the obligated actors, the electricity and gas suppliers. The obligated parties were allowed to trade the obligation or the energy savings among each other: the first Energy Efficiency Commitment (EEC 1, 2002-2005) marked the beginning of the British WCI. With New Labour, the general focus of energy policy objective shifted towards a stronger emphasis on environmental and social goals. EEC 1 was accordingly promoted both as a climate policy instrument and an instrument tackling fuel poverty by focusing on low-income households. Over time, the focus of the British WCI shifted further towards climate change, reflecting the government's strategy to deal with energy policy under the auspices of climate policy. The current scheme is named accordingly 'Carbon Emissions Reduction Target' (CERT, 2008-2011). An interviewed expert put it like this: "It sort of wrapped from being a program aimed to targeting low-income consumers to a climate change program that does target low-income consumers."

Design choices and changes in Great Britain

The obligated actors in Great Britain are electricity and gas suppliers. Under EEC 1, twelve suppliers had an obligation. Since the beginning of privatization, the number of suppliers decreased, currently only six suppliers have an obligation. With an increase in targets (from 62 TWh in EEC1 to 130 TWh in EEC and again a doubling of the target in CERT to 185 MtCO₂ lifetime savings), suppliers complained that compliance becomes increasingly difficult (Defra 2008). Accordingly, the threshold to obligate a supplier increased throughout

the scheme from 15,000 to 50,000 customers in order to take off a disproportional burden of smaller suppliers.

The British WCI is targeting only households. On top of this, a separate obligation requires a certain percentage of savings (50% in EEC 1 and EEC2, 40% in CERT) to be achieved by implementing energy efficiency projects in the so-called priority group to reach fuel-poor people. Customers belong to the priority group if they are recipients of certain benefit schemes (income or disability benefit or tax/pension credits)⁶. The definition of the group has widened with entering into force of CERT in 2008. Also households with people over the age of 70 are now comprised in this group. Further, the supplier may achieve up to 12,5% of their priority group target by making use of a so-called flexibility mechanism which basically increases the savings awarded for installing ground source heat pumps and solid wall insulation by a certain percentage. In the consultation procedure some respondents claimed that the flexibility mechanism factually reduces the priority groups target to 35% (Defra 2008: 3). There were also calls (expressed in the consultation and in interviews) to take the priority group out of the scheme and create a separate scheme to tackle fuel poverty. In 2009, the ministry established an additional obligation for suppliers and electricity generators, the community energy saving program (CESP). The whole house approach is aiming to reach especially areas inhabited by low-income consumers. CERT has been amended in 2009. These amendments lead to an increase in targets with the Priority Group target remaining at 40%. The government clearly expressed that it wants to keep the fuel poverty target within the scheme⁷ (DECC 2009: 1; 2).

Initially, the British WCI had a rather limited number of measures with a strong focus on insulation measures (Defra 2005: 11). While under EEC 1, only savings attached to default measures were eligible, under EEC 2, “Innovative Incentive” (including micro-cogeneration <50kW_{el}), meaning a 50% uplift for these measures could be counted towards up to 10% of the supplier’s target (Ofgem 2005). This has been expanded under CERT. There are now two types of “innovative action”, one is market transformation action, the other is the so-called “demonstration projects”. Similar to EEC2, market transformation are uplifted with a 50% factor for Micro-cogeneration and solid wall insulation, or for any measure not included under EEC2 or CERT. Demonstration action accredits savings through new types of measures including behavioral change. Innovative action is capped at 6% of the overall target (or 8% if at least 2% are fulfilled via Micro-CHP) (Ofgem 2008a). Further, some changes are made with regard to the saving value of certain measures. Some kind of CFLs and big IDTVs are not eligible to count towards the target anymore, the saving for cavity wall insulation has been

lowered, and an uplift factor of 50% has been introduced to solid wall insulation instead. The latest amendments of 2009 are again expanding the flexibility of the scheme. The cap for innovative action is now set at 10 respectively 12%. Moreover, two more measures are added as qualifying actions: real time displays and home energy advice packages (Ofgem 2009a). In sum, the scheme developed from a rather narrowly tailored scheme into a more flexible scheme, giving increasing room innovative action to be granted with savings.

First outcomes in Great Britain

Targets and Measures

Reports on the British WCI agree on its success (NAO 2008; Lees 2008, Ofgem 2008; Eyre, Bodineau, Pavan 2009). The overall target of EEC 1 has been overachieved, including the priority group's target. 56% of the savings have been achieved through mostly cavity wall and loft insulation (Ofgem 2005). The patterns of implementing savings did not change significantly throughout EEC2: The targets were again overachieved (187 TWh in total) including the priority group's target. Around 2/3 of the savings have been achieved in gas (EEC 1: 44%), another third (EEC 1: 49%) in electricity (foremost insulation in electrically heated properties, CFLs, and efficient appliances) (Ofgem 2008b). Almost one quarter of the EEC 2 target was achieved by the savings surplus from EEC 1 (Ofgem 2005). Almost 60% of the new savings have been achieved through insulation measures, but also lighting (12%), appliances (5%) and heating measures (7% including CHP) have been implemented. Around 1,750,000 households benefited from loft insulation, 1,700,000 benefited from cavity wall insulation. Lighting measures consist of 100 million CFLs and luminaires as well as of approximately 370,000 other lighting measures. As part of the heating measures, around 2 million A-rated boilers have been delivered throughout EEC 2. 64% of the 22 million efficient appliances have been delivered through innovative action, while no supplier reached the 10% cap of innovative action (Ofgem 2008b). Some of the suppliers were more interested in innovative action than others. This caused the installation of micro-CHP and savings due to consumer electronics (A-rated appliances and larger sized integrated digital televisions) (Ofgem 2008b). The Office of gas and electricity markets (Ofgem) calculated that savings losses due to the uplift factor do not exceed 4.7 TWh. Changes in the design (e.g. uplift factor for solid wall insulation, reducing savings for cavity wall insulation, cancelling of eligibility of certain CFLs and big IDTVs) influenced the suppliers' choice to carry certain kinds of savings over to the next scheme in order to make most of the savings out of their measures.

