



The role of actors in the policy design process: introducing design coalitions to explain policy output

Leonore Haelg¹ · Sebastian Sewerin¹ · Tobias S. Schmidt¹

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Abstract

Despite a renaissance of policy design thinking in public policy literature and a renewed interest in agency in the policy process literature, agency in the *policy design process* has, so far, not received systematic attention. Understanding the agency at play when designing policy, however, is crucial for better comprehension of policy design choices and variation in policy design across cases. Here, we build on the hierarchical structure of design elements that constitute each policy and analyse how actors position themselves during a policy design process in relation to individual design elements. Our aim is to establish different actors' roles in shaping the policy output in an inductive, single-case study using the empirical case of the Swiss renewable energy feed-in tariff. Notably, we find agency in the form of coalitions which emerge around particular design elements. Based on our representative analysis, we derive the generalisable concept of *design coalitions* that we define as relational structures of actors who gather around and advocate for specific policy design elements during the policy design process. Policy design coalitions are dynamic throughout the design process and strategic and constitute the determinants in translating policy problems into final policy designs during policy designing. Our approach allows us to shed light on the role of agency in the policy design process in general.

Keywords Policy design · Agency · Design elements · Sequencing · Actor coalitions · Energy policy

Introduction

In recent years, policy design has experienced a renaissance in public policy literature (Considine et al. 2014; Howlett 2014; Howlett and Lejano 2012). While theory building for the policy design process started as early as the 1980s (Howlett 2014), scholarly interest subsequently shifted away from questions of 'designing' towards questions of governance and globalisation (Howlett and Lejano 2012). Lately, however, policy design literature has regained momentum, with many articles referring to and further developing works from

✉ Leonore Haelg
leonore.haelg@gess.ethz.ch

¹ Energy Politics Group, Department of Humanities, Social and Political Sciences, ETH Zurich, Haldeneggsteig 4, 8092 Zurich, Switzerland

the early phase of policy design theory (Considine 2012; Gormley 2007; Howlett 2014; Howlett and Cashore 2009; Howlett and Lejano 2012).

Cashore and Howlett (2007) have done important work in this regard with their taxonomy of nested policy design elements, which offers a useful tool for disaggregating the different elements of a policy (Howlett and Cashore 2009). Their matrix combines Hall's (1993) three levels of policy change with two policy dimensions: policy aims and means. It thus provides a basis to qualitatively and quantitatively assess policy change of specific elements at different levels and helps to overcome the 'dependent variable problem' in policy change lamented by many scholars (e.g. Dupuis and Biesbroek 2013; Green-Pedersen 2004; Kühner 2007; Schaffrin et al. 2015).

Several studies have used Cashore and Howlett's taxonomy, or parts of it, to empirically analyse policy design and policy change across various geographies and policy fields, such as emergency management policy, transportation policy, climate change policy, clean air regulation and forest policy (e.g. Bache et al. 2015; Henstra 2011; Knill et al. 2012; Makkonen et al. 2015; Schaffrin et al. 2014, 2015). Yet, the majority of these studies examine the influence of policy design on policy outcome and thus lack an analysis of how policy designs emerge and, in particular, the role of actors therein.

This research gap is also prevalent in the broader design literature, where concepts of actors in the design process are limited in both extent and scope. The design literature defines 'policy designers' as rational and omniscient government officials and their advisory system (Craft and Howlett 2012; Craft and Wilder 2017; Howlett 2011; Howlett and Wellstead 2011) and remains vague about the political actors and coalitions who are often involved in designing and deciding upon the final policy output. Conversely, policy process literature offers a wide-ranging arsenal of actor conceptualisations such as epistemic communities, discursive agents, and instrument constituencies (Leipold and Winkel 2017; Mukherjee and Howlett 2015; Voß and Simons 2014; Zito 2018). On a broader level, the advocacy coalition framework (ACF) offers a systematic approach for analysing the formation and maintenance of coalitions advocating for (or against) policy change (Jenkins-Smith et al. 2014; Sabatier 1988; Weible et al. 2009). These conceptualisations are helpful for understanding the role of actors in the *processes* behind policymaking, but are not systematically concerned with the *output* of policymaking processes, namely concrete policy design: Conceptually and empirically, these approaches are generally more interested in policy change per se or focus on individual design elements, thus failing to look at policy design comprehensively.

In line with Howlett (2014, 190), who deems it 'necessary to advance our understanding of both designs themselves and the processes which lead to their adoption, implementation, evaluation and reform', we aim at addressing this research gap—i.e. the lack of actor conceptualisations in policy design—by analysing the role of actors in a specific policy design process. We argue that it is important to know how the political design actors position themselves during the policy design process in relation to individual design elements and how they collectively shape the policy design output. Regarding policy design, we base our analysis on Cashore and Howlett's taxonomy of nested policy design elements (Cashore and Howlett 2007; Howlett and Cashore 2009). More specifically, we study how design elements are formulated with respect to the actors and their preferences regarding design elements across different levels of abstraction. To do so, we use the empirical case of the Swiss renewable energy feed-in tariff (RE-FiT), which was implemented in 2009 and which introduced the first comprehensive support scheme for renewable energy (RE) technologies in Switzerland. Our analysis shows that actors form coalitions around specific design elements, which are not stable throughout the design process but, instead, realign in the course of decisions regarding different design elements. Based on these findings,

we introduce the concept of *design coalitions*, which we define as relational structures of actors who gather around and advocate for specific policy design elements. These coalitions have two main characteristics; they are dynamic and strategic. Thus, we propose a new, mid-range concept that links actors and policy design and thereby contribute to the understanding of how political design actors shape the policy design output.

The remainder of this paper is structured as follows: The “[Policy design and actor conceptualisations](#)” section provides the theoretical foundation reviewing the policy design literature (“[Policy design](#)” section) and actor conceptualisations in the design (“[Actors in policy designing](#)” section) and the policy process literature (“[Actor conceptualisations in the policy process literature](#)” section). The “[Research design and research case](#)” section gives an overview of the research case and the methods for addressing the research question. The “[Results](#)” section describes our empirical results regarding the policy design and the policymaking process (“[Design elements and design process](#)” section) and the role of actors at different design levels (“[Actors at different levels of the design process](#)” section). The “[Discussion](#)” section discusses these results and introduces the notion of design coalitions, while the “[Conclusion](#)” section concludes the paper.

Policy design and actor conceptualisations

This paper aims at integrating the role of actors into policy design literature. In the following, we will present policy design and actors in more detail: In the “[Policy design](#)” section, we review policy design literature and offer an overview on recent progress in analysing specific policy design elements and how they together constitute a ‘policy design’. In the subsequent two sections, we shift to the design process itself, with a particular focus on actors. In the “[Actors in policy designing](#)” section, we do so by looking at how policy design literature conceptualises the actors involved in policy designing. Finally, in the “[Actor conceptualisations in the policy process literature](#)” section, we broaden the perspective by reviewing actor conceptualisations within the policy process literature to find whether they are suitable for design-related questions.

