

Exploring advocacy coalitions for change of EU policy on energy efficiency

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Abstract

This empirical study analyses policy change in the area of EU energy efficiency policy by applying the advocacy coalition framework (ACF). The energy efficiency directive (EED) and its provisions on individual metering and billing (IMB) is used as a case study. IMB provisions have rendered substantial debate for almost a decade and the provisions were amended following successful advocacy work of the coalition opposing IMB. The study confirms recent developments of the ACF theory that internal shocks are important for policy change. Policy change have also been influenced by other factors, such as internal events in the political subsystem, policy-oriented learning and negotiated agreements. As for policy-oriented learning, it was manifested in different ways, e.g. the acceptance of the core beliefs and proposals for amending the IMB provisions put forward by the coalition opposing IMB by a majority of MSs in the Council, the EP and the proponents of IMB. The paper also provides critical perspectives on the ACF, that policy change can happen without changes of external dynamic factors and in shorter time perspectives than the ACF theory proposes. Besides contributing to development of scientific theory, the knowledge provided in the paper can inform various stakeholders to better shape their future strategies in advocacy work in EU policy making and national policy implementation.

Keywords: advocacy coalition framework, energy efficiency, energy efficiency policy, EU policy, lobbying, policy change.

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1. Introduction

Energy efficiency is highlighted as an important policy area for meeting ambitious targets for climate change mitigation and security of energy supply. This holds true on the international [1] as well as the European Union (EU) [2] level. In EU, the European Green Deal [2] presented in late 2019 may be a game changer in this manner, with an upcoming revision of important legal acts on climate and energy, including the EU energy efficiency directive (EED).²

An area within the EU's policy for energy efficiency that for over a decade has been subject of extensive debate at both EU level and nationally in Sweden is provisions in the EU energy efficiency directive (EED) on individual metering and billing of heating, cooling and domestic hot water (IMB) in apartment buildings and multi-use buildings. The proponents, led by European Commission (EC) together with the metering industry, claim that it gives households and end users better knowledge about their energy use, which can lead to reduced energy use in buildings through behavioural changes. Opponents, led by Sweden together with interest groups for property owners and tenants, believe that more extensive energy efficiency in buildings can be achieved more effectively and more cost efficient through technical measures such as renovations than through behavioural changes and that IMB removes the incentives for renovation. In addition, opponents argue that IMB would change housing and rental policy in a dramatic way, which could lead to increased energy poverty and thus affect social policy. In connection with the revision of the EED, the opponents were heard for their positions and arguments and the IMB provisions were changed. Among other things, a new condition was added for when IMB is to be installed, which makes it possible to renovate instead of installing IMB. In addition, unconditional requirements for IMD were removed during rebuilding. Ditto for requirements on IMB of heating and cooling in new buildings.

This policy change and the process that preceded it are in focus in this paper. The purpose of this paper is to describe, understand and, as far as possible, explain the policy process and policy changes within the EU's energy efficiency policy through process tracking. This is to contribute with scientific knowledge about the policy process and policy

² Energy efficiency in the European Green Deal. https://ec.europa.eu/energy/topics/energy-efficiency/targets-directive-and-rules/energy-efficiency-directive_en#energy-efficiency-in-the-european-green-deal (last visited: 5 March 2021)

change in an area that largely lacks scientific studies. As a case study, advocacy coalitions and their core values, resources and coordinated behaviour are analysed, as well as policy-oriented learning and policy change when initiating, formulating and revising the EU regulations on IMB.

1.1 Background and previous research

As for EU policy on energy efficiency, there are several legislative acts in the EU. Energy efficiency of buildings was first included in policy on security of supply of oil in the early 1970's [3]. The first self-standing directive on energy efficiency, the directive on labelling and standardised consumer information (the Energy Labelling Directive, ELD), was decided in the early 1990's and was focusing on consumers' rights to information about various goods. It was adopted as early as 1992 and was recast in 2010. The directive to limit carbon dioxide emissions by improving energy efficiency was adopted in 1993 and included, i.a. requirements on energy declarations of buildings. The latter directive was replaced in 2002 by the energy performance of buildings directive (EPBD), which was recast in 2010 and amended in 2018, among other things, requiring Member States (MSs) to set minimum energy performance requirements for new buildings. In 2005, another directive was adopted focusing on energy-efficient goods, namely the eco-design directive (EDD), which, by means of product regulations, imposes minimum energy performance requirements on goods that are sold on the EU internal market. The directive was recast in 2009. In addition to the EPBD, the EDD and the ELD, the so-called the energy services directive (ESD) was adopted in 2006, which at the time was kind of an umbrella directive for energy efficiency with minimum energy efficiency requirements in the MSs. The ESD also set a national energy savings target. The ESD was replaced in 2012 by the energy efficiency directive (EED), which set an EU target for energy efficiency by 2020 and new minimum requirements for energy efficiency measures in the MSs.

The EED covers a broad set of provisions on energy efficiency linked to energy savings obligations, energy efficient district heating and cogeneration of heat and power, production, transmission and distribution of electricity, energy efficiency in publicly owned buildings, public procurement, a strengthened role for consumers, information and education, energy services, energy audits in companies and individual metering and billing of energy in multi-apartment and multipurpose buildings. The EED was amended in 2018, which set an EU target for energy efficiency by 2030. The target is to reduce energy consumption with at

least 32.5 per cent by 2030. The revision also entailed extended requirements for MSs to meet national energy saving obligations by 2030, as well as amended requirements regarding the individual metering and billing.

The legal basis for the various energy efficiency directives varies and has changed over time. With the amendment of the EU Treaty (EUT) and the Treaty on the Functioning of the EU (TFEU) in 2012, energy became a separate legal-political area in the EU. The legal basis for the EED and other directives on energy efficiency rest on Article 194 of TFEU. Decision-making on EU energy and climate legislation is divided between the Council and the European Parliament (EP).

The development of the EU's energy efficiency policy has for a long time influenced and continues to influence the MSs' energy and climate policy. At the same time, the EU policies on energy efficiency and adjacent energy policy areas and climate policy, are influenced by the positions of the MSs and various interest and industry groups. The formulation of EU policies in the field of energy efficiency is complex and research in this area is important for both the EU institutions and the MSs and the various interest groups. Improved scientific knowledge of the processes of policy making and policy change and the role of different policy coalitions and how they work to influence the formulation of EU legislation can inform various stakeholders to better shape their future strategies and advocacy work in both EU policy making and national policy implementation.

Research on policy change and the importance of advocacy in the field of energy efficiency is sparse. Dunlop [4] finds from a recent review study of research on energy efficiency, with support from a previous study by Lutzenhiser [5], that social science research on energy efficiency is "significantly underrepresented". A possible reason is that the importance of energy efficiency only in recent years being highlighted as decisive for achieving climate policy and other energy policy goals, e.g. the European Green Deal [2]. There is more social science research on climate policy than on energy policy. Most research on energy efficiency is either technical (engineering) or economic [4]. Another reason may be that research funders have not understood the value of social science research on energy issues [6]. A handful of researchers have analysed how advocacy of different stakeholder groups individually affect policy making related to, e.g., the EU emissions trading scheme [7, 8], the EU "Energy Roadmap 2050" [9], renewable energy [10], the German "Energiewende" [11], the formulation of the EU Energy Union [12] and the role of energy utilities in US climate policy [13]. Another handful of studies have focused on how different interest groups

with seemingly different positions work together to influence EU policy in the field of climate [14] and energy [15]. A shortcoming of this literature in terms of contributions to understanding policy change is that it focuses on lobbying and its effectiveness, not the whole policy process. A better contribution to understanding the policy process and policy change is provided by the handful of studies that, using the theoretical framework Advocacy Coalition Framework (ACF) [16, 17], have analysed advocacy coalitions, policy-oriented learning and policy change in different areas of energy policy, e.g. Nohrstedt [18] who studied Swedish nuclear energy policy, Szarka [19] who studied EU policy on wind power, Jegen and Audet who [20] studied wind power policy in Quebec, Canada, Elgin and Weible [21] who studied energy and climate policy in Colorado, US, and Hansen [22] who studied Danish biofuel policy. This research and the fact that Hysing and Olsson [23] consider the ACF to be the most ambitious and influential framework and theory for analysing and explaining policy changes, guarantee that it is an appropriate framework for analysing and explaining change in EU policy for energy efficiency.