Routes of Delivery and Trading

Different routes of delivery have been observed under the British EEC. According to Ofgem, the most successful delivery route has been through direct contact with the customers. British suppliers also promoted measures with social housing providers, retailers, and manufacturers. Another important synergy that emerged is combining the projects under EEC with the Warm Front Scheme⁸ designed to alleviate fuel poverty. Working in cooperation with boiler manufacturers helped to transform the market: a new regulation required the installation of at least B-rated boilers. The suppliers helped promoting and installing A-rated boilers instead (Ofgem 2008b). The big share of the measures were delivered by ‘market push’ and not by ‘demand pull’ as Ofgem concluded in its report to the government. Still, they observe the start of an increased consumer demand for energy efficiency due to higher energy prices and environmental awareness.

The overall (horizontal) trading activity remained low, if not negligible. Still, competitive biddings to subcontract insulations measures have taken place creating a market value for insulation measures and leading to foremost long-term partnerships (Mundaca, Neij, Labanca, Duplessis & Pagliano 2008; see also Radov, Klevnas & Sorrell 2005).

Framing the WCI: From Re-regulation to Climate Change

Understanding the processes of agenda-setting and design choices by taking into account the expert interviews, the framing of the WCI in Britain changed throughout the system. Initially, the discussion was whether or not an intervention into the liberalized markets was desirable and necessary. In the light of first results and emerging problems in the newly liberalized energy markets (e.g. price burden laid especially on the residential customers) it was felt necessary to re-regulate for the sake of energy efficiency improvements (Helm 2004). Introducing an additional obligation for the so-called priority group signifies the rather interventionist approach of the government. Moving beyond agenda-setting, the overall objective of the scheme shifted increasingly towards climate change. Evaluations and presentations of the scheme by Ofgem and the government over time find stronger expressions for the urgency to act under the umbrella of climate change. This is reflected in the overall structural changes of the ministries and their responsibilities. It is also reflected in the changing design choices. The first WCI targets were expressed in final energy (TWh) savings. CERT targets are now counted in CO₂ savings. With a change in focus, the flexibility and openness of the scheme changed as well. Not only standardized measures are eligible but the percentage of “innovative action” increased steadily. The consultation towards future supplier obligations as well as the expert interviews revealed that actors among all groups

even asked for an overall cap and more flexibility within the scheme to achieve the target⁹. While being rejected once, the introduction of a fully-fledged white certificates market came onto the government's agenda again. These approaches aim at achieving high quantities of carbon savings. They attach comparatively lesser importance on the additional values of energy efficiency projects.

To cut it short, the initial design choices were rather restrictive. In an incremental way it allowed suppliers for a diversification in strategy choice. Especially recent changes in objectives and framing of the policy instrument in the light of climate policy provided the suppliers with a lever to argue for a more flexible scheme.

WCI in France

Agenda-setting

Agenda-setting in France is a little less obvious than in Great Britain. On the one hand, it has been established by the adoption of the general energy framework law, the so-called “loi pope” of 2005¹⁰. This legal framework was set up in order to pursue general energy policy goals, i.e. enhanced energy security, affordable energy prices, and climate protection. On the other hand, French experts repeatedly stressed that the focus of the French WCI was meant to be less broad. In a meeting with staff from the industry ministry, Francois Moisan from the *Agence de l'environnement et de la maîtrise de l'énergie* (ADEME) came up with the idea to introduce the WCI as a policy instrument that was able to reach the diffuse potential of energy efficiency. The scheme was not meant to tackle climate change. Rather, importance was drawn to save electricity from nuclear power. In several interviews and on conferences, representatives of ADEME emphasized that the policy instrument has never been seen as a carbon abatement tool. Moreover, no great importance has been attached to the trading option within the scheme and even less to the potential to be integrated in the European carbon market. In addition, all French experts highlighted that this policy instrument is basically meant to target private households. Examining minutes of parliamentary and senate debates reveal, however, a different picture. Here, the policy instrument was basically promoted as a market-based policy instrument in line with other European approaches to tackle climate change. Phrases like “Market, that's freedom”¹¹ have repeatedly been utilized in the readings of the French general assembly. Also the senate discussions have been characterized by rather ideological statements. Referring to its application in the UK, the advocates point to the instrument's compatibility with liberalized energy markets¹². It was promoted as a policy instrument suiting the zeitgeist of European policy making – something that France urgently

needed to show being the country well-known for its illiberalized energy markets. Nicolas Sarkozy expressed the necessity for an intervention in the light of opening of European Energy Markets in 2004 in order to prepare France's 'national champions' EDF and GDF for the competitive market¹³. Patrick Devedjian, at that time delegated minister of industry, expressed his understanding of the new policy instrument in the senate discussions as follows: "What is the purpose of this mechanism? It is a question of achieving reductions in CO₂ emissions. For this matter, quotas are fixed to be annually reached, a reduction targeting these emissions. (...) The origin of that CO₂ emissions reduction in the stratosphere does not influence the greenhouse effect! What is of importance, however, is that there are fewer emissions and that this amount of fewer emissions will be respected. (...) Thanks to the market, we realize this 'equality' since the market is an instrument of 'equality'."¹⁴

Especially throughout the expert interviews it became clear that it was a strategy to promote this policy instrument as a market-based policy instrument opposed to hierarchical intervention. One expert put it very frankly: "It's for the marketing of the instrument. Some people from the government and industry didn't really understand the instrument. At the moment, it is more easy to discuss about market-based instrument, they have the impression that it's less regulation, but it's just regulation."