Policy design

The literature conceptualises policy design as both a noun and a verb—i.e. policy *design* and policy *designing* (Howlett 2014; Schneider and Ingram 1988). Traditional design literature has typically focused on the noun, referring to the content of a policy output with different design elements. An increasing number of studies has analysed and classified these elements of public policies (Howlett 2009, 2014; Schneider and Ingram 1988). Recently, the attention of public policy scholars has broadened to also encompass policy design as a verb, describing the process of formulating the policy output. In this section, we will focus on the noun to conceptualise what is negotiated when designing policy, before considering the actors involved in the next sections.

In the past, policy design literature has shifted its focus several times from policy instrument choice to policy mixes to policy design choice. In the 1980s, a large body of literature emerged analysing policy design (Howlett 2014; Howlett and Lejano 2012) with the main attention on specific policy instrument choices (e.g. Bowers 2005; Goulder and Parry 2008; Gunningham and Sinclair 2005; Hepburn 2006; Howlett and Ramesh 1993; Jordan et al. 2003; Keohane et al. 1998; Rist 1998; Stavins 1996), since policy instruments were

understood as constituting the actual tools through which policy goals are achieved (Howlett and Lejano 2012; Linder and Peters 1988, 1991; May 2003). Later, the attention of design scholars moved to instrument mixes, their effectiveness, and how their instruments interact (e.g. Flanagan et al. 2011; Howlett and Rayner 2007; del Río González 2014; Schmidt and Sewerin 2018). However, recently, design scholars have also started to isolate the basic elements of each policy's design (e.g. Cashore and Howlett 2007; Howlett 2014; Howlett and Cashore 2009; Schaffrin et al. 2015), thus creating a reference point for more fine-grained analyses of the specifics of particular instruments (Haelg et al. 2018).

Based on Hall (1993), Cashore and Howlett (2007) have developed a hierarchy of policy design elements to help identify the building blocks of a policy. They propose breaking down policies into three levels of abstraction and two 'policy foci', i.e. the policy requirements or aims and the policy means (see also Fig. 1). Policy aims represent what the policy intends to achieve. Conversely, policy means define how to achieve these aims. These policy foci are embedded across different abstraction levels, with policy choices and preferences at higher levels informing and determining policy design at lower levels. Policy instrument choices are, for instance, restricted to a limited set of options given the abstract, high-level preferences for instrument logic. The same applies to the calibrations of the instrument, which are largely dependent on the type of instrument chosen. Similarly, policy aims co-determine each other—from abstract high-level goals to mid-level objectives to specific low-level settings. Using the example of British macroeconomic policy, Hall (1993, 284) describes the influence of higher-level policy elements on lower-level elements as follows, '[w]hen monetarism replaced Keynesianism as the template guiding policy, there was a radical shift in the hierarchy of goals guiding policy, the instruments relied on to effect policy, and the settings of those instruments'.

In ideal-type scenarios, nascent policy fields emerge with defining and negotiating the general policy problem and ideas for addressing it. Subsequently, the process moves towards the concrete questions of policy objectives and instrument types before settings and calibrations are defined. Once a policy subsystem is established, it becomes increasingly difficult to alter higher-level aims and means, and incremental design changes at the lower levels prevail, replacing or adding specific elements of the pre-established policy mix (Breunig and Koski 2012; Howlett and Migone 2011; Kern and Howlett 2009; Weiss and Woodhouse 1992). To illustrate the pattern of higher-level elements not only determining lower-level elements, but also occurring earlier in the design process, we illustrate Cashore and Howlett's (2007) matrix as a hierarchy narrowing from top to bottom (Fig. 1). In the following, we will dive deeper into the different levels of abstraction, starting at the top of the hierarchy.

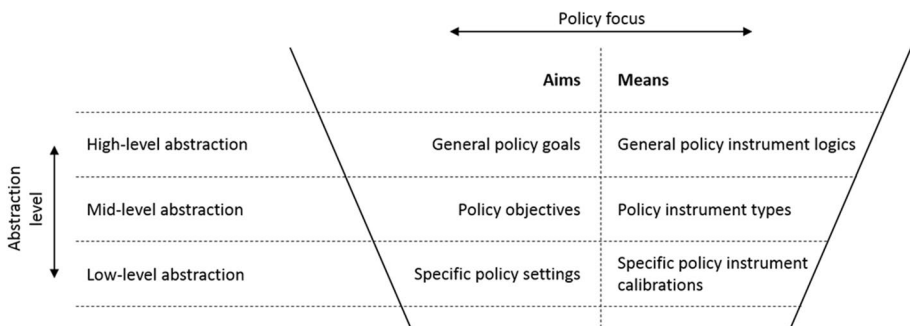


Fig. 1 Hierarchy of policy design elements. Adapted from Cashore and Howlett (2007), Howlett and Cashore (2009) and Howlett (2009)

The highest level of abstraction corresponds to the general types of ideas behind a policy and the general norms that guide agents' implementation preferences (Cashore and Howlett 2007; Howlett and Cashore 2009; Kern and Howlett 2009). Here, the issue that a policy should address is decided upon (i.e. the *general policy goals*), and the toolbox available to policymakers for achieving the goal is defined (i.e. the *general policy instrument logics*). These goals and instrument logics correspond to stable, long-term governance modes spanning across sectors, which are largely determined by the prevalent political actors and institutional settings and, in turn, largely determine how policy is designed at the lower, more specific levels (Howlett 2009). Examples for general policy goals and general instrument logics include climate change mitigation and a preference for non-coerciveness, respectively.

The policy aims and means of the mid-level abstraction are represented by the *policy objectives* and the *policy instrument type*. These choices are confined by boundaries set at the macro-level. An example of a policy objective for climate change mitigation is a greenhouse gas reduction target, and an example of a non-coercive policy instrument type is a cap-and-trade system. As mentioned earlier, a large body of literature has analysed policy instrument choices due to their importance in determining how policy goals are achieved (Howlett 2014; Linder and Peters 1988). However, solely focusing on instrument types leaves the important question of design choices unanswered and omits the embedding of the instrument in a cluster of design elements.

The lowest level of abstraction includes *specific policy settings* and *instrument calibrations* and represents the formulation and implementation of higher-level aims and means. An example of a specific policy setting for a greenhouse gas reduction target is a specific value, such as the EU's targeted 20% cut in greenhouse gas emissions by 2020 from the 1990 levels. An example of a specific instrument calibration for a cap-and-trade system is the number of freely issued emission certificates. Innovation studies have shown that design decisions at this abstraction level have substantial influence on policy outcome (Ashford et al. 1985; Jenner et al. 2013; Kemp and Pontoglio 2011; Schmidt and Sewerin 2018).

Cashore and Howlett's taxonomy is a useful tool for breaking up a policy into its design elements. To understand where these policy design elements originate from, we will, in the following, look at the process of policy designing and the role of actors therein.