As for social science research on energy efficiency, Economidou et al. [3] have reviewed the EU legislation on energy efficiency of buildings. Dupont [24] has analysed the strategies of the European Commission to manage the MSs contestation of EU policy on energy efficiency. Giest [25] has analysed policy coordination related to the roll-out of smart electricity meters in the UK. Dunlop [4] and Sovacool et al. [6] argues that more social science research is needed to support an energy transition towards cleaner energy sources.

1.2 Purpose

From an energy policy as well as an energy research perspective, there is, given the lack of previous social science research on energy efficiency [4-6], a strong interest in gaining improved knowledge of how political reforms in the area of energy efficiency are developed and implemented over time. This issue is also interesting from a social science perspective. How do normative policy coalitions act in the formulation and change of energy efficiency policy at EU level? The aim of this paper is to analyse advocacy and policy-oriented learning related to policy change of EU energy efficiency policy from the period when the energy efficiency directive (EED) was first formulated in 2010–2012 and implemented in 2013–2019, to the period when the revision of the EED was formulated in 2016–2018 and implemented in 2019–2021. To do this, the paper applies the theory of the advocacy coalition

framework (ACF), described in section 2.1. The policy subsystem, the advocacy coalitions and their core beliefs, resources and coordinated behaviour are analysed, as is the policy-oriented learning leading to a change of EU policy on energy efficiency.

Next section provides a brief overview the theoretical framework for the analysis (i.e. ACF), the research questions, the method used and the delimitations made in the study. Section 3 explores the formulation and implementation of the EED during the period 2010 to 2019 and, the formulation and implementation of the amended EED during the period 2016 to 2021. Section 4 analyses and discusses the results from section 3 through the lens of the ACF. Conclusions are drawn in section 5.

2. Theory and method

2.1 The Advocacy Coalition Framework – a brief overview

The study uses the advocacy coalition framework (ACF) as a theoretical framework for the analysis in this paper of the formulation, implementation and revision of EU energy efficiency policy. ACF is a network theory developed by Sabatier [26, 27] and Jenkins-Smith [28], where the importance of different actors' coalitions for the policy process and policy change is central. The ACF has been further developed based on applications in different areas and critique raised towards the theory [29-32]. Important changes deal with the context, a typology of coalition resources, and paths to comprehensive policy change. One extra important addition to the theory is that *internal* shocks can occur within a political subsystem in order to bring about comprehensive policy change [16, 17].

The policy process, from initiative to implementation, is considered within the ACF model to be characterised by actors from the entire policy system. These actors come from different organisations and the actors who share a set of political beliefs create a coalition of advocates, so-called advocacy coalitions. The theory is based on the assumption that actors coordinate their actions when necessary to bring about policy change and that change takes place over time as reactions to events both within and outside the political system. The model focuses on policy change over a period of a decade or more and assumes that the actors' beliefs are stable over time and that this makes major policy changes difficult to implement [16]. The majority of policy making takes place within political subsystems and often involves negotiations between specialists.

The most central functions of the ACF are the concept of *advocacy coalitions* of actors acting in a *political subsystem*. Other important functions for explaining policy change are *core values* and *resources* in different coalitions, the *coordinated behaviour* of actors within each coalition, the role of external and/or internal *shocks* and finally *policy-oriented learning* [17]. The behaviour of the actors in the policy process is affected by two external factors, one stable and one dynamic [17, 31]. These factors set limits and affect the resources of actors in the political subsystem. These in turn affect the core values and behaviour of different actors as well as different paths to policy change, including internal shocks and policy-oriented learning. Each of the functions in the policy system of IMB will be further elaborated in the discussion (see section 5).

The AFC model has been used in analyses of policy development in various areas [33-35], e.g. environmental policy [25, 36, 37], public health [38], education [39], social welfare [40], economics and finance [41] and foreign and defence policy [42] and, in many geographical regions, e.g. the EU [30, 43, 44] as well as North America, Asia, Oceania and Africa [35]. Jenkins-Smith et al. [34] have reviewed all studies conducted with the AFC as a theoretical framework until 2018. In total, more than 300 studies had been conducted in various policy subsystems, i.e. policy areas and geographical regions.

As for energy policy research, there are a handful studies applying the ACF-model as a theoretical framework for the analysis described in section 1.3 [18-22]. Szarka [19] stresses in his analysis of EU wind power policy that the ACF theory underestimates the importance of interest groups in policy making and that policy change in new policy subsystems can take place in shorter time than a decade or two, as proposed by the ACF theory. Studies using the AFC model to analyse energy efficiency policies within the EU and EU MSs are absent, as is social science research on energy efficiency policy change in general [4].

The very extensive research that has critically applied the ACF model in various contexts, not least at EU level, ensures that it can provide a good theoretical framework for analysing EU policies for energy efficiency.

2.2 Notes on the method

As mentioned, the aim of this paper is to analyse advocacy related to change in EU policy on energy efficiency policy over time. It does so by applying the ACF theory. Based on the most central features of the ACF model, a number of research questions are asked to focus and structure the analysis:

- How did the *policy subsystem* look like during the periods of formulation of the original EED (2010–2012) and the amendment of EED (2016–2018)?
- Which *advocacy coalitions* worked in the policy subsystem during the periods of formulation of the original EED (2010–2012) and the amendment of EED (2016–2018)? What were the *coordinated behaviour* of different actors in the policy process?
- What were the *core beliefs* and *resources* of different actors in the policy process?
- Were there any external or internal *shocks*?
- How can one understand and explain the *policy learning* that took place in the policy subsystem?

- How can one understand and explain the policy changes that took place in the policy subsystem?

As mentioned in section 1.1, the EED is cross-sectoral and contains provisions on energy efficiency in a vast number of sub-areas, each of which requires separate legislation when implemented in the MSs. As an example, implementation of the entire original EED in Sweden referred to 19 existing laws and regulations, seven new laws and regulations and amendments to 13 existing laws and regulations. In addition, a number of government assignments and agency regulations. Thus, the paper is based on a case study [45] focusing on the EED provisions on IMB. Individual metering and billing of electricity and gas is not included in the study, since the EED provisions have not been questioned by the MSs and the EP. IMB has been particularly debated over the years. Proponents argue that it improves the households' position to reduce their energy use by changing behaviour (e.g. by lowering the indoor temperature). Opponents argue that it reduces building owners' incentives to improve the energy performance of buildings through renovations, thus counteracting the EPBD, and that it is a threat to rental legislation, social policy and energy poverty. IMB is also an area where the provisions of the EED were significantly revised in 2018 compared to the 2012 original provisions, which makes it suitable for an analysis of policy change. The reason to limit the study to IMB provisions is also that focusing on all subareas of the EED would require several large-scale separate studies.

As for implementation of EU legislation, the analysis uses Sweden as a case. Sweden is an interesting case since the national legislation put forward did not meet the requirements of the EC, who opened an infringement case. The case was closed after the EED was amended and the final legislation of Sweden could use the amended version to meet the requirements. This was in fact a strategy of Sweden. It provides important insights in advocacy work. A comparative analysis of the implementation of IMB provisions in all or several MSs is interesting but is rather the subject of a separate study and paper. Such a study could not include the issue of changing EU legislation without becoming too extensive.

As for the method, empirical data to answer the research questions was collected by qualitative text analyses of the EC proposals for EU legislation, amendments proposed by the Council and the European Parliament, so-called non-papers from MSs and interest groups, texts of final EU directives, and the EC guidance documents to the final directives. The text analyses aimed at identifying different actors' positions on IMB and the reasons for this, as well as the final provisions, the EC interpretation of the provisions and the reasons given for

the provisions. Data from the texts were complemented with data from interviews with key persons involved in the negotiations of the EED and the amended EED. These were the deputy director of the Swedish Government Offices responsible for negotiating and implementing the EED in both periods, Sweden's energy counsellor in Brussels at the time of negotiations on the revised EED, the policy officer from the Finnish Energy Agency responsible for IMB, spokespersons on energy from Swedish and EU interest groups of building owners and tenants, and the policy officer in charge of IMB at the European Commission (EC). Statements made by spokespersons of different interest groups and the EC at a seminar held in the EP are also used as data. In the interviews, open-ended questions were asked about each actor's view of IMB (advantages and disadvantages) and about their strategies in advocacy work. Questions were also asked about the actors' views on the opponents' positions and strategies in the advocacy work. The interviews were not recorded but notes were taken.