Going beyond the framing as market-based policy instrument, all French experts agreed that this was a very new policy instrument in France. It was generally perceived as an innovative approach to steering in end-use energy efficiency by getting energy suppliers involved in actually carrying out the projects.

Design choices and changes in France

In France – like in Britain – the obligated parties are energy suppliers. The structure of the obligated actors differ, however, significantly from those in Great Britain. By including heating, cooling, liquefied natural gas (LNG), and domestic fuel suppliers, the sum of obligated actors adds up to around 2400. However, only two suppliers – EdF and GDF Suez – have to fulfill around 80% of the target¹⁵. Initially, it was not intended to include domestic heating oil suppliers. There were, however, voices raised within this group of actors asking for an obligation. The size of the domestic heating oil suppliers varies substantially with big suppliers like Total on the one hand and sole trader business on the other hand. Since there is no minimum threshold for this group, also very small suppliers have an obligation. To account for the voice of smaller suppliers, "Ecofioul", a new association of domestic heating oil suppliers was founded in 2005 to help heating fuel suppliers to comply with their target.

The scheme started with a comparatively low target (54TWh cumac¹⁶/3years). It is indicated that the target for the next commitment period (starting in 2010)¹⁷ will be significantly higher (at least 100 TWh cumac per year). Apart from a press statement by the environmental minister Borloo, there is, however, no official document confirming this number yet. According to this press statement, all fuel suppliers (i.e. the whole transport sector) will be obliged under the future scheme. Further, the WCI shall finance actions against fuel poverty, programs to educate professionals in the building sector, or low-carbon vehicles. On the website of the so-called Club C2E¹⁸, a subunit of the *Association Technique Energie Environnement* (ATEE)¹⁹, it is stated that the scope of eligible measures is widened including less ‘material’ projects. This suggests that the future scheme is not bound to savings due to technical energy efficiency improvements only, but will also account for savings through behavioral changes.

Trading of white certificates among suppliers and between suppliers and third eligible actors such as local municipalities and companies whose main business is *not* related to energy efficiency (ESCOs are not eligible to generate certificates under the scheme) was possible in the first phase. The future scheme will most probably exclude companies other than the obligated parties from eligibility and restrict the activity of public authorities to their own territory (Bodineau 2009). Trading is only allowed bilaterally, it takes place on the “Emmy” trading platform²⁰.

There exists a rather extensive list of standardized measures which is constantly revised and updated. It comprises more than 130 measures targeting mostly but not exclusively the household sector (residential buildings, public buildings, grid, industry, transport). The baseline has been established with reference to the average installation (and not the more ambitious market average). According to experts, there are currently ambitions to simplify the administration of the scheme significantly since it was unexpectedly complex in the first commitment period.

First outcomes in France

Targets and Measures

A recent press statement from the environmental minister Borloo, “announces the success of the energy efficiency certificates and the expansion of the current scheme conform to the direction given by the *Grenelle Environnement*” (MEEDDM 2009)²¹ [accentuation added]. As in the other schemes, also the French WCI has exceeded the required savings in the first commitment period. The *Direction Générale de l’Énergie et du Climat* (DGEC) publishes bimonthly a newsletter²² on the progress of the WCI in terms of achieved savings and general

updates of the scheme. In total, 877 decisions have been made, awarding savings of 60TWh cumac to 195 beneficiaries. Most of the savings (58.5 TWh cumac) have been realized through standardized measures. Only 1.5 TWh cumac were granted to savings resulting from non-standardized measures, the so-called “operations spécifiques”. There has been a strong focus on the residential building sector, where 88.8% of the savings have been achieved. Another 3.8% have been achieved in the buildings of the tertiary sector, industry projects amounted to 6.5%. Almost half of the measures have been achieved by different types of boiler replacements. Around 11% of the savings stem from heat pumps and a little more than 10% from insulation measures. Electric motors are responsible for 2.6% of savings (DGEC 2009)²³.

Routes of Delivery and Trading

The big suppliers EDF and GDF Suez worked out their own strategies to comply with the target and developed their own programs, strongly relying on a network of (newly established) partnerships. These companies are generally taking several routes to deliver savings. EDF launched a big media campaign advertising its energy efficiency brand “bleu ciel”. According to an expert the aim of the campaign was that 60-70% of the population saw the new logo at least once in a period of six month.

A study conducted for ADEME (MEEDDAT 2009) concludes that most of the suppliers offer some kind of advices at least through their webpage. Many suppliers carry out energy assessments with their own staff. A widespread approach is the provision of low interest loans (1-4%), sometimes grants of up to 1,000 Euros are provided by suppliers. Instead of financing whole measures, the role of EDF was in many cases to raise customers’ awareness, providing them advice, and point to existing tax credit schemes. Changes in the suppliers’ strategies in order to make use of existing tax credits could be observed. It is, however, the role in taking up the tax credits with the help of WCI is not entirely clear (Bodineau 2009).

Little trading of certificates has been observed. Until January 2009, the registered trading volume amounts to 1.4 TWh cumac – less than 3% of the overall target has been traded as white certificate. The average value of a white certificate in these transactions was 0.32 cEuro/kWh cumac and therefore much below the buy-out price of 2cEuro/kWh cumac. The price range was between 0.3 and 1 cEuro/kWh cumac (Bodineau 2009).