Actors in policy designing

Policy design studies have, in recent years, moved their focus to include policy *designing*—i.e. the *process* of formulating the policy output and the protagonists driving the process. Here, policy designers make 'conscious, intentional, and deliberate choices' to implement the most effective and efficient policy design (Howlett 2014, 198). Thus far, however, policy designing literature focuses on the design process *within administrations* with the advice of external political and technical experts (Craft and Wilder 2017; Howlett and Wellstead 2011). Howlett and Mukherjee (2014, 58) posit policy designing to be 'driven by knowledge and evidence of alternatives' merits and demerits in achieving policy goals rather than by other processes such as bargaining or electioneering among key policy actors'. In this literature, policy designing is thus dissociated from the messy political arena and involves rational and knowledgeable actors with 'a great deal of administrative and analytical capacity' (Howlett 2014, 195).

The perspective of policy designers as omniscient and omnipotent government officials and their advisors is challenged by empirics showing that the adopted policy design may not necessarily be the most effective and efficient path to address a policy goal (Béland 2007; Hacker 2004; Kern and Howlett 2009). In reality, policies may have to undergo several cycles of (re-)designing instead of being directly decided upon by civil servants. Even though rational actors may sketch a rational policy in the first draft, political forces at play in the subsequent political (and politicised) design process may lead to a considerably altered policy design being adopted in the end (Wilder 2017). In contrast to the conceptualisation of rational policy designers, the actors present in this political design phase may be driven by factors other than effectiveness and cost efficiency. Thus, it can be argued that policy design may not solely be introduced by a set of rational policy designers, but rather through interaction between various actors who move in the confinement of the present institutions and on the basis of different interests and resources (Bressers and O'Toole 1998; Engeli and Varone 2011; May 2003; Voß et al. 2009) and who may make decisions in contingent and opportunistic ways (Howlett and Lejano 2012; Kingdon 1984). We argue that it is therefore important to know how political design actors position themselves during the policy design process in relation to the individual design elements.

Actor conceptualisations in the policy process literature

In contrast to policy design literature, policy process literature offers a wide-ranging arsenal of actor conceptualisations, which aid understanding of messy policymaking processes. For instance, *policy entrepreneurs* (Kingdon 1984) are actors interested in promoting significant change in a certain policy field; they are conceptualised as knowing how to influence agenda setting and to leverage windows of opportunities to translate their ideas into policy solutions (e.g. Mintrom and Norman 2009; Weible and Ingold 2018). Similarly, *epistemic communities* describe groups of actors who are concerned with and gather around policy issues and problem definitions based on scientific knowledge (e.g. Haas 1992; Zito 2018). *Discourse coalitions* or *discursive agents* are defined as a set of actors who share a perception of how to present and frame issues (e.g. Leipold and Winkel 2017; Steensland 2008). Conversely, *instrument constituencies* are conceptualised as groups of actors who gather around a specific instrument type, indifferent to the policy field (e.g. Béland and Howlett 2016; Simons and Voß 2017). All these approaches have in common that they analyse the actors present in specific instances of the policymaking process or only study one specific design element (Capano and Galanti 2018; Voß and Simons 2014). Additionally, these conceptualisations study only a subset of actors with specific functions in the policy process. Thus, they do not offer the breadth to trace the political design actors and their coordination with other actors through the policy design process and to explain final policy design output.

On a much higher level, the advocacy coalition framework (ACF) may fill the gap outlined above with its consistent actor conceptualisation. The ACF is an important approach that has shaped the view of actors and agency in the policy process. It argues that various actors aggregate in advocacy coalitions according to a shared set of normative and causal beliefs and cooperate to influence policymaking in their favour (Jenkins-Smith et al. 2014; Sabatier 1988). The ACF views policymaking as being the ultimate result of coalition formation over long time periods (Knox-Hayes 2012; Sabatier 1988) and sees advocacy coalitions as stable beyond singular policy decisions (Weible and Ingold 2018). The ACF's belief system primarily serves as an explanatory basis for coalition formation and

maintenance, as well as for policy stability rather than illustrating the drivers of policy change (Cairney 2007; Capano 2009; Mintrom and Vergari 1996; Wilder 2017). Also, the ideal–typical ACF understanding that the beliefs of the strongest coalition directly translate into policy output may apply to long term, overarching policy development and across the different stages of a policy cycle (Weible et al. 2009). However, it does not seem to offer the fine-grained qualities necessary for dealing with an actual policy design process and its output. We thus identify a gap between the ACF, whose main attention lies on the long-term patterns of policy stability and change, and the previously presented actor concepts, which focus on specific design elements of the policy process and a subset of actors. These conceptualisations thus collectively lack the explanatory power to analyse the role of actors in the design process of one individual policy and in shaping the final policy design output.

With the present study, we aim at integrating the role of actors into the policy design literature. We do so by applying Cashore and Howlett’s taxonomy to an empirical case and by analysing how actors influence decisions on individual policy design elements. Thus, we seek to understand how political design actors position themselves during the policy design process in relation to the individual design elements. Thereby, we aim at inductively developing a new, mid-range concept specifically linking actors and policy design.

Research design and research case

Our research design is inductive. Conducting a qualitative single-case study (Eisenhardt 1989; Gerring 2004), we analyse which actors take part in and how they influence the outcome of the legislative process of the Swiss renewable energy feed-in tariff (RE-FiT). In “[Case selection](#)” section, we introduce our case and the case selection strategy. In “[Historical context](#)” section, we outline the historical background of the empirical case. Finally in “[Method and sampling](#)” section, we summarise our data collection and sampling strategy.

Case selection

In the Swiss renewable energy (RE) policy mix, the RE-FiT represents the flagship policy. A feed-in tariff is a technology deployment policy, which offers renewable electricity producers guaranteed electricity grid access and cost-covering reimbursement per unit of produced electricity with a long-term contract (Haelg et al. 2018; Jacobs 2014; Stokes 2013). Often, a feed-in tariff is financed by a consumer surcharge imposed on every unit of electricity consumed.

The Swiss policymaking process is highly formalised and structured (see a detailed overview of the Swiss policymaking process in [Table 1](#)). It includes the publication of a policy draft, together with a declaration and discussion of the aims and means the policy addresses. The process also involves a public consultation in which all stakeholders may express their opinions on the draft, preliminary negotiations about every policy element within the parliamentary committee and a subsequent debate in the plenum where every paragraph of the policy is discussed and voted upon. The draft shuttles between the two parliamentary chambers and their committees until every policy element is decided upon by a majority.

Our research case represents a deviant case suitable for theory building, when the outcome is known but the factors contributing to the outcome are unknown (Beach and Pedersen 2013; Seawright and Gerring 2008). Additionally, from a theoretical sampling point

of view and in line with Eisenhardt and Graebner (2007), our case is particularly well-suited, since it enables to trace the designing of an entirely new flagship policy in an unusually transparent context. In the following, we will elaborate on these two aspects.