3. Results

This section describes the formulation and implementation of the IMB provisions of (i) the original EED, and (ii) the amended EED respectively. In each subsection, the European Commission's proposal, the final provisions and their implementation are described.

Advocacy work leading to policy change is explored in section 4, where different aspects of the ACF are explored and explained.

3.1 The original EED

3.1.1 The European Commission proposal

In June 2011, the EC [46] presented a proposal for a directive on energy efficiency, which would replace the Energy Services Directive and the Cogeneration of Heat and Power Directive. The proposal included, i.a., provisions on metering and billing of electricity, gas, heating and cooling in multi-apartment and multi-purpose buildings. As for heat or cooling, it was proposed that individual meters should be installed unconditionally in each apartment of multi-family and multipurpose buildings. The EC proposal did not explicitly differentiate existing from new buildings. The provisions on IMB of heating and cooling covered both existing and new buildings, with no provisions on domestic hot water. The purpose of the proposed provisions was to strengthen final customers' opportunities to reduce their energy use by behavioural changes, e.g. lowering the in-door temperature and closing windows.

3.1.2 Final provisions of the EED

The EED was published in the Official Journal on 14 November 2012 and entered into force on 4 December 2012. Provisions should be transposed into national legislation no later than 5 June 2014. As for the provisions on IMB, several changes were made during the negotiations with the EP, e.g. IMB of domestic hot water was added, as was conditions for when IMB shall be installed. Provisions on individual metering of heating, cooling and domestic hot water in existing buildings were laid down in Article 9.3:

In multi-apartment and multi-purpose buildings with a central heating/cooling source or supplied from a district heating network or from a central source serving multiple

buildings, individual consumption meters shall also be installed by 31 December 2016 to measure the consumption of heat or cooling or hot water for each unit where technically feasible and cost-efficient.

Provisions on IMB in new buildings or buildings undergoing major renovations were copy-pasted from the ESD to the final version of the EED, after negotiations in the Council and between the Council and the EP. It is regulated in Article 9.1, saying that individual meters shall always be provided when a new connection is made in a new building or a building that undergoes major renovations, as set out in the EPBD.

The provisions on IMB in new buildings or buildings undergoing major renovation was unclear since it refers to final customers, not final user of energy. However, the EC interpreted the provisions to focus on IMB at unit level (i.e. apartments). This was strongly criticised by Finland, which claimed that the original provisions in the ESD applied to meters at the building level, not at the apartment level. Provisions on billing information and the cost of access to metering and billing information are laid down in Articles 10 and 11. The reasons given for provisions on IMB stressed the need of final customers (and final users) to be better informed of their own energy use in order to reduce it.

With the EUT and TFEU, the EC is obliged to present guidance notes informing MSs how to implement an EU directive. The guidance notes are not binding to MSs but binds the EC to the position laid down in the guidance note in case the EC takes a MS to the European Court of Justice in an infringement case. The guidance note on EED was developed by a consultant contracted by the EC and negotiated between the EC and MSs in the committee of the EED, i.e. the EED Committee. Finland and Sweden, who failed to influence other MSs in the Council negotiation on the IMB provisions, continued to claim in the EED Committee that IMB would disincentivise deeper energy efficiency renovations in multi-apartment and multi-purpose buildings. The EC also organised regional workshops on the guidelines, with one meeting in Stockholm in April 2016. The meeting gathered about 30 participants in addition to the EC and its consultant. At the meeting, the EC and its consultant were heavily criticised by participants from the Swedish and Finnish building owners' interest groups and the Swedish Tenants' Union, claiming that the EC was acting in the interest of the metering industry.

3.1.3 Implementation of the IMB provisions

When implementing the EED provisions on IMB into national legislation, the Swedish Government, a centre-liberal-conservative coalition, initially proposed legislation that would require installation of IMB in a majority of multi-apartment and multi-purpose buildings. This proposal was heavily criticised by interest groups of real estate owners, energy corporations and the tenants' union in the public consultation. As a consequence, the Swedish Government proposed and the Swedish Riksdag (parliament), after approval in the committee for industry, energy and transport (Näringsutskottet) decided on a new law (SFS 2014:267) on energy metering in buildings with limited requirements on IMB. In additions, changes were made to the tenancy legislation (Chapter 12, Jordabalken), the law (SFS 1991:614) on condominiums and the law (SFS 2002:93) on cooperative tenancy. However, detailed regulations were not set into force, why the EC opened an infringement process. The reason for lack of detailed regulations in Sweden was due to heavy critique of Swedish interest groups to the EED provisions, which were similar to the positions raised by Sweden in the negotiation processes. The reason was also that the National Board of Housing, Building and Planning (NBHBP) analysed several times in which cases it could be technically feasible and cost-efficient to install IMB [47-49]. The results showed that in most cases it would not be cost-efficient, why NBHBP recommended to the government not to publish detailed regulations. As a consequence, the EC opened in September 2017 an infringement case against Sweden for non-compliance with the EED provisions on IMB in existing multi-apartment buildings. The infringement process is lengthy, including first an EU Pilot, then a letter of formal notice and finally a reasoned opinion before eventually going to the European Court of Justice.

Because of the lengthy process in the infringement case, but also related to the process of developing EC guidelines on IMB, time has made it possible for Sweden to develop detailed regulations that take account of the provisions of the amended EED (which is elaborated upon in section 3.2) rather than the original EED. Sweden, now with a social-democrat and green government, answered the reasoned opinion in November 2019, more than three years after deadline for implementing the provisions. The answer included a revised version of the government regulation (SFS 2014:348) on energy metering in buildings laying out requirements to install IMB of heating in buildings with an energy performance higher than 180 kWh/m² in the three most northern counties of Sweden (i.e. Jämtland, Norrbotten and Västerbotten) and buildings with an energy performance higher than 200 kWh/m² in the rest of Sweden would be subject to IMB, unless the owner of a particular

building can show that it is not cost-efficient and proportionate to install IMB, or that the owner of the building can provide a plan for renovation. With regard to the IMB of domestic hot water in existing buildings, the regulation requires that such be introduced if a building undergoes a major renovation that includes water systems. In June 2020, the answer was complemented with additional detail regulations and advice of the NBHBP (BFS 2020:3) on energy metering in buildings. The EC closed the case in December 2020, which implies that the detailed regulations decided by the Swedish Government in November 2019 are compliant with the (amended) provisions of the EED.

3.2 The amendment of the EED

3.2.1 The European Commission proposal

In the autumn of 2015, the EC announced a revision of the EED. The focus of the revision was i.a. the provisions of Articles 9-11 on IMB. As mentioned below, Sweden acted early on the revisions of Articles 9-11, but had limited influence on the proposal presented by the EC. The proposal of the EC [50], which was presented in November 2016, included a raised EU target for energy efficiency by 2030 (article 1), a prolongation of national energy savings obligations (article 7) and revised provisions regarding metering and billing at building level and sub-metering in building units (articles 9-11).

Compared to the original EED, the provisions on IMB in new buildings were clarified. It refers to metering at unit level in multi-apartment buildings or multi-purpose buildings and mentioned final users in addition to final customers. The rationale of the proposals was to strengthen consumers' minimum rights to clear and timely information about their energy consumption.

3.2.2 Final provisions of the amended EED

The final provisions of the amended EED were published in Official Journal on 21 December 2018 and entered into force on 24 December 2018. The provisions on IMB should be transposed into national legislation no later than 25 October 2020.

The extensive advocacy work from Sweden and its allies in the pro-coalition against the IMB seemed to impress other MSs, which supported the proposals from Sweden and Finland to add proportionality as a precondition for the IMB in the Council's negotiations. Sweden's position regarding new buildings and buildings undergoing major renovations was

further developed and demands for IMB in buildings undergoing major renovations were deleted in the Council negotiations, as were requirements for IMB for heating and cooling in new buildings. There was only one unconditional requirement for IMB for domestic hot water in new buildings, which was a fallback position for Sweden.