Framing the WCI: Business Opportunities

Those designing the French WCI – especially representatives of ADEME and the industry ministry – were clear about the focus of the policy instrument (tackling diffuse potential in the households sector). They were framing this policy instrument as an innovative mode of

steering by making use of market forces and accordingly created white certificates as a tradable commodity. On the one hand the architects of the scheme succeeded in framing the policy instrument according to the current political discourses: market-based policy instrument seemed to be ‘en vogue’ among politicians at that time. For the companies, policy architects analogously promoted the policy instrument as ‘business opportunity. On the other hand, they aimed at designing a rather well regulated scheme: One result of the expert interviews was that those implementing the trading option claimed to know already at that time that trading would occur only to a minor extent (if at all). They said that EDF announced in the negotiations not to buy certificates but carry out projects on their own. The sum of the expert interviews also revealed that big energy suppliers EDF and GDF Suez played a major role in defining eligible measures and the baseline determining the default saving value in the process of design choices. They took influence by negotiating through the association ATEE and on their own. Seen this way, design choices reflect already the range of strategic choices envisaged by the big (mainly state owned) suppliers, although the suppliers followed different routes in complying with the target. What appears to be a flexible scheme in terms of offering many strategic choices has less practical relevance in implementation. In addition, the design choices reflect the administrations attempt to cut down administrative costs and to set up a clearly regulated scheme. Well regulating more than 130 standardized measures and changes to reduce the number of eligible actors can be interpreted in this light.

Following the expert interviews, it was widely believed that this scheme would present to a certain extent a business opportunity. One expert put it like this: “it was found that there is a lot of what we call opportunities for development”²⁴. A representative of an obligated actor admitted that his company was more optimistic in the beginning and did not expect the scheme as complicated as it turned out to be²⁵. The measures taken by the obligated actors also reflect the additional value these measures are attached to: Advertising brand names in a market which will sooner or later face full competition or changing boilers to ensure that customers will stay dependent on a certain type of fuel are only two examples.

Some expert also explained the request of domestic heating fuel suppliers to be part of the scheme with these “business opportunities” attached to the energy saving measures. However, according to another expert, this request has to be seen in the context of preferred policy instrument alternatives: Domestic heating oil suppliers preferred the white certificates scheme over a tax.

However, some paradoxes remain. To pursue the objective of tackling residential houses, one would not need to include measures in the transport and industry sector. Also the current

changes to include all fuel suppliers suggest that the policy instrument is wider in its scope than initially intended. Restricting on the one hand the number of actors, but accounting on the other hand also behavioral change in the future scheme is not entirely consistent either. A structural shift placing the responsibilities for the scheme to the environmental ministry may explain the latter changes. It is however beyond the scope of this paper to further speculate on these changes.

WCI in Italy

Agenda-setting

The introduction of market-based policy instruments to support both, renewable energy and energy efficiency have to be seen in the wider context of reform efforts of the centre-left governments²⁶. Part of this process was the Bassanini decree of 1998 which attempted to lead towards more deregulation, privatization and e-government – weaknesses of the traditional command-and-control approach were to be left behind (OECD 2001). The legal basis to implement a public service obligation has been set by the two decrees²⁷ transposing the European Directives on liberalization of the energy market²⁸. With two ministerial orders in 2001 the government decided to impose a public service obligation on companies distributing electricity and gas to save a certain amount of electricity and gas²⁹. These Decrees already established the overall energy saving target for the electricity and gas distributors back in 2001. After technical revision throughout the years 2002 and 2003, two new Ministerial Executive Orders were adopted in July 2004 so that the so-called white certificates scheme entered into force in January 2005. It was about the same time that the Italian government decided to introduce “green certificates” as a support mechanism for renewable electricity. According to an expert who was already working on white certificates at that time, this was most probably the reason, why white certificates were introduced as a means to promote energy efficiency as well: “I just think that they wanted to follow the same direction, in other words to use a market-based mechanism in order to combine the certainty of results of an energy efficiency obligation with the economic efficiency of a market-based instrument.”

In presentations, reports, and on the official websites on white certificates, it is usually referred to three main drivers of this policy instrument: Italy’s Kyoto Commitment, compatibility with liberalization of energy markets, security of supply. Talking about the drivers of the Italian WCI, it basically showed that it is not so much that experts *believed* in the carbon reduction potential of this policy instrument. They rather believed that this would be a tool to *show* that Italy is doing an effort to comply. One expert put it as follows: “Italy

accepted in a way or in another fully Kyoto, to have these targets. Then we have to show to do something to attain them.” Other experts confirmed that there was no clear objective but a mix of showing compliance, simply “delivering energy efficiency” or security of supply. On the contrary, three Italian experts were explicitly saying that this is *not* a policy instrument to reduce carbon emissions. The following collection of voices from Italian experts summarizes the main issues raised: “minimizing economic costs”, “the main driver in my opinion is security of supply. You know, in Italy, we don’t have oil. Then we are completely subjected to import.”, “the policy is not specific (...), historically, it was created as a part of the package instrument, to make Italy respect to obligation of the Kyoto protocol”, “the fashion of market mechanisms in Europe and in Italy particularly in the end of the 90s (...), a fashion that has hit more the centre-left than the centre-right”, “is for the authority to respond Kyoto”, “this accent on White Certificates was put because of the idea of trading. And this was in its turn due to the liberalisation of energy markets (...) so what everyone hopes, I think, is basically that this system would allow to achieve the saving target at least cost”, or “the ministry of economic development and the energy and gas authority were in favour of the market mechanism”.