First, RE has only recently appeared as a policy subfield, gaining momentum in the late 1990s and early 2000s, when the topics of climate change and peak oil arrived on the radar of the general public and policymakers. It therefore allows us to trace a relatively recent design process, which initially offered a high degree of freedom in terms of design choices and in which the three levels of abstraction were subject to debate and influenced by a multitude of actors.

Second, Switzerland is an extreme case in terms of its structured and institutionalized policymaking process and its transparency allows for reconstructing the role of actors with respect to the various design elements. Data availability and accessibility is high. All debates—whether in the committee or plenum—have minutes taken, or are transcribed, and are made available to researchers. Additionally, the Swiss lay parliamentarians are not only representatives of their parties, but also of associations and interest groups and, therefore, must publicly disclose their commitments with such organisations. Thus, it is possible to link the statements of parliamentarians with corresponding associations and interest groups.¹

We limit the scope of the RE-FiT analysis to the legislative phase of the policymaking process starting with the preparation of the project draft and spanning up to the end of the parliamentary phase (steps 4–18 in Table 1). In so doing, we exclude the first technical phase of drafting the proposal in the corresponding energy office² and the subsequent government approval, as well as the second technical phase after the parliament's decision, during which the energy office translated the specifications of the new RE-FiT from its law into the respective ordinance. We do this with the purpose of tracing the role of actors in the political design process during which the final policy output is decided.

Historical context

In Switzerland, the electricity sector is primarily governed at the national level (Sager 2006). In 1991, parliament adopted its first, very limited RE policy, which guaranteed grid access for electricity from RE sources and offered a tariff dependent on the cost of conventional electricity production irrespective of the technology and resource.³ Complementary instruments included voluntary agreements with the large utilities to increase RE generation, investment grants for solar photovoltaic (PV) installations and research and development support.

Starting in 2004, RE policy was completely redesigned to deliver a first comprehensive support for RE technologies: a flagship policy in the form of a cost-covering, technology-specific feed-in tariff was adopted—the focus of this study.⁴ This happened in light of

¹ In the present case, the government, and federal ministries other than the energy office did not participate, or only marginally participated, in making the new RE-FiT, as indicated by the documents of the interdepartmental consultation process. This adds to the transparency of the case since the role of other actors external to the government and administration was, thus, more important.

² The energy office, officially called Swiss Federal Office of Energy, is the responsible authority for questions around energy supply and energy use at the national level and a subordinate agency of the Swiss Federal Department of the Environment, Transport, Energy and Communications.

³ Resolution on energy use (Energienutzungsbeschluss/Arrêté sur l'énergie), SR 730.0, AS 1991 1018.

⁴ The feed-in tariff was implemented in Art. 7, 7a, 7b, Law on energy (Energiegesetz vom 26. Juni 1998/Loi du 26 juin 1998 sur l'énergie), SR 730.0, AS 2008 775.

electricity market liberalisation, which Switzerland intended to introduce to comply with EU legislation.⁵ However, in 2002, parliament's first attempt to liberalise the electricity market was rejected by Swiss voters in a referendum forced by labour unions with the support of left-wing and green groups. In a second attempt to at least partially liberalise the electricity market, an expert committee elaborated a compromise, which included (amongst others) the idea to completely redesign RE support to convince parliamentarians of the left to vote in favour of the liberalisation. The government published the corresponding draft in 2004 after a public consultation process, and the feed-in tariff was accepted in a final vote by both chambers of parliament in February 2007, taking effect in 2009.⁶

Method and sampling

In this study, we proceeded in three steps. First, we conducted comprehensive desk research. We scanned draft and final versions of the Swiss Law on Energy to define the policy design elements debated in the legislative phase of the policy process. We also examined stakeholder statements submitted during the public consultation process to map relevant actors involved in the design phase, as well as their initial positions (see Table 4 for a list of the included actors). Finally, we collected and analysed academic literature and public and technical reports to compile the theory and background sections of this paper.

Second, we analysed the protocols of the energy committee meetings⁷ and the transcripts of the parliamentary debates to trace the different actors' positions through the process. Additionally, we conducted interviews with bureaucrats, parliamentarians and representatives of industry associations to gain insights on processes not publicly available. We interviewed a sample of 17 persons involved in the Swiss policymaking process, who were identified during desk research (listed in Table 2). The interviewees were contacted via e-mail. The interviews were conducted in person or by phone, lasted between 30 and 120 min and were recorded and subsequently transcribed. Two additional actors were not interviewed directly but gave a written statement on their positions in the process by e-mail.

Third, we coded the statements in the public consultation process, the protocols of the energy committee meetings, the transcripts of the parliamentary debates, and the transcripts of the interviews. We coded these alongside, and assigned them to, the various actors and the different policy design elements—both in the draft and produced throughout the parliamentary process (see Tables 3 and 4). Statements and votes by parliamentarians were assigned to the respective parties, as well as other actors, such as associations, based on their registries of interests for the specific year.⁸ The codes for the policy design elements were

⁵ Even though Switzerland is not a member of the EU, it is heavily integrated in the European electricity market. Thus, to keep access to the electricity markets of its neighbouring countries, it is necessary for Switzerland to comply with EU legislation.

⁶ In our study, we focus on how the design of the feed-in tariff came about and, more specifically, how and why these design elements were decided upon. The specific tariffs paid for electricity generation from the various RE technologies, as well as the conditions for receiving these tariffs, were formulated by the energy office and decided upon by the government and are, together with later amendments of the feed-in tariff, out of this study's scope.

⁷ Note that, even though the protocols of the energy committee meetings are available for researchers, they are confidential. For this reason, it is prohibited to use quotes or name participants (or their party affiliations) from the meetings. In the following, we thus use data from the committee meeting protocols only as aggregated results.

⁸ Smaller parties and parliamentarians without party affiliation are omitted from this study.

defined in two ways: For the design elements at mid and low level of abstraction, we studied all draft versions of the policy and additional proposals by policymakers and assigned the codes accordingly. However, as the Swiss RE-FiT does not contain information on the high-level goals and instrument logics, we coded statements by the various actors in terms of what they aimed at achieving with the policy (general policy goals) and how they aimed at achieving it (general instrument logics). The codes are summarised in Table 3. This coding allowed us to link the actors with the design elements and, thus, to find out which actors favoured and supported which design elements. This procedure provided us with a solid overview of the actors' positions and their coordination around specific design elements.

Results

The empirical section of this paper first delineates the specific design elements of the Swiss RE-FiT and the sequential process in which they were decided upon (“[Design elements and design process](#)” section). Second, it studies the actors and their preferences that drove these decisions by thoroughly analysing the three levels of abstraction and the debate around design alternatives at these individual levels, as well as how the actors positioned themselves around these elements (“[Actors at different levels of the design process](#)” section).