The advocacy work from the actors' coalition (against IMB) led by Sweden also influenced the European Parliament. The introduction of proportionality as an important precondition for the installation of IMBs in existing buildings in Parliament's report on the revision of the EED, presented to the European Parliament's plenary session by ITRE rapporteur Czech MEP Miroslav Poche (EPP) in December 2017. Proposals were that individual meters should only be installed in existing buildings "where it is technically feasible and cost-effective to be proportionate to the potential energy savings". The positions of the Council and the EP were identical and similar to the position put forward by Sweden and its allies.

The provisions on IMB take account of the views put forward by Sweden and other actors in the advocacy coalition opposing IMB. It is mentioned in Article 9b that individual meters shall only be installed in existing buildings "where technically feasible and cost effective in terms of being proportionate in relation to the potential energy savings", i.e. identical to the amendments proposed by the Council and the EP.

Recital 30 of the amended EED explains the addition and importance of proportionality as a condition. "The assessment of whether sub-metering is cost-efficient may take into account the effect of other concrete, planned measures in a given building, such as any forthcoming renovation".

The mentioning in the provisions and the recital that the assessment of whether sub-metering is cost-efficient may take into account the effect of other concrete, planned measures in a given building, such as any forthcoming renovation, was a result of advocacy of the Sweden and its allies in the advocacy coalition opposing IMB.

The provisions of the original EED on unconditional requirements for IMB of heating and cooling in new buildings or buildings that underwent major renovations were deleted. The same applies to the unconditional requirement for IMB of domestic hot water in buildings that are undergoing major renovations. In the revised EED, there was only one unconditional requirement for IMB for domestic hot water in new buildings. These changes were also a result of Swedish advocacy work and the final provisions were in line with Sweden's position.

3.2.3 Implementation of the revised IMB provisions

The IMB provisions of the amended EED should be implemented in the MSs by 25 October 2020. In Sweden, implementation is delayed. This is due to work on the infringement case for the implementation of the original provisions (described in section 3.1.3). A memorandum with proposals for the implementation of the amended EED regulations in Sweden [51] is subject to public consultation during spring 2021, and new and amended legislation is expected to enter into force on 1 January 2022. The revised regulations on IMB in existing buildings were implemented has, however, already been implemented in Sweden through the 2019 amendment to regulation (2014:348) on energy metering in buildings. The remaining provisions on IMB apply to IMB of domestic hot water in new multi-family and multi-purpose buildings. In addition, provisions on information requirements for district heating companies and district cooling companies vis-à-vis their end customers (property owners) as well as requirements for property owners vis-à-vis their tenants and owners of condominiums, respectively.

4. Discussion

This paper set out to analyse, by applying the advocacy coalition framework (ACF), the development and change of the EED provisions on IMB. Several questions based on the features of the ACF were asked. The most central features of the ACF is the concept of *advocacy coalitions* acting in a *policy subsystem*. Other important features to understand and explain policy change are the *core beliefs* and *resources* and the *coordinated behaviour* in different coalitions, the role of external or internal *chocks* and *policy-oriented learning*.

4.1 The policy subsystem

ACF assumes that policy making in modern societies is so complex that actors must specialise in order to be able to exercise any influence. This specialisation takes place within policy subsystems where actors regularly try to influence policies within the (sub)system [16, 17]. A policy subsystem is characterised by both a functional/material dimension (e.g. energy efficiency policy) and a territorial one (e.g. Sweden or the EU). According to Sabatier [30], a policy subsystem consists of the group of people and organisations who are actively concerned with a policy problem.

In this study, the policy problems relate to individual metering and billing (IMB) of heating, cooling and hot water for domestic use in EU MSs. It is a subsystem of the larger subsystem of EU energy efficiency policy, aiming to improve the energy efficiency and reduce energy use of the different sectors in the EU, which itself is a subsystem of EU energy policy. These are linked to the subsystem of EU climate policy. The EU subsystem on IMB dates back to the formulation of the ESD adopted in 2006. However, there is a major difference. The ESD spoke of individual metering and billing of final customers, i.e. building owners having a contract with a provider of district heating, district cooling or hot water for domestic use. With the EED, individual metering came to focus on end-users of heating, cooling and/or hot water for domestic use. The focus was now changed to the households in multi-apartment and multi-purpose buildings, not the owners of such buildings. IMB regulates the relationship between property owners and households when it comes to heating, cooling and domestic hot water. Thus, owners and tenants (including owners of condominiums) of such buildings are now part of the subsystem. Other actors included in the policy system of IMB were the EC, the EP and its committees, the MSs and the national governments and parliaments, national agencies related to buildings and energy, different interest groups related

to building owners, tenants and energy supply at national and EU level, and the metering industry.

How many actors are part of the policy subsystem? There is no statistics available on the number of buildings and households that are supplied with district heating or cooling in total in EU. Nor for other kinds of actors. Thus, Sweden is used as a case. In Sweden, there are according to the property register, about 165 000 multi-apartment buildings, of which 52 000 are multi-purpose buildings including other units than dwellings, e.g. offices, shops and restaurants. In all, these buildings include 2 500 000 dwellings with approximately 5 000 000 people. Approximately 90 per cent of these are connected to district heating. Once the EED provisions on IMB was implemented in Sweden, all owners of multi-apartment buildings or multi-purpose buildings were potential subjects of the IMB legislation. The owners and inhabitants of these building were all part of the policy subsystem when the EED and its amended version were negotiated.

The NBHBP analysed several times in which cases it could be technically feasible and cost-efficient to install IMB [47-49]. The results showed that in most cases it would not be cost-efficient, why NBHBP recommended to the government not to publish detailed regulations. During the process of an infringement case towards Sweden (mentioned in section 3.1.4 but not further discussed in this paper), it was however obvious that some regulation was needed. New analyses were made to single out in which cases IMB could be cost-efficient. The results showed that 14 per cent of the total stock of multi-apartment and multi-purpose buildings in Sweden connected to district heating, in all 21 000 buildings with approximately 320 000 inhabitants, are potential subjects to IMB of heating. Owners of these buildings and their inhabitants, together with interest groups of building owners and tenants, as well as about 200 district heating companies and their interest group (Swedenergy), the Swedish Government and the Riksdag (the Swedish parliament) and the eight political parties represented in the Riksdag are part of the policy subsystem in Sweden (Table 1). These are in total approximately 340 000–360 000 actors. The Swedish position on IMB has been stable, despite the fact that there was a shift of government in 2014, from a centre-liberal-conservative government when EED was first negotiated and then implemented in 2011–2014, to a social democrat and green government from 2014 and onwards.

Table 1. Actors in the Swedish part of the policy subsystem of IMB of heating

Actor	Comment	No. of actors
Allmännyttan Sverige / Public Housing Sweden	Interest group for public owners of multi-apartment buildings	1
Bostadsrätterna Sverige	Interest group for condominiums and housing cooperatives	1
Boverket / National Board of Housing, Building and Planning	National agency responsible for IMB	1
District heating companies	Providers of district heating	200 ^b
Energiföretagen Sverige / Swedenergy	Interest group for district heating companies	1
Fastighetsägarna Sverige / Private Housing Sweden	Interest group for private owners of multi-apartment buildings, incl. housing cooperatives	1
Hyresgästföreningen / Swedish Tenants' Union	Interest group for tenants	1
Inhabitants of multi-apartment and multi-purpose buildings subject to IMB	No. of inhabitants in multi-apartment and multi-purpose buildings w. district heating, exceeding thresholds for IMB of heating	320 000 ^a
Multi-apartment and multi-purpose buildings covered by IMB requirements	Number of multi-apartment and multi-purpose buildings covered by requirements for IMB of heating	21 000 ^a
Owners of multi-apartment and multi-purpose buildings	No. of housing companies and housing cooperatives, w. and w/o district heating	38 000 ^c
Regeringen och Regeringskansliet / The Swedish Government and the Government Offices of Sweden	Incl. Ministry of the Environment and Energy	1
Riksdagen / The Swedish Parliament	Incl. parties in the Riksdag. Responsibility for IMB rests with the industry committee, but the civil affairs committee follows the issue	9
Sum (approximate)		340 000– 360 000

^a Source: National Board of Housing, Building and Planning, personal communication

^b Source: Swedenergy, personal communication

^c Source: Statistics Sweden, Register for taxation of buildings. Sum of all companies in SNI-code 68.201 (housing companies, dwellings) and SNI-code 68.204 (housing cooperatives).