This collection of voices also shows that while talking about objectives, actors strongly attach the modes of action (market/ trading) to substantial objectives (security of supply, compliance with international and European commitments).

Design Choices in Italy

Italy is the only country where gas and electricity distribution companies (initially with <100,000 customers) are obliged to carry out end-use energy efficiency projects. The architects of the scheme – basically the regulatory authority³⁰ – integrated trading via an electronic market platform operated by the *Gestore del Mercato Elettrico* (GME)³¹ into the scheme. By allowing third actors, in particular Energy Service Companies to generate white certificates and sell them to the obligated actors, it was hoped that the obligation could be fulfilled in the most cost-efficient way.

Distributors, operating in a non-competitive environment with tariff regulation, were initially granted a cost-recovery of 100€/toe after proving their savings. The money is collected via a tariff surcharge.

Designed as an open-ended scheme, in addition to the standardized list of measures, other measures such as small photovoltaic and cogeneration and projects requiring (some) on-site measurement are principally eligible to count towards the target. There are three types of certificates in the Italian WCI, one certifying electricity savings, one certifying gas savings,

and a third type certifying other fuel savings. This corresponds to the initial differentiated obligation: each distributor had to fulfill at least 50% of its target by energy efficiency measures targeting the fuel type it was distributing (i.e. gas distributor, had to realize at least 50% of their targets via reductions in gas consumption, electricity suppliers in electricity respectively).

Referring to the shortcomings of the market, Italian electricity and gas regulatory authority changed some design choices through a ministerial decree in December 2007 and the subsequent amendments by the *Autorità per l'energia elettrica e il gas* (AEEG) throughout 2008. First, the ministry raised – in response to AEEG's recommendation – the overall target. The new decision changed targets of the ongoing commitment period and establishes targets until 2012 with an automatic adjustment mechanism in case of oversupply of the target. Second, the targets are no longer bound to the type of certificate. This was meant to raise the overall certificates price and incentivizing a more liquid certificates market. Third, lowering the minimum threshold for distributors to be obligated under the WCI to <50,000 customers lead to an increase in obligated actors from 30 to around 70-75, also at the supply side new market actors are now eligible to generate white certificates. In order to better understand the trading interaction, also bilateral trading activity has to be made more transparent and each trading has to be recorded on the register. Forth, penalty has been revised and simplified; banking has been extended until the end of 2012. Finally, the cost-recovery was lowered to 88.92 €/toe and it is now also to be granted for type III savings which have formerly been excluded from cost-recovery.

First outcomes in Italy

Targets and Measures

A press release, based on the third annual report on the Italian WCI in Italian language (AEEG 2008), summarizes the main results (AEEG 2009). According to this report, the system is “recording very positive results” with savings exceeding 2 Mtoe by the end of 2008 assuming carbon savings of 5 million tons. In terms of realized measures, over 800,000 low-consumption appliances, 21 million "high efficiency" light bulbs, and 230,000 m² of solar panels for hot water production were installed in Italian households. These measures targeting households make up to 80% of savings.

The remaining savings have been realized in improving industrial processes through “hundreds of new electric motors and frequency regulators, as well as dozens of cogeneration systems”. Finally, measures have also been implemented in the public sectors, mainly by

replacing 420,000 lamps and installing automatic “consumption-reduction” regulating systems.

The authority recovered costs of 100 million Euros. Offsetting the certified savings against the costs, the authority estimates that the savings outweighed the costs 9 to 14 times. This is however only true for those customers who directly benefited from a measure. There exists no number of how many households actually profited from the measures.

Routes of Delivery and Trading

Interviews with company representatives involved in the mechanism (either as obligated party or as ESCO) showed that in practice, the energy distributors had limited strategic choice. They are in practice bound to buy certificates³².

Most of the trading activity has, however, been bilateral so far. Especially in the beginning the trading volumes on the electronic market platform have been rather low (cf. Mundaca et al. 2008). Through long-term contracts smaller obligated actors minimized search, administration, and transaction costs while being guaranteed prizes below the cost-recovery. The prices for the certificates were rather low in the end of the second year (~30€ for type I certificates). Every month a certain amount of certificates have been traded bilateral at prices between 0 and 10 € every month³³.

Medium-term contracts were made with project developers. The prices for white certificates were not much below the 100€ flat cost-recovery per saved toe (expert interview). According to another interviewee, more than 1700 business enterprises asked for being recognized as an ESCO, while only 100-120 ESCOs have been actively delivering energy savings to generate white certificates. To prevent a flood of unqualified companies entering the market, companies who want to participate in the market now have to show their proficiency. Currently, 336 parties are admitted at the registry (bilateral trading and via GME market platform) and 261 market participants (trading via GME market platform) are currently listed³⁴.

Italian experts observing the ESCO market concluded that the profit margin seems only to attract certain medium-sized ESCOs. Bigger independent³⁵ ESCOs complained that the market was too small. ESCOs are only paid for savings that are below this flat cost-recovery unless the cost-efficient potential is fully tapped. For small ESCOs, becoming active on the white certificates market seems to be too costly since it implies high administrative burdens such as search costs, registering on the electronic market platform, and documenting the saving projects.

Framing the WCI: Trading

During agenda-setting, no single clear-cut objective seems to be pursued by the policy instrument. To follow the diversity of objectives, a market-mechanism was believed to be adequate. It was perceived as the most cost-effective way of steering energy efficiency improvements. Especially the Italian regulatory authority AEEG followed the idea of creating a market-based policy instrument based on trading. It was believed to be compatible with principles of liberalized energy markets.