Design elements and design process

Figure 2 summarises the specific design elements of the Swiss RE-FiT using the hierarchy introduced in Fig. 1. At this point of the paper, we only consider the mid-level and low-level design elements, because the high-level aims and means, which refer to the overarching goal a policy should address and the general instrument type (see “[Policy design](#)” section), were not formally decided upon and were thus not written down in the Swiss RE-FiT. They, however, continuously influenced actors' design element decisions at the lower levels, which is why they will be extensively covered in the “[High-level abstraction: general policy goals and general instrument logic](#)” section.

The parliamentary process began in the first chamber of parliament with an ‘entry debate’, during which it was decided if the RE policy was going to be completely redesigned. In line with statements by the parliamentarians, we use this debate and its subsequent decision as a proxy for the decision about introducing a *RE target*.⁹ The first chamber of parliament then moved to the specifics of the policy target—deciding, on the one hand, about the *specific RE target value* and, on the other hand, which new *RE technologies to include* in the scheme. Subsequently, the *instrument type*—the *feed-in tariff*—and a specific instrument calibration—the *cap of the consumer surcharge*, which serves to finance the policy instrument—were decided upon. The RE target and feed-in tariff were confirmed at once as the policy objective and instrument type by the second chamber of parliament and were not contested anymore in the subsequent debate. The main elements of discussion within the second chamber of parliament were the *RE technologies to be included* in the scheme, as well as the *cap of the consumer surcharge*. In addition to including small hydropower in the catalogue of supported technologies, a requirement for new

⁹ In Switzerland, the first and second chambers of parliament are called the National Council and the Council of States, respectively.

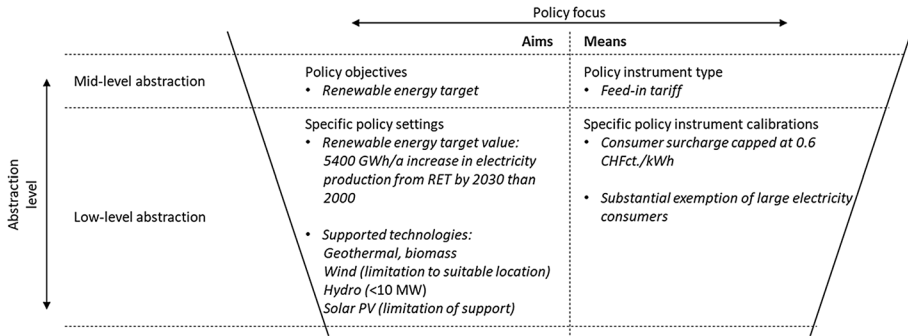


Fig. 2 Policy design elements of the Swiss RE-FiT as implemented in 2009, represented by Cashore and Howlett’s taxonomy. Note that the general abstract policy goals and general policy instrument logic were not formally decided upon by the parliament and are thus not specified. Also note that we exclude policy design elements concerned with large hydropower from this study, as well as additional minor policy instruments, such as security collaterals for geothermal plants and tradable certificates

installations to be built at a suitable location was added to limit the number of wind installations and limit solar PV as well. This *limitation on solar PV* was the main point of disagreement between the two parliamentary chambers and was decided at the very last. The *cap of the consumer surcharge* was also a major point of disagreement within both parliamentary chambers until the very last, when the second chamber ultimately fixed it at a rather high value. Finally, a new instrument calibration element was added by the second parliamentary chamber, namely the *substantial exemption of large electricity consumers* from the surcharge. The contested policy design elements were finalised in two subsequent rounds through the parliamentary chambers. As summarised in Fig. 11, the design process followed the hierarchical structure proposed by Howlett and Cashore (2009).

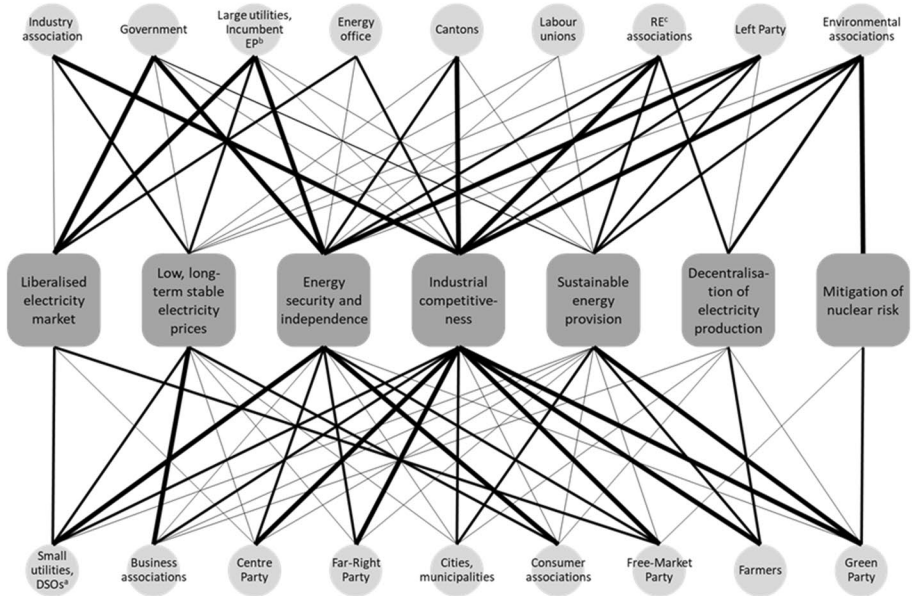
Actors at different levels of the design process

In this section, we show how the various actors influence the choice of the different design elements presented in the previous section. We start by analysing the high-level abstraction design elements, i.e. the different actors’ general policy goals and instrument logics (“High-level abstraction: general policy goals and general instrument logic” section). Crucially, these design elements influence the actors’ choices at the lower levels of the taxonomy. Subsequently, we present our results on the mid-level abstraction design elements (“Mid-level abstraction: policy objectives and policy instrument type” section) and low-level abstraction design elements (“Low-level abstraction: specific policy settings and specific instrument calibrations” section).