4.2 Advocacy coalitions and their coordinated behaviour

Which advocacy coalitions worked in the policy subsystem during the periods of formulation of the original EED (2010–2012) and the amendment of the EED (2016–2018)? What were their coordinated behaviour?

The ACF model asserts that the actors' behaviours and beliefs are embedded in informal networks and that decisions in the policy process are partly structured through these networks by policy actors [16, 17]. Policy makers try to translate their values into practical action and real policy decisions before their opponents have time to do the same. To succeed in this, it is necessary for the actors to find allies with whom they can share resources and develop strategies. An advocacy coalition consists of allied actors in a network that share core beliefs and resources and collaborates to translate the beliefs into policy [16, 17].

The EC proposal on IMB of heating and cooling was heavily influenced by positive experiences of IMB in Germany and Denmark, underpinned by consultants reports on positive outcomes of IMB in these MSs. The policy officer at the EC responsible for IMB at the time was a Dane, which made it easier for the EC to embrace positive experiences of IMB from Denmark. IMB was also supported by the EU metering industry, mainly Danish and German companies, who saw opportunities for an increased market to sell their goods and services. Among the proponents of IMB were Denmark, Germany, the EC and the metering industry, the latter which was mainly Danish and German. This coalition was the dominant coalition [cf. 17].

During the negotiations of the original EED, Finland and Sweden and to some extent the interest groups in the two MSs, made up the advocacy coalition advocating opposing IMB (Figure 1). This coalition was a minority coalition [cf. 17] and did not, to their defeat, cooperate with other actors. Other MSs did not understand the issue at stake, and Finland and Sweden did not understand the value of interacting with other advocacy actors. Nor did other advocacy actors opposing IMB (i.e. national interest groups of building owners in Finland and Sweden) understand the value of interacting with MSs and interest groups at the EU level. Among the proponents of IMB were Denmark, Germany, the EC and the metering industry, the latter which was mainly Danish and German.

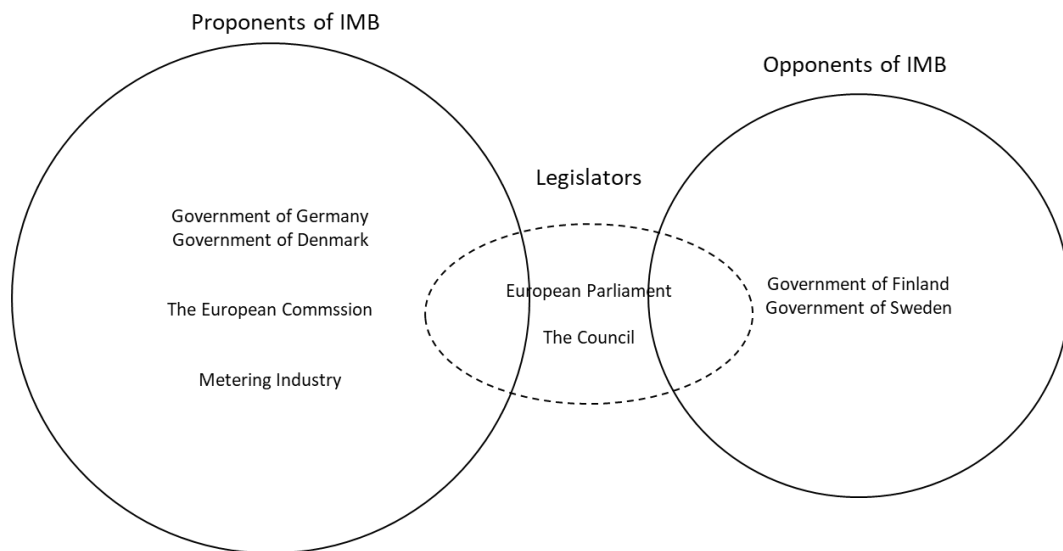


Figure 1. Advocacy coalitions within the policy subsystem on individual metering and billing of heating, cooling and domestic hot water in multi-apartment and multi-purpose buildings (2010–2012).

Opponents of IMB in Sweden focused on influencing the Swedish Government in the phase of implementing the EU provisions into national legislation rather than influencing actors at EU level during negotiations of the directive. This focus on national implementation in business-policy relations is similar to the acting of Swedish interest groups during the formulation and implementation of the EU greenhouse gas emissions trading scheme in the early 2000's [52], resembling an automorphic approach to business-government relations in policy making [53]. Other MSs did not understand the issue at stake and did not support Finland and Sweden in the Council negotiations. This was because IMB is mainly an issue where buildings are heated with district heating or cooled with district cooling, which is the case in Sweden and Finland but not the case in most MSs, e.g. Germany. In the eastern MSs, where district heating is common, tenants do not have the opportunity to influence their own indoor temperature with thermostatic valves.

When the EED was up for revision in 2016–2018, the Swedish government and Swedish interest groups had a completely new approach. Sweden took the role of a norm advocate [cf. 54] and presented, as early as in March 2016, four months after the announcement of the revision and eight months prior to the EC proposal was presented to the EC, other MSs in the Council and the EP, a non-paper with proposals for revised provisions on IMB. The purpose was to influence the EC proposal but also to influence other MSs. Sweden suggested that EED provisions were revised so that implementation of IMB be voluntary for Member States, or that Member States where gross rent (costs for energy are, in

contrast to net rent, included in the rent at a set value, usually based on each apartment's share of the total heated floor area of the building) and centralised indoor temperature control are dominant in multi-apartment and multi-purpose buildings are exempted from requirements to install IMB.

This approach had limited influence on the EC proposal. But Sweden continued to present non-papers on IMB and met with influential persons in the EP as well as among MSs in the Council, including the Presidency, and this had an impact. Even more, so did Sweden's teaming up with EU interest groups like Housing Europe, European Property Federation and International Union of Tenants and the positive influencing of important MEPs and committees of the EP.

In August 2016, prior to the EC presenting its proposal for an amended EED, the Swedish Government invited and teamed up with national interest groups critical to IMB. These were Hyregästföreningen Sverige (The Swedish tenants' organisation), Fastighetsägarna Sverige (Swedish private housing owners' organisation), Allmännyttan Sverige (Swedish public housing organisation) and Energiföretagen Sverige (Swedenergy). Based on experiences from negotiating the original EED, the deputy director of the Government Offices of Sweden responsible for EED and Sweden's energy counsellor in Brussels thought it was necessary to take a new approach to advocacy. The energy counsellor mentioned:

We thought there was a need for interest groups with similar views on IMB to take coordinated and collective action to influence the negotiations on the EED amendment. Moreover, there was a need to lobby all EU institutions, not only other Member States in the Council. It is not least important to influence the European Parliament.

It was decided in the Swedish Ministry of Environment and Energy that lobbying was needed towards the EP and the EC, besides lobbying MSs in the Council. Thus, all relevant Swedish interest groups contacted their counterparts on the EU level, who were also contacted by the person in charge for the negotiations at the Sweden Government Offices, a deputy director of energy efficiency at the Ministry of Environment and Energy. Contacts were also taken with influential Members of the EP, such as two Swedish MEPs representing ALDE and the GREENS and an MEP of Luxemburg representing the GREENS, all of which were

members of the committee on industry, transport, research and energy (ITRE), who is responsible for energy legislation in the EP. Contact was also taken with a Swedish MEP representing S&D who was member of the committee on environment (ENVI) and rapporteur on the EED for ENVI. In order to prepare for the new advocacy approach, the deputy director in charge spent several weeks as an intern at Sweden's Permanent Representation to the EU in Brussels in the autumn of 2016. Together with the energy counsellor, the deputy director spent weeks to meet with MEPs and representatives of different interest groups to expand the advocacy coalition opposing IMB.

As described, the advocacy coalition contesting IMB was extended and included several actors (Figure 2). At the same time, the governments of Denmark and Germany were less vocal as proponents of IMB and they did not oppose the position of Sweden and Finland put forward to the Council.