Since first results revealed that the mechanism was not enfolded the whole range of market features such as trading activity and liquidity, mainly the mode of action has been subject to design changes. Accordingly design changes have been made in order to raise the overall TWC price to minimize the risk of windfall profits, to make the market more liquid and to enhance especially trading via the electronic market platform (cf. also Eyre et al. 2009). Also the press release on first results of the Italian WCI emphasizes the importance of “guaranteeing the economic efficiency of the incentive, also through a growing use of “Exchange” trading” (AEEG 2009).

In practice, the open-endedness of the scheme reveals some flaws: On the one hand, the WCI was designed as a very open-ended scheme. Therefore, even small PV and cogeneration and projects requiring on-site measurement are principally eligible to count towards the target³⁶. The expert interviews revealed, however, that serious delays in administrating the scheme leave the obligated actors uncertain as to whether or not their projects can really count towards the target. It was said that the project application are somewhere stuck in the ministries. Thus there seems to be a lack in capacity to deal with the entire range of flexibility of the policy instrument.

Also the decision to oblige actors operating in monopolies and allowing for a flat cost-recovery does not necessarily incentivize most cost-effective measures. Rather, the cost-recovery encourages windfall profits – the instrument becomes subsidy-like. Also some other design choices and Italian particularities (eligibility of early action since 2001, parallel access to tax credits) underlay some general flaws of the scheme.

The major representative of the Italian WCI, Marcella Pavan from AEEG, expressed her view as follows (Pavan 2009): “if you choose a market instrument, leave the market work without (deliberately) distorting market forces” (efficiency) and “promotion of investments also in technologies with long lasting effects” (quality). This shows well that on the one hand, there

is a strong focus on the mode of action, i.e. enhancing economic efficiency through trading. On the other hand, it is acknowledged that energy efficiency projects are always attached to qualitative savings. “The system promoted a big spread of information to consumers, and thus of a greater awareness about energy savings, an essential element for developing the most efficient technologies.” (AEEG 2009). Some interviewed experts disagree on these claims. On the contrary, they were complaining about the invisibility of the scheme making it much more complicated to reach the final customer. This is probably even more the effect in Italy, since those who are carrying out the projects do not gain additional benefits from big advertising campaigns promoting brands. This paradox has not yet been solved in the Italian case by focusing mainly on ameliorating on the mode of action. However, this remains somewhat speculative and sound quantitative evaluations will have to be carried out in order to verify this hypothesis.

Comparison and Discussion

Agenda-setting in all three countries has its origin within the overall frame of liberalizing energy markets. However, the policy instruments’ role within this frame is understood in different ways.

In Great Britain, the WCIs precursor EESoP was originally introduced in a market segment not open to competition. Later, the introduction of the EEC was understood as re-regulatory intervention. The scheme became increasingly flexible with a change in focus towards climate change.

In Italy, the policy instrument was introduced for multiple purposes but justified as being compatible with liberalized energy markets. But instead of drawing on the possibility³⁷ to impose a public service obligation on those market actors exposed to competition, the Italians decided to impose an obligation on distribution companies under tariff regulation. The mechanism was especially convincing to the policy architects because of its (perceived) economic efficiency. To enhance economic efficiency, design choices encouraging trading became increasingly important. It can be argued that trading became a goal in itself. Although the link between trading and compatibility with liberalized energy markets is nowhere clearly expressed, these two arguments are very often mentioned together and suggest that it is believed that a mechanism imitating market forces is automatically the most cost-effective solution and therefore most compatible with liberalized energy markets. Finally, the French WCI has been implemented in a country lagging behind liberalization efforts compared to other European countries. It has been strategically advertised to (and by) politicians as a

market-based mechanism to show compliance with European trends of regulation in liberalized energy markets. The design choices, the political process of determining design choices, and finally some experts' statements suggest that the French WCI enforces and facilitates the state owned incumbents to strengthen their market position in providing energy efficiency measures including energy services and consolidate customer tie. In short, the WCI is framed as "business opportunities" for the (big) suppliers in France.

The framing allowed supporting a variety of purposes under the scheme and therefore to satisfy sometimes diverging interests. However, design choices lead to inconsistencies and paradoxes. These are also reflected in evaluations and reports, mainly highlighting both quantitative and qualitative benefits:

In all three countries, the targets have been overachieved and national reports present their scheme as very successful³⁸. In addition, these reports suggest that benefits through savings always outweigh the costs of the scheme (NAO 2008; IEA 2006, Lees 2008, Ofgem 2008; Eyre, Bodineau, Pavan 2009³⁹; Pavan 2009)⁴⁰. Yet, the results have to be interpreted carefully, since the quality of available data and the degree of additionality are not entirely transparent. First, savings may officially be overachieved even without practically not saving energy (due to rebound effect, due to low baselines and no strict verification of additionality, etc.). Second, if factual savings can actually be attributed to the WCI is not always clear. Especially in France and Italy, where tax credit schemes are parallel available, the effect of the WCI is difficult to separate. What seems however be clear is that WCI had at least a catalyzing effect. Third, the reports were mainly made by organizations/ actors who are heavily involved in the scheme, mostly in administering the scheme. Entirely new structures have been created for the scheme. If the WCI turns out to be a failure, its legitimization would diminish and set into question the existing of these structures.

All three countries increasingly point to the qualitative benefits resulting from energy efficiency projects. These include the activation of energy service markets (in Italy with the help of ESCOs), the general market transformation towards more efficient appliances and products, the activation of all kinds of actors among the energy efficiency supply chain (such as manufacturers, installers, social housing companies, etc.) through partnerships. In activating these actors, public awareness is believed to raise and those administering the schemes hope for an increase in behavioral changes as well.