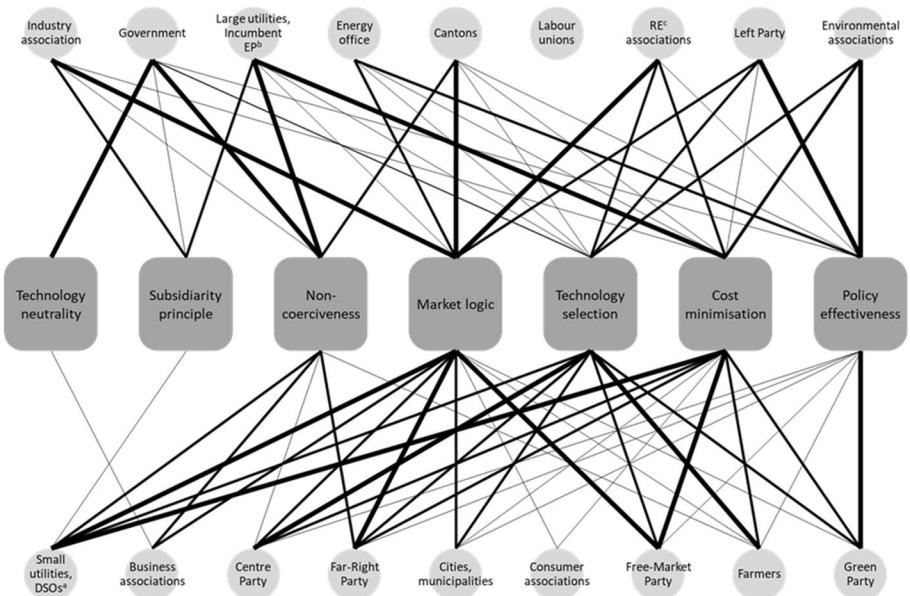
High-level abstraction: general policy goals and general instrument logic

The results show that general policy goals and general instrument logics supported and put forward by various actors are manifold (Fig. 3). We have identified seven *general policy goals* of the different actors as summarised in Fig. 3a. Four abstract policy goals were

(a) General abstract policy goals



(b) General policy instrument logics



^aDistribution system operators; ^bElectricity producers; ^cRenewable energy

Fig. 3 Actors and a) their general abstract policy goals and b) their general policy instrument logics. The figures show the seven most important design elements (dark grey squares) stated by the actors (light grey circles) in the analysed data. The bars show which actors support which design elements, and their weight represents the relative importance of the respective design element for the actors, qualitatively determined by the actors' statements in the analysed documents and interviews. See Table 3 for the specific cue statements included in the different design elements

supported by nearly all actors¹⁰: energy security and independence, low and long-term stable electricity prices, sustainable energy provision, and industrial competitiveness.¹¹ However, the relative importance actors ascribed to these goals varied greatly.¹² In addition, there are several goals assigned to only a few actors, including the decentralisation of electricity production, the mitigation of nuclear risk and a liberalised electricity market.¹³

Figure 3b summarises the *general instrument logics* put forward by the various actors. We observe that, here, the actors were more scattered than previously in their preferences for the general policy goals. Some actors, such as the Free-Market and Far-Right Parties, as well as the large and small utilities, highly valued market logic but assigned minor or no importance to policy effectiveness (i.e. substantial deployment of various RE technologies). Conversely, other actors, including the Green and Left Parties and RE associations, valued policy effectiveness much more than market logic. Cost minimisation was supported by most actors, though to varying degrees. The same applies to technology selection (i.e. that the policy should pick winners and, thus, the instrument should offer different levels of support to different technologies).¹⁴ Still other policy instrument logics preferred by some actors included non-coerciveness, the subsidiarity principle and technology neutrality.

Generally, we find that, because of the abstract nature of the design elements at this level, actors may have many different goals and instrument logics they intend to address at once, as they do not need to formally choose between different options. We also observe that while most actors agreed on the most relevant general policy goals, they not only disagreed on the importance they assigned to these goals but were also much more divided when concerning the instrument logic necessary to achieve these goals.

Mid-level abstraction: policy objectives and policy instrument type

The design elements at mid-level abstraction were the focus of debates in the first chamber of parliament, while the second chamber of parliament subsequently confirmed the design elements at this level (see “[Design elements and design process](#)” section). The *policy objective* of increasing RE deployment and introducing an RE target was supported by a coalition incorporating the large majority of these actors, who saw RE technologies as a means to achieve their general policy goals (Fig. 4). Only some actors—i.e. parts of the Far-Right Party and the

¹⁰ A list of the actor acronyms and the organisations they include is found in Table 4.

¹¹ Note that, with roughly 60% large hydro and 40% nuclear, Switzerland’s electricity mix is historically largely CO₂ emissions-free. For this reason, climate change mitigation has not featured prominently in this debate.

¹² For instance, sustainable energy provision was an important goal for the Green Party and, to a smaller extent, for actors such as environmental associations, cities and municipalities and RE associations. It was only of minor importance to other actors, such as the Centre Party and the Far-Right Party (who, in turn, highly valued industrial competitiveness) and large utilities for whom energy security was the major goal.

¹³ The latter stems from the fact that implementing the feed-in tariff was connected to the proposal of liberalising the electricity market, against which various actors—including the Left and Green Parties, the labour unions, the farmers and the RE, environmental and consumer associations—threatened to force a public referendum in case comprehensive support for RE technologies was refused. Hence, actors in favour of a liberalised electricity market, such as the government, the Centre and Free-Market Parties and the large utilities, supported a RE policy to secure liberalisation.

¹⁴ In the case of technology selection, the interests of the different actors varied greatly. Some actors, such as the Far-Right Party, the large utilities and the cantons, favoured technology selection to specifically exclude some technologies from the scheme. Conversely, other actors favoured technology selection to give every technology the chance to be deployed and compete with other technologies.

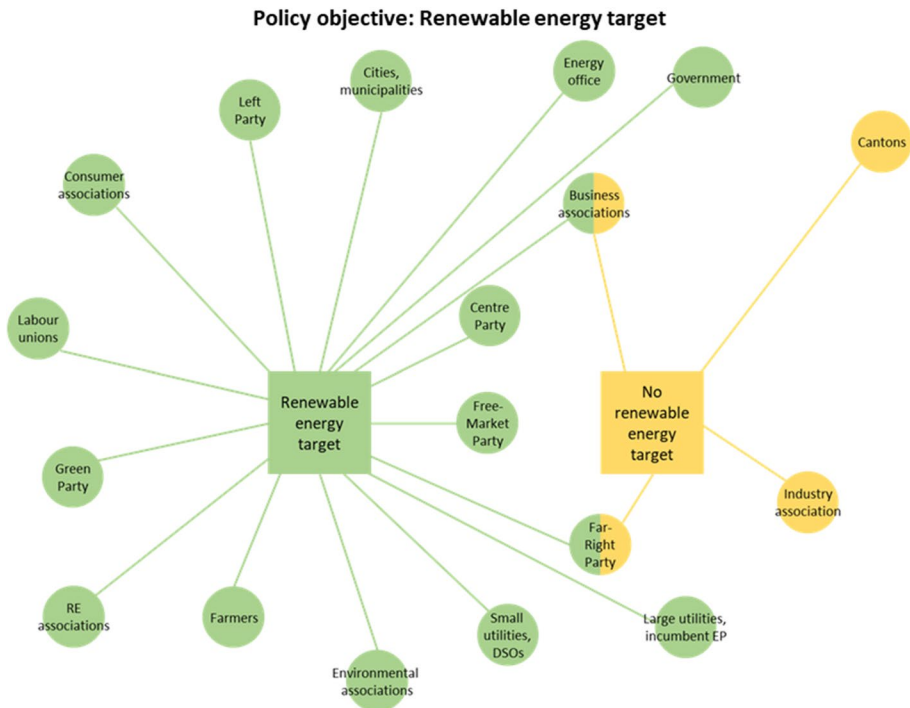


Fig. 4 Actor coalitions around the policy objective—the RE target. The squares represent the design elements, and the connected circles represent the actors supporting the design elements. The victorious coalition and its respective design elements are displayed in green, and the losing coalition and its respective design elements are displayed in yellow. (Color figure online)

business associations, as well as the industry association and the majority of the cantons¹⁵—were against an RE target since they deemed large hydropower and nuclear power, rather than RE technologies, suitable for achieving their general policy goals. However, with the support of the majority of the actors, the introduction of an RE target was relatively uncontested.