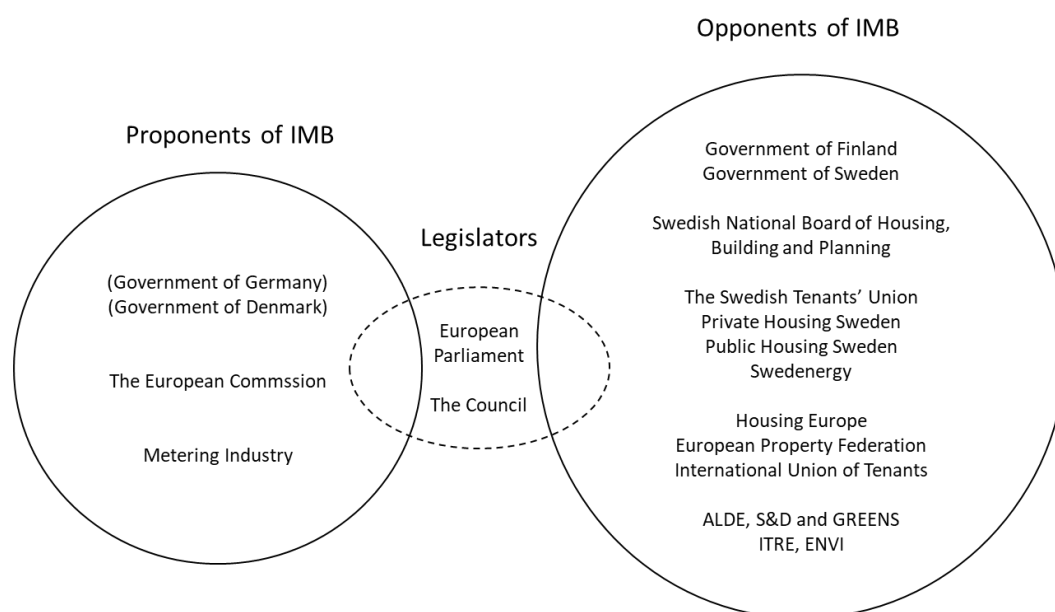


Figure 2. Advocacy coalitions within the policy subsystem on individual metering and billing of heating, cooling and domestic hot water in multi-apartment and multi-purpose buildings (2016–2018).

Another aspect of the ACF is non-trivial degree of coordinated activity over time [31]. As mentioned, the advocacy coalition opposing IMB has changed over time. Among the proponents, the EC and the metering industry remained vocal in favour of IMB, whereas the opponents of IMB teamed up and formed a broad and more vocal advocacy coalition. Finland and Sweden did choose a reactive mode of action in the negotiations of the original EED.

Based on the negative experiences of the negotiations of the EED, Sweden choose a more active mode of norm advocacy [cf. 54] on the revision of the EED, joining with national and EU interest groups to influence EU policy on IMB, thus forming a new and broader advocacy coalition, informing the revision of the EED. The change of approach was very much dependent on the idea and efforts made by the deputy director in charge of EED at the Swedish Ministry for Environment and Energy. He personally wanted to make a change of the IMB provisions, given the lengthy process of the infringement case and a potential to put in place new provisions before finalising the infringement case. He actively approached key persons in different interest groups to take them onboard and make a joint action towards the EC, the EP and the Council. This approach, forming a broad normative coalition, showed the importance for small member states to be successful in advocacy work in the EU [cf. 54-56].

An important effort and activity of the coalition opposing IMB, besides presenting coordinated non-papers, was the organising of a seminar in the EP. In April 2017, Sweden together with Housing Europe, European Property Federation and the International Union of Tenants organised a lunch seminar in the EP on improving energy efficiency in buildings. The seminar was hosted by two Swedish MEPs representing ALDE and the GREENS. Since Sweden and other actors in the advocacy coalition opposing IMB were negative to the division of IMB and renovation of buildings, the seminar focused on how EED and EPBD could promote a coherent and holistic approach to reducing energy use in buildings in a cost-effective way. What are the respective roles of building owners and residents to improve the energy performance of buildings? What is the potential of IMB compared to energy efficiency renovations? In what ways can consumers be empowered? By putting IMB in relation to energy efficiency renovations of buildings a better story was told than if the message would only have been that IMB is bad. The seminar was attended by approximately 30 people from the EP, MSs, the EC, and different interest groups.

4.3 Core beliefs and resources of different actors in the policy subsystem

Public policies are the translations of beliefs of past winners of policy processes [57]. Therefore, policies can be analysed in terms of belief systems. The ACF associates major policy change with changes in policy core beliefs and minor policy change with changes in secondary beliefs [30]. In order to understand and interpret the actions of different actors over time and the policy change, it is important to understand the core beliefs or basic value priorities of different actors [25].

The two advocacy coalitions shared the primary core belief that energy efficiency is important for achieving overall energy and climate policy goals and that the EU should have a strong energy efficiency policy. However, they did not share a secondary beliefs on how improved energy efficiency in buildings can be achieved and the role of behavioural changes compared to technical changes.

The core belief that tied together the EC with Denmark and Germany and the metering industry was a conviction that IMB would “improve the knowledge of households on their energy use, and thus provide them with better knowledge to reduce their energy use by changed behaviour”. This position was underpinned by positive experiences of IMB in Denmark and Germany, a belief that was shared by the consultants contracted by the EC to develop the guidelines on IMB. As a basis for these claims, EC referred to research on the effects of IMB, research conducted by consultants and only available as presentations from conferences. Energy savings of up to 20 percent were measured when IMB was installed in Germany, mainly as a result of people lowering the indoor temperature by 2 °C from 24 °C to 22 °C, or that they did not ventilate as much by opening the windows. The validity of these results in Sweden and Finland was questioned at the workshop that EC and EC’s consultant arranged in Stockholm in the spring 2016.

Comparing the conditions in Sweden and Germany, most multi-apartment buildings in Sweden are equipped with mechanical ventilation, which is not the case in Germany. Thus, you do not need to ventilate by opening the windows, something that saves energy. Furthermore, the indoor temperature in Swedish apartment buildings is mainly set at 21 °C by the landlord and the Swedish National Board of Health and Welfare recommends that the indoor temperature is not lowered below 20 °C (22 °C in homes for the elderly people). A temperature drop of 2 °C is thus not recommended in Sweden, why energy savings from IMB in Sweden would be lower than in Germany – if they occur at all. The chair of Housing Europe’s energy committee mentioned at the seminar in the EP:

Experiences from our Swedish member companies that have installed IMB is that energy use increases, not decreases, as a result of IMB. If people are required to pay for their actual heat consumption, some of them are willing to pay for higher indoor temperatures, e.g. 24 °C instead of 21 °C. As a result, the property owner must increase the total energy use in the building.

The core beliefs of opponents of IMB are that IMB would dramatically change housing and tenancy policy, which in turn have negative impacts on energy efficiency and thus counteracts the aim of the EED, and that IMB could increase energy poverty and thus influence social policy. Opponents of IMB further claim that gross rent and no IMB, would provide incentives for energy efficiency renovations and improve the energy efficiency of buildings in the EU. The opponents of IMB made use, as an important resource, the negative experiences of several building owners regarding IMB in Sweden, showing that it had negative impacts on energy efficiency. Prior to the seminar in the European Property Federation, Housing Europe and International Union of Tenants for the first time ever presented a joint non-paper stating that:

It must be stressed that housing policy is not an EU exclusive or shared competence. Although it is inevitable that EU energy efficiency policy will have some impacts on national housing policy, without a conditionality for the requirement of sub-metering the proposal can destroy a central pillar of MS housing policy (rent regulation) designed to protect its citizens from energy poverty. This would be an infringement of the principle of conferral in the TFEU.

It would also be an infringement of proportionality, because in the likely event that the IMB obligation would provoke a shift of national rent regulation from gross to net rent, the energy saving incentive for net rent tenants would be outweighed by the disappearance of the gross rent-based incentive for the building owner to energy efficiency renovate, which are in most cases more effective than energy savings from behavioural changes – at least in Sweden and Nordic countries with well-insulated buildings and mechanical ventilation to safeguard a healthy indoor climate.