Finally, especially in Great Britain and increasingly in France, there is a shift in objectives reflecting the trend to understand energy efficiency increasingly within the discourse of

climate protection. This is reflected (to different degrees) also in design choices in these countries. Looking at detailed design choices reveal however, that pursuing several objectives lead to paradoxes and inconsistencies in the scheme.

Conclusion and Outlook

Factors driving policy instrument choice are manifold. They range from path dependent regulatory traditions to interests of powerful actors pursuing their own agenda and accordingly influencing decision-making. The range of explanatory factors will be addressed in full length in the dissertation – the umbrella project of the underlying paper.

This paper focused on the importance of framing in agenda-setting and design choices by analyzing the matching of frames, purposes and factual design choices.

It has been revealed that the framing of the policy instrument has actually had an influence on instrument choice. But further following the process of making design choices reveals that a mismatch of frames with (hidden) purposes and newly emerging objectives are accompanied with paradoxes in design choices. On the one hand, this very flexible hybrid instrument allows for the persistence of structures. They persist despite paradoxes, tensions or inconsistencies that they are implicitly supporting and that sometimes developed a dynamic on their own. Both, the problem (energy efficiency) *and* the policy instruments (market-based) have been attached to terms that can be understood in very different ways and can therefore be framed differently. On the other hand, doubts appear regarding the overall efficiency and effectiveness of the scheme. It leads to the hypothesis that the effectiveness of the scheme is watering down if no sound control and verification tools and capacities to carry them out are available. Without sufficient capacities, the diversity of interest may not only lead to make the scheme less effective. It may even help certain actors to follow their own agenda – which is not necessarily the agenda of the general public.

This policy instrument certainly has some effects in achieving its purposes, at least catalyzing some sort of market transformation. Qualitative benefits seem to be more important than initially expected. If qualitative benefits occur due to maximizing the flexibility provision of the WCI is not entirely clear. Trading of white certificates seems to be no success factor, especially if qualitative benefits are attached to the savings. There is, however, a strong necessity for independent evaluations of the outcomes taking into account weighing factors, eligibility of early action, baselines, market transformation of certain goods and other incentives to save energy outside the WCI in order to disentangle the outcomes that can be

attributed to this new policy instrument.

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General Internet Pages

ATEE

CLUB

C2E:

http://www.clubc2e.org/news/categoryfront.php/id/53/P_E9riodes_suivantes.html

Links to Readings to the so-called loi POPE:

<http://www.assemblee-nationale.fr/12/dossiers/energie.asp#ETAPE207593>

Trading Platform Emmy:

<https://www.emmy.fr/front/accueil.jsf>

EU Project White & Green

http://www.iiiee.lu.se/QuickPlace/whiteandgreen/Main.nsf/h_Toc/695a3dfe0be56ce1c1256eba00356cb1!OpenDocument

EU Project EuroWhiteCert

<http://www.ewc.polimi.it/pdesc.php>

IEA DSM Project, Task XIV

<http://www.ieadsm.org/ViewTask.aspx?ID=17&Task=14>

¹ I rather understand their contribution as an amendment to historical institutionalism.

² Jabko does not place himself into the realm of historical institutionalism or constructivist institutionalism. He gives explanatory power to framing as strategic action which he conceptualizes as social construct. In that, his work suits well into the underlying theoretical assumptions of this paper.

³ Experts from the international scientific community on white certificate instruments, as well as national experts have been interviewed. National actors are considered as expert if they were working on setting up the scheme and working out design choices (such as staff from the regulatory authorities, ministries, associations, think tanks, and, to a certain extent representatives of companies). In that they can also be considered as 'policy architects'.

⁴ This section is written being informed by the study of legal documents, expert interviews and the range of available secondary literature, such as Bertoldi & Huld 2006, Bertoldi & Rezessy 2006; Bürger & Wiegmann 2007; Capozza 2006; Labanca 2006, Mundaca 2008, Oikonomou & Patel 2004;

⁵ For the specificity of energy efficiency investments see especially Langniss & Praetorius 2006. See also Mundaca et al. 2008 on "benefits of non-trading" and "positive externalities".

⁶ For details, please refer to Article 2; Schedule 3 of the Electricity and Gas (Carbon Emissions Reduction) Order 2008.

⁷ Although an additional WCI has been created to tackle only fuel-poor people: The so-called Community Energy Saving Program CESP is meant to especially reach areas inhabited by low-income consumers and target those with a "whole house approach".

⁸ The supplier typically pays for the insulation whereas the government funds the heating measures through the Warm Front scheme.

⁹ This idea has temporarily been abandoned.

¹⁰ Loi n°2005-781 du 13 juillet 2005 de programme fixant les orientations de la politique énergétique.

¹¹ Own translation of "le marché, c'est la liberté!" as spoken out by the delegated ministry of industry during the second reading of the law in the general assembly on 29 March 2005, URL: <http://www.assemblee-nationale.fr/12/cr/2004-2005/20050191.asp>

¹² Cf. e.g. <http://www.assemblee-nationale.fr/12/rapports/r2160.asp>, Article 2;

¹³ Sarkozy was Minister for Economy, Finance and Industry at that time; General Assembly Reading of 18 Mai 2004 of the 'loi POPE', URL: <http://www.assemblee-nationale.fr/12/cr/2003-2004/20040222.asp>