The choice of *instrument type*, however, could not be decided upon as unanimously as the policy objective. Driven by different opinions on the general instrument logics shown above, the actors had diverging opinions on the instrument type best suited to achieve an RE target. Three main instrument types were proposed, each supported by a distinct coalition (Fig. 5). The first was voluntary quotas favoured by most of the Far-Right Party and business associations, as well as the government, the cantons, the industry association and the large utilities. This coalition included, on the one hand, actors who had previously opposed the introduction of an RE target, as well as those whose main preferences in terms of instrument logic were non-coerciveness and cost minimisation. The second instrument type was RE auctions, supported by most of the Centre Party and parts of the Free-Market Party, for which the preferred instrument logic consisted of market logic and cost minimisation. The third instrument was an RE feed-in tariff favoured by a widespread coalition,

¹⁵ The Swiss cantons are the subnational administrative divisions.

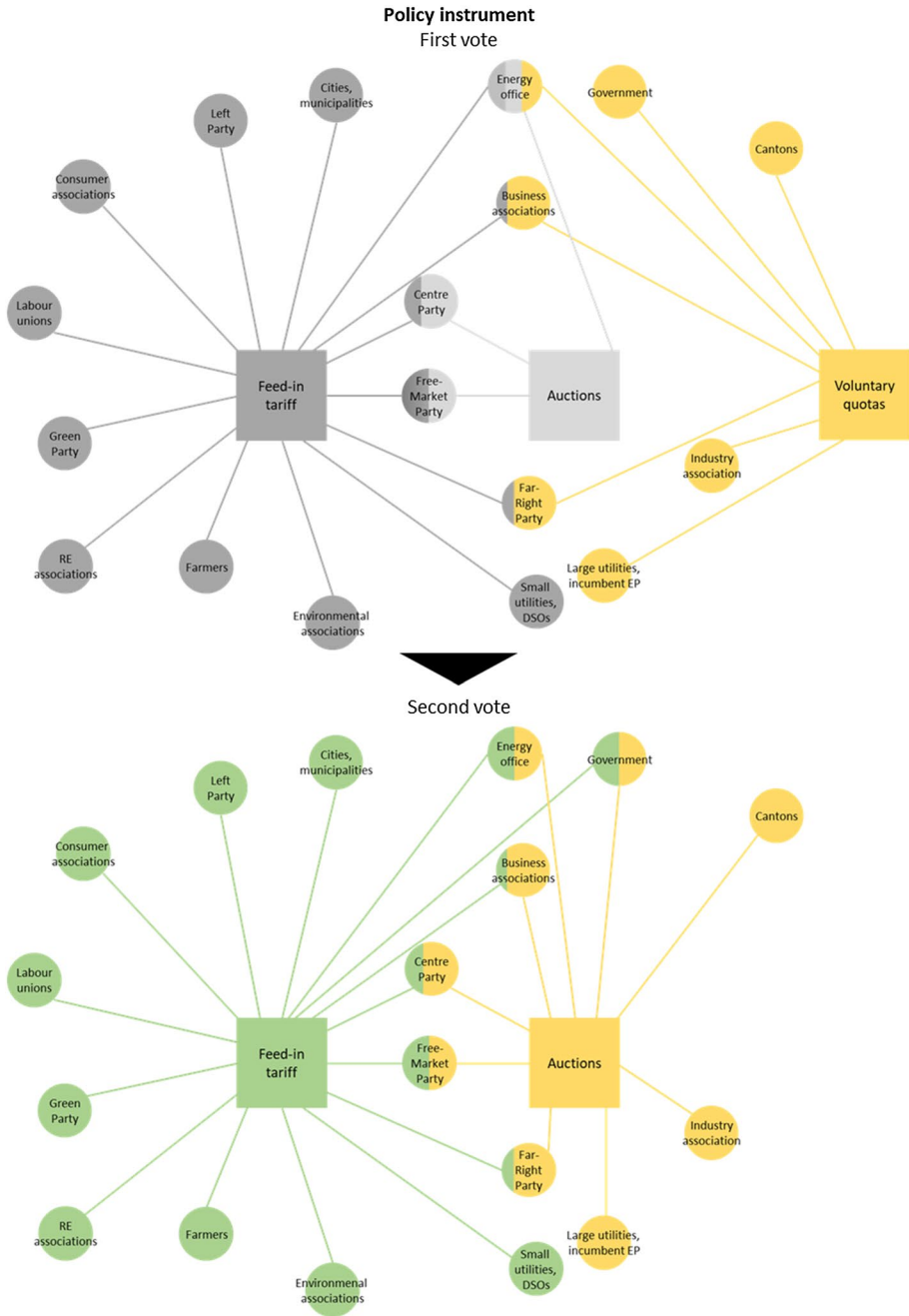


Fig. 5 Actor coalitions around the policy instrument type. The squares represent the design elements, and the connected circles represent the actors supporting the design elements. The victorious coalition and its respective design element are displayed in green, while the losing coalition and its respective design elements are displayed in yellow. As yet undecided design elements and their coalitions appear in grey. (Color figure online)

including the Left and Green Parties, RE, environmental and consumer associations, cities and municipalities, farmers, and parts of the Centre, Free-Market and Far-Right Parties. These actors' preferred instrument logic was policy effectiveness—i.e. maximum RE deployment. Indeed, many of these actors argued that the feed-in tariff had been shown to induce the greatest outcome in terms of RE deployment in other countries and, hence, was the most effective instrument type. The energy office was relatively undecided on the matter.¹⁶

The coalition around voluntary quotas was the weakest and lost the first vote in the first parliamentary chamber, leading to most of its members subsequently joining the auctions coalition. Auctions were considered to correspond to a market logic and minimise costs, and the actors who favoured those logics over policy effectiveness, such as the industry association and the large utilities, thus moved from voluntary quotas to auctions in line with these higher-level preferences.¹⁷ In a further vote, the parliament opted for the feed-in tariff as opposed to auctions. Even though the Left and Green wings of parliament did not have a majority by far, the feed-in tariff coalition was complemented by many other actors, who, for instance, managed to split the other parties across coalitions. Parliamentarians of the Far-Right, Centre and Free-Market Parties, who were, besides others, representatives of farmers, businesses and French-speaking regions, also supported the feed-in tariff in line with their high-level goals.¹⁸ Even though most of these actors would have preferred a cost-minimising and market-logic instrument, they supported the outcome-maximising feed-in tariff to effectively support the deployment of RE technologies and thus achieve their general policy goals.¹⁹ They thus opted to weigh their policy goals higher than their preferred instrument logic.