In the meanwhile, Sweden put forward new non-papers on IMB in March and April 2017. Sweden's energy counsellor in Brussels summarised the position:

To summarise the Swedish position, there should be no unconditional requirements for installing IMB and in existing buildings, proportionality should be added to the two

criteria of cost-effectiveness and technical feasibility. In the case of new buildings and buildings undergoing major renovations, no requirements shall be imposed on IMB.

The reason to include proportionality as a criterion was to compare effects and cost-effectiveness of IMB to energy efficiency renovations. The EED mentions that IMB should be installed in each unit of a multi-apartment or multi-purpose building only if it is technically feasible and cost-efficient. As mentioned, the EC guidelines on the original EED provisions on IMB was developed by a consultant contracted by the EC. From the guidelines, it is clear that the analysis of cost-efficiency should focus on the costs and savings of IMB alone, not taking into account other measures to improve the energy performance of a building. As mentioned above, Sweden put forward that IMB should be required only if it is proportionate in relation to expected energy savings in the long term and that account should be taken to planned renovations of a building. This is in addition to technical feasibility and cost-efficiency. Sweden also claimed that there should be no requirements of IMB in new buildings and buildings undergoing major renovations. This is because new buildings and buildings that are undergoing major renovations, according to the EPBD, must meet the requirements for near-zero energy buildings. It is not justified and not cost-effective to meter heating and cooling at apartment level if a building is to use a minimum of energy for heating and cooling. As a fallback position, Sweden could accept a requirement for IMB of domestic hot water.

Of great importance for the advocacy work of Sweden, the core beliefs of the Swedish Government have remained despite the change of government from a centre-liberal-conservative government to a social democrat-green government in 2014, the latter which was re-elected in 2018.

Regarding the resources of advocacy coalitions, Sabatier & Weible (2007) sets out a typology of resources that can be used: (i) formal legal authority to make policy decisions, (ii) public opinion, (iii) information, (iv) mobilisable troops, (v) financial resources, and (vi) skilled leadership. The advocacy coalition for IMB was dominant and included the EC. The EC has no formal decision-making power with regard to EU legislation, but still has an authority as it is the EC that submits proposals for legislation. EC also participates in the trilogue negotiations with the Council and the EP, which lead to a decision on legislation. The issue of IMB was not an issue for public opinion at EU level, but in Sweden where several articles were published in the daily press. This was exploited by the subordinate coalition

against IMB. Both coalitions used information based on empirical evidence to substantiate their arguments and core values for and against IMB, respectively. An interesting observation regarding information as a resource for the two coalitions is that neither proponents nor opponents of the IMB based their arguments on scientific research. In both cases, it is instead a question of consulting studies. None of the coalitions mobilised troops outside the coalitions to support their advocacy work. The fact that Sweden allied itself with interest groups of property owners and tenants at national and EU level did not only mean that the advocacy coalition against IMB grew. It also provided access to financial resources that enabled the organization of a seminar in the EP. Last but not least, the deputy director of the Swedish Ministry of the Environment and Energy was an important resource for the actors' coalition against IMB. Without this leadership, the coalition of actors against IMB would not have been able to grow and achieve the success achieved by changing the IMB provisions.

4.4 An internal shock

According to the ACF model, the policy change may be the result of shocks, internal or external [16, 17]. As described, the two advocacy coalitions related to IMB, the proponents and opponents respectively, have changed over time. When the proposals for IMB were presented by the EC in 2011, the advocacy coalition in favour of IMB was small but influential. The governments of Denmark and Germany were supported by Danish and German metering industry. And the policy officer of the EC in charge of IMB was a Dane. Actors included in the advocacy coalition not in favour of IMB were scattered and didn't manage to come up with a common position. In addition, most MSs in the Council didn't understand the issue at stake.

However, Sweden, in particular, did change its approach on advocacy related to the provisions on IMB. Sweden first thought it would be appropriate to influence other MSs of the EU, focusing on negotiations in the Council. Later on, negotiating the amended EED, it was understood that negotiations must be undertaken in the Council and towards the European Parliament. Likewise, that influencing the positions of different EU actor organisations are key. This change, and the fact that European Property Federation, Housing Europe and International Union of Tenants for the first time ever had a common position, can be seen as an internal shock [cf. 17, 30] in the policy subsystem that paved the way for a change in the provisions on IMB. This made a great impression on the Head of Unit at the EC, the Council and the EP. A Swedish consultant in the field of energy based in Brussels said at the seminar

that she had never before seen Sweden act in this way in Brussels. At the seminar, it was made clear to the then head of unit for energy efficiency at the EC Directorate General for Energy (DG ENER), that not only Sweden and Finland, but also interest groups for private as well as public housing owners and tenants were opposing provisions on IMB. For the first time ever, Housing Europe, European Property Federation and International Union of Tenants came up with a common position. This had great impression on the then head of unit for energy efficiency at the EC, who mentioned at the seminar:

Now is not the time to lobby the European Commission, but rather the Council and the European Parliament. However, the coordinated positions of Housing Europe, the European Property Federation and the International Union of Tenants are impressive. We couldn't imagine this to happen.

4.5 Policy-oriented learning

According to the ACF theory, policy-oriented learning is defined as relatively lasting changes of thought or behavioural intentions that depend on experience and/or new information and are about achieving or revising the policy goals [26]. As for policy-oriented learning in the political subsystem for IMB, it was expressed in different ways. The fact that the advocacy coalition in favour of strict provisions on IMB accepted the position put forward by Sweden and its allies is an important form of policy-oriented learning. Such policy-oriented learning across belief systems is most likely to occur when there is an intermediate level of informed conflict between the two coalitions. This requires that (i) everyone has the technical resources to engage in debate, and (ii) the conflict is between secondary aspects of one belief system and core elements in the other or alternatively between important secondary aspects of the two belief systems [58]. In the case of IMB, there was the conflict between the coalitions' secondary core beliefs. The fact that almost all MSs accepted the core beliefs and proposals for amending the IMB provisions presented by Sweden and Finland is also a form of policy-oriented learning. The extensive advocacy work by Sweden and its allies in the advocacy coalition opposing IMB made impression on other MSs, who were supporting the proposals by Sweden and Finland on adding proportionality as a condition for IMB in the Council negotiations. Sweden's position on new buildings and buildings undergoing major renovations was further developed and requirements for IMB of in buildings undergoing major renovations was deleted, as was requirements for IMB of heating and cooling in new

buildings. There was only an unconditional requirement for IMB of domestic hot water left, which was a fall-back position of Sweden. The final amendment of the Council, prior to trialogue negotiations between the Council, the EP and the EC suggested that individual meters for heating, cooling and domestic hot water shall only be installed in existing buildings “where technically feasible, and cost effective in terms of being proportionate in relation to the potential energy savings”.

The fact that the European Parliament adopted the same position as the Council – a position that was very similar to that put forward by Sweden and its allies – is also a form of policy-oriented learning. The introduction of proportionality as a key condition for requirements to install IMB was stressed also in the EP report on the revision of EED, presented to the EP plenary by the ITRE rapporteur, a Czech MEP representing EPP, in December 2017. The suggestion was that individual meters shall only be installed in existing buildings “where technically feasible and cost effective in terms of being proportionate in relation to the potential energy savings”. The positions of the Council and the EP are identical and very similar to the position of Sweden and its allies.

Another form of policy learning was the extension of the advocacy coalition opposing IMB, which showed that it is possible for interest groups that previously did not share the same position to come together and find common ground on a new policy issue. The importance of engaging with interest groups for policy change should not be underestimated, which Szarka [19] claims that the ACF theory does.

To understand the learning, it is important to understand why and how other actors perceived and received the message from the advocacy coalition opposing IMB. It was mentioned in section 4.3 that a core belief of Sweden and its allies in the negotiations on the amended EED was that IMB would disincentivise energy efficiency renovations and that it could have negative impacts on energy poverty, housing and tenancy policy and social policy. The acceptance of the core beliefs and proposals for amending the IMB provisions put forward by Sweden and Finland by a majority of MSs in the council is also a form of policy-oriented learning. In order to understand how Sweden gained broad support in the Council and from members of the EP, as well as the EC, it is important to take into account that provisions on IMB was not negotiated in isolation, but together with the new EU target for energy efficiency by 2030 and provisions on national energy savings obligations included in the revision of the EED. An important aspect making other MSs in the Council, the EC and MEPs believe in the story told by Sweden was that Sweden supported a significant increase of

the EU target for energy efficiency (EED Article 1) from 27 per cent to at least 32.5 per cent by 2030, as well as strict rules on MSs' energy savings obligations (EED Article 7-7b). Although opposing IMB, Sweden could not be seen as an actor trying to downplay energy efficiency in the EU.