¹⁴ Own translation of "Quel est le but de cette disposition ? Il s'agit d'obtenir une réduction des émissions de CO₂. A cette fin, des quotas sont fixés afin d'obtenir, chaque année, une réduction déterminée de ces émissions. (...) L'origine de cette réduction d'émissions de CO₂ dans la stratosphère n'a aucune importance pour l'effet de serre ! Ce qui est important en revanche, c'est qu'il y ait moins d'émissions et que ce quantum du moins soit respecté. (...) Grâce au marché, nous réalisons cette égalité, car le marché est un instrument de l'égalité." (Patrick Devedjian, then delegate minister for industry and member of the UMP, during the senate debate on the 'project de loi d'orientation sur l'énergie', Article 2, 10 June 2004, URL: <http://www.senat.fr/seances/s200406/s20040610/s20040610002.html#section1986>)

¹⁵ The overall target is composed of targets for each fuel (gas, electricity, LNG, heating/cooling, and domestic heating oil). The target of EDF (~29.8TWh cumac) is approximately 96% of the target for electricity; the target of GDF Suez (~13.4 TWh cumac) is approximately 96% of the target for gas. The companies are, however, free

to choose the sector (e.g. gas or electricity) they are targeting to save energy.

¹⁶ TWh ‘cumac’ are discounted lifetime savings.

¹⁷ In July 2009, the first commitment period ended. Since then, the scheme entered into a transition period without a quantified target. It allows for accredit the achieved savings to count towards the new target in the second commitment period, ideally starting in January 2010. URL:

<http://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000020797402&fastPos=1&fastReqId=68699588&categorieLien=cid&oldAction=rechTexte> ; The legislative basis for the second period will be set by the so-called law “Grenelle 2”, marking a change in the institutional anchorage of the policy instrument. This has already commenced in 2008: the former General Direction for Energy and raw materials DGEMP under the former Ministry of Economy, Finance and Industry (MINEFI) turned into the General Direction for Energy and Climate (DCEC), under the head of the Ministry of Ecology, Energy, Sustainable Development and Spatial Planning (MEEDDAT), now the Ministry of Ecology, Energy, Sustainable Development and the Sea.

¹⁸ URL: http://www.clubc2e.org/news/categoryfront.php/id/53/P_E9riodes_suivantes.html

¹⁹ ATEE, comprising members from small and big companies, energy service companies, public entities, and universities. ATEE, and later the accordingly founded Club C2E was significantly involved in defining eligible measures and their baselines and were overall consulting ADEME in their work to administer the scheme.

²⁰ URL: <https://www.emmy.fr/front/accueil.jsf>

²¹ Own translation of “Jean-Louis Borloo annonce le succès des certificats d’économies d’énergie et le renforcement de ce dispositif, conformément aux orientations du Grenelle Environnement.” Grenelle Environnement is a political forum under the leadership of the environmental ministry, where long-term decisions for a sustainable development are prepared. Currently, the second law stemming from this working group is discussed in the French senate.

²² “Lettre d’information Certificats d’Économie d’Énergie”

²³ The current newsletter “Actu Environnement” (Roussel 2009) presents more recent numbers from October 2009, claiming that up to now, already 78TWh cumac have been saved.

²⁴ Own translation of: “on a trouvé beaucoup (...) de ce qu’on appelle les opportunités pour se développer”.

²⁵ Own translation of: “On ne savait pas que ça serait aussi compliqué ” (Obligated actor during an interview).

²⁶ Prodi, D’Alema, Amato, 1996-2001

²⁷ Bersani decree, Letta decree

²⁸ Directives 96/92/EC and 98/30/EC

²⁹ Legislative Decrees No. 79/1999 and No. 164/2000

³⁰ Other actors also participated, such as Cesi Ricerca, partly (51%) owned by the Italian energy agency ENEA, was assigned to develop procedures to evaluate the savings resulting from energy efficiency measures. These proposals are afterwards exposed to stakeholder consultation (expert interview).

³¹ Gestore Mercato Elettrico

³² Even though this seems to be true in many practical cases, this is however not telling the entire story: There are distributors carrying out their own projects. To strategically choosing certain energy efficiency measures over others is the more advantageous for them the more they are vertically integrated. The electricity sector is more integrated than the gas sector. Therefore there is a tendency that the electricity companies are more involved in carrying out their own projects than the gas sector. This has been mentioned by experts in two interviews.

³³ Italian experts relativised the increased trading and, linked to that, also ESCO activity by hinting at two facts: Many of the ESCOs carrying out energy saving projects are subsidiaries of obligated actors, especially to ENEL (> 80% of target of electricity companies). A considerable part of the trading activity is therefore in-house trading and it is not evident that the resulting certificate prices reflect their true value, especially when keeping in mind certificates prices in the range of 0-10€/toe.

³⁴ Registry checked on 12 October 2009.

³⁵ Independent ESCO is understood here as an energy service provider which is not a subsidiary of an obligated energy distributor.

³⁶ It is beyond the scope of this paper to go into further detail whether or not WCI are an appropriate means to incentivize small PV and cogeneration and to what kind of discussion and problems this lead in the Italian case.

³⁷ The European Directives on Liberalization of Energy Markets allowed Member States to introduce a PSO on energy companies for certain purposes such as environmental protection or social security.

³⁸ If not, the potential for learning and accordingly adjusting the policy instrument is highlighted.

³⁹ In fact, there exist only cost-benefit evaluations for the British case. The French data are basically drawn on estimates. The basis for the Italian calculations is the price of TWC. Distributional aspects are thus not covered within these calculations. Further, there is no number for the Italian WCI regarding the net present value of the whole scheme.

⁴⁰ The figures and data IEA and NAO draw their conclusions on are both stemming from Lees (2008) and Ofgem (2008). Having been Chief Executive of the Energy Saving Trust from 1993-2003, Lees has been from the very beginning of EESoP working on the scheme and substantially developing it. Since then, he is giving advice on

the scheme and has done several reviews of the subsequent schemes.