4.6 Paths to policy change

According to the ACF, the behaviour of the actors in the policy process is influenced by two external factors, one stable and one dynamic. The more stable factor includes variables that characterise the policy problem, such as the basic distribution of natural resources, basic socio-cultural values and structures, and the basic constitutional structure (Figure 3) These variables are fairly stable over time and seldom change over a ten-year period and therefore rarely justify policy change. They are decisive for the resources and constraints that exist within the political subsystem within which the actors operate. The dynamic external factors are changes in the socio-economic conditions, changes in the governing coalition and policy decisions from other political subsystems. The ACF model makes the assumption that change in one of the dynamic external factors is a necessity for a comprehensive policy change to be implemented [16, 17].

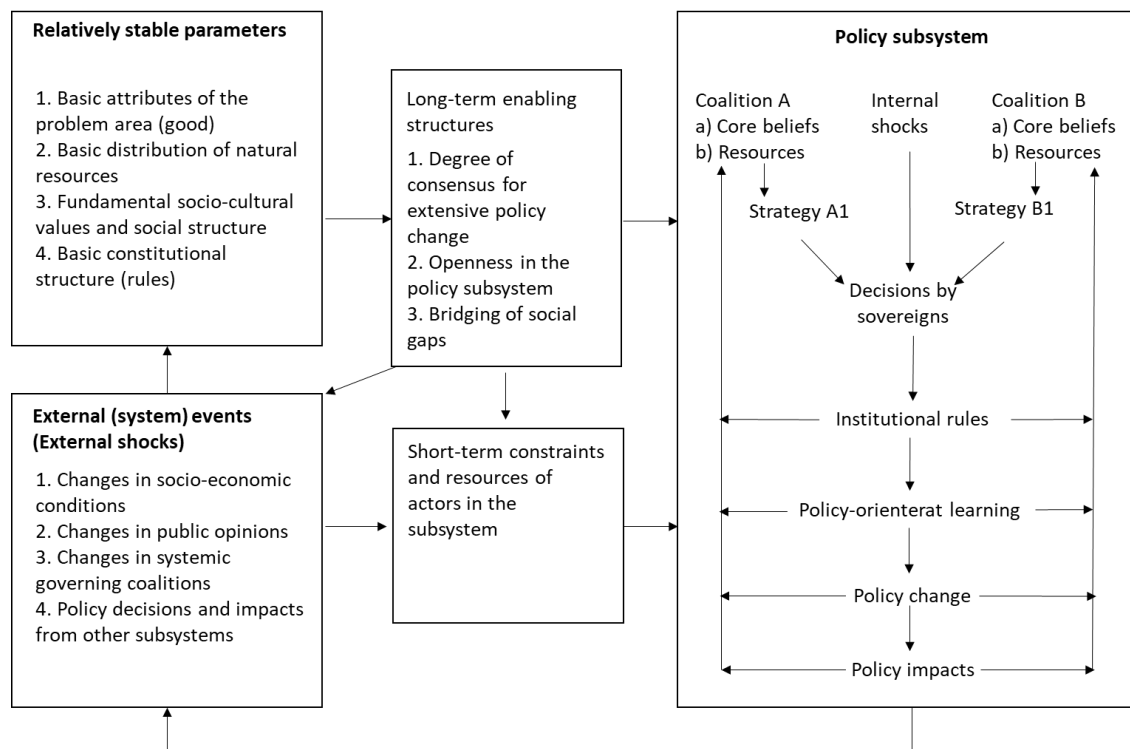


Figure 3. Factors leading to policy change. Modified from Jenkins-Smith et al. 2014 [58]

In the case of changes to the EED provisions on IMB, no such changes took place. There was, e.g., no socio-economic changes or climate policy decisions that led to the amendment of the EED. As explained in section 4.4, the change was influenced by an internal shock. Possibly such a shock can be seen as a change in the ruling coalition, i.e. the advocacy coalition opposing IMB, which grew stronger ahead of the negotiations on the revised EED, but this was an internal, not an external factor, to the policy subsystem.

Pierce et al. [35] mention that the ACF model sets out five pathways to policy change: (i) external shocks, (ii) internal shocks, (iii) internal events in the political subsystem, (iv) policy-oriented learning, and (v) negotiated agreements. This corresponds to what Weible & Nohrstedt [59] call conditions for bottom-up policy change. In the case of EED, policy change took place following several pathways. As described in section 4.4, an internal shock occurred in the policy subsystem. As described in section 4.5, the policy-oriented learning did also influence the policy change. The seminar in the European Parliament was a ground-breaking internal event in the political subsystem. Last but not least, the policy change is the result of negotiations between the MSs in the Council, in the European Parliament and between the Council, the European Parliament and the EC.

5. Conclusions

This paper set out to analyse and explain the change of EU policy in the area of energy efficiency. EU legislation on individual metering and billing was used as a case study. To do this, actions of policy actors, interest groups, their core beliefs and resources, policy-oriented learning and the debate by the time of initiation, formulation, implementation and revision of EED provisions on IMB are examined through the lens of the advocacy coalition framework (ACF). It is explained that proponents of IMB claim that it provides incentives for households to reduce their energy use by behavioural changes. Opponents of IMB argue that it reduces incentives for building owners to renovate their buildings and improving the energy performance of buildings. They also claim that IMB has negative influence on energy poverty, housing policy and social policy. It is further explained that the coordinated behaviour of several actors in the advocacy coalition opposing IMB have changed significantly from negotiations of the original EED to negotiations of the EED amendments. The importance of engaging with interest groups for policy change should not be underestimated [19].

The study contributes to previous research that has shown that the ACF model is useful for describing and explaining policy-oriented learning and policy change within a policy subsystem. The paper shows, in particular, the importance of internal shocks for policy change [cf. 27]. The formation of a normative coalition opposing IMB, including EU interest groups that previously never had have a common position, came as a shock to the EC and had impression on MSs in the Council and on the EP. Policy change on IMB is the result of different pathways: an internal shock, internal events in the political subsystem, policy-oriented learning, and negotiated agreements [cf. 35, 58]. The paper also contributes to development of the ACF from findings that are in contrast to the theory. First, it is concluded that policy change can take place without a change of external dynamic factors. Second, it is found that advocacy coalitions can change rather quickly, in a period of about five years rather than a decade or two proposed by Sabatier [16] and Sabatier and Weible [17], if there is a strong actor and a dedicated persons taking the lead for change. This confirms the results of Szarka [19] that a decade or more is probably too long a time horizon to analyse policy change in a new policy subsystem.

The paper further concludes that it is of great importance (i) to form a broad coalition of interests with other MSs and various interest groups from relevant sectors [cf. 19, 54], and not least (ii) to target all EU institutions [cf. 56], to achieve success in advocacy work. Such norm advocacy is particularly important for small MSs like the Nordic countries [cf. 54-56].

As for policy-oriented learning in the political subsystem, the creation of a broad coalition opposing IMB, where actors who had never had the same opinion before, now had a common position, was an important lesson. Another example of learning in the policy subsystem is the acceptance of the advocacy coalition in favour of IMB of the secondary core beliefs and positions of the advocacy coalition opposing IMB. Furthermore, the amendments made to the EED legislation on IMB are an expression of learning. As a result of the revised IMB provisions on heating, cooling and domestic hot water in the EED, property owners are given incentives to carry out energy-efficient renovations of buildings instead of installing IMB, which paves the way for improved energy performance for buildings. The latter is a priority issue in the EPBD. It is important that different EU directives on energy efficiency, such as the EED and the EPBD, strive in the same direction.

In all, the paper provides improved scientific knowledge of the processes of policy making and policy change and the different policy coalitions and how they lobby the

formulation of EU legislation that can inform various stakeholders to better shape their strategies and advocacy work in future EU policy making and national policy implementation.

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