The actors in the outlined legislative process coordinated in many ways to increase the support for their preferred design elements. Very early on in the process, we find evidence for coordination between actors with similar preferences. For instance, several different renewable energy associations referred to the statements of other associations in their own statements submitted during the public consultation process. Other examples of

¹⁶ The former head of the energy office stated, “we were relatively open to introduce [an RE support instrument], but it was completely unclear which one. Therefore, we just offered a selection [of instruments] for the parliament to decide” (Interviewee 5 in Table 2).

¹⁷ A Far-Right parliamentarian stated at the beginning of the debate, “[i]f against expectation, [the voluntary quotas] do not receive a majority, we will [...] take the freedom to pivot to one of the other proposed instruments. Though I think that support of the more expensive [feed-in tariff] is out of the question for us”—Jürg Stahl, AB 2005 N 1091/BO 2005 N 1091.

¹⁸ Besides industrial competitiveness, farmers and some businesses were also particularly interested in decentralising electricity production, while the French-speaking areas, and thus their parliamentarians, are traditionally critical of nuclear power and saw RE technologies as a means to replace it. The traditional scepticism of the French-speaking areas against nuclear power has three origins. First, a French nuclear power plant, considered unsafe, is located near the Swiss border. Second, there were plans to build a permanent nuclear waste storage in the French-speaking canton of Vaud, which raised the opposition of its population against nuclear power in general. Third, no Swiss nuclear power plant is located in the French-speaking areas and hence no jobs or income are dependent on it.

¹⁹ A Free-Market parliamentarian and representative of a business association stated during the debate, “[in] our targets, we agree as never before that the renewable energies need to be sustainably supported. [...] I am supportive because not only know-how will be developed in our country but also because innovation and value creation will stay in Switzerland. [...] I am supportive because, thanks to decentralised production, structurally weak regions will profit. [...] Since we agree on the goal, the only remaining question is which instrument will sustainably and promptly yield outcome [...] [I support the feed-in tariff] because this instrument is experienced and successful”—Werner Messmer, AB 2005 N 1090, 1091/BO 2005 N 1090,1091.

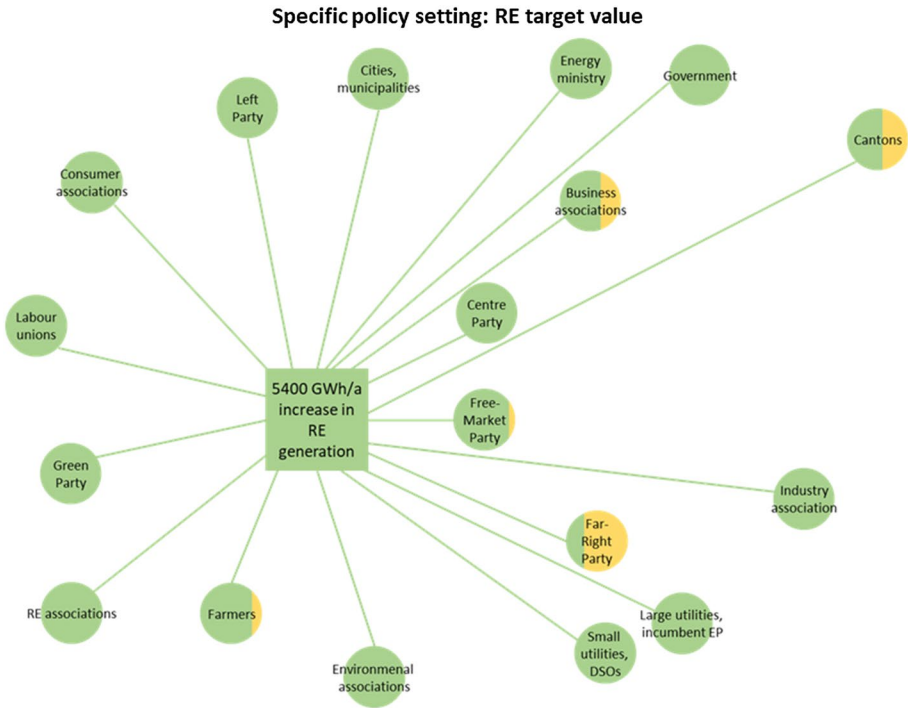


Fig. 6 Actor coalitions around a specific policy setting—the RE target value. The squares represent the design elements, and the connected circles represent the actors supporting the design elements. The victorious coalition and its respective design element are displayed in green, and the losing coalition and its respective design element are displayed in yellow. (Color figure online)

coordination concern actors’ joint efforts to convince the public or other relevant actors of their position. For example, prior to the votes in the parliament, the leader of the farmers’ union held a press conference together with the heads of consumer and environmental associations to demonstrate their agreement in favour of an RE target and the feed-in tariff as instrument. Also, proponents of renewable energy technologies within the Free-Market party coordinated with RE associations and anti-nuclear associations to convince Centre and Free-Market parliamentarians to vote in favour of a RE target and the feed-in tariff and were successful especially amongst French-speaking representatives.

In summary, while the introduction of an RE generation target was relatively uncontested, the policy instrument choice was the object of heated debate. At first, coalitions formed around three different instruments. When the first instrument was rejected, its advocates strategically joined the coalition around the instrument that complied better with their higher-level instrument preferences. The coalition around the feed-in tariff was finally victorious because it encompassed parliamentarians irrespective of their party membership since it complied best with most actors’ high-level general goals.

Fig. 7 Actor coalitions around a specific policy setting—inclusion of solar PV in supported technologies. ► The squares represent the design elements, and the connected circles represent the actors supporting the design elements. The victorious coalition and its respective design elements are displayed in green, while the losing coalition and its respective design elements are displayed in yellow. As yet undecided design elements and their coalitions are seen in grey. Actors who did not participate in the debate and decision-making are displayed in purple. (Color figure online)

Low-level abstraction: specific policy settings and specific instrument calibrations

The previous parliamentary decisions to adopt an RE target and a feed-in tariff required designing their specifics.²⁰ The design elements concerned with the *specific policy settings* included the specific RE target value and the supported technologies. The first discussed element, the *specific RE target value*, was relatively uncontested, even though many different values were proposed in the process. Yet most of them did not come close to a majority. The projected 5400 GWh/a increase in electricity production from RE technologies by 2030, compared to 2000, was supported by an entirely new and relatively large coalition when it was finally introduced (Fig. 6). Only a few actors (i.e. parts of the Far-Right Party, farmers, business associations and cantons) demanded a lower target, whereas voices initially calling for a higher target quickly settled on the final value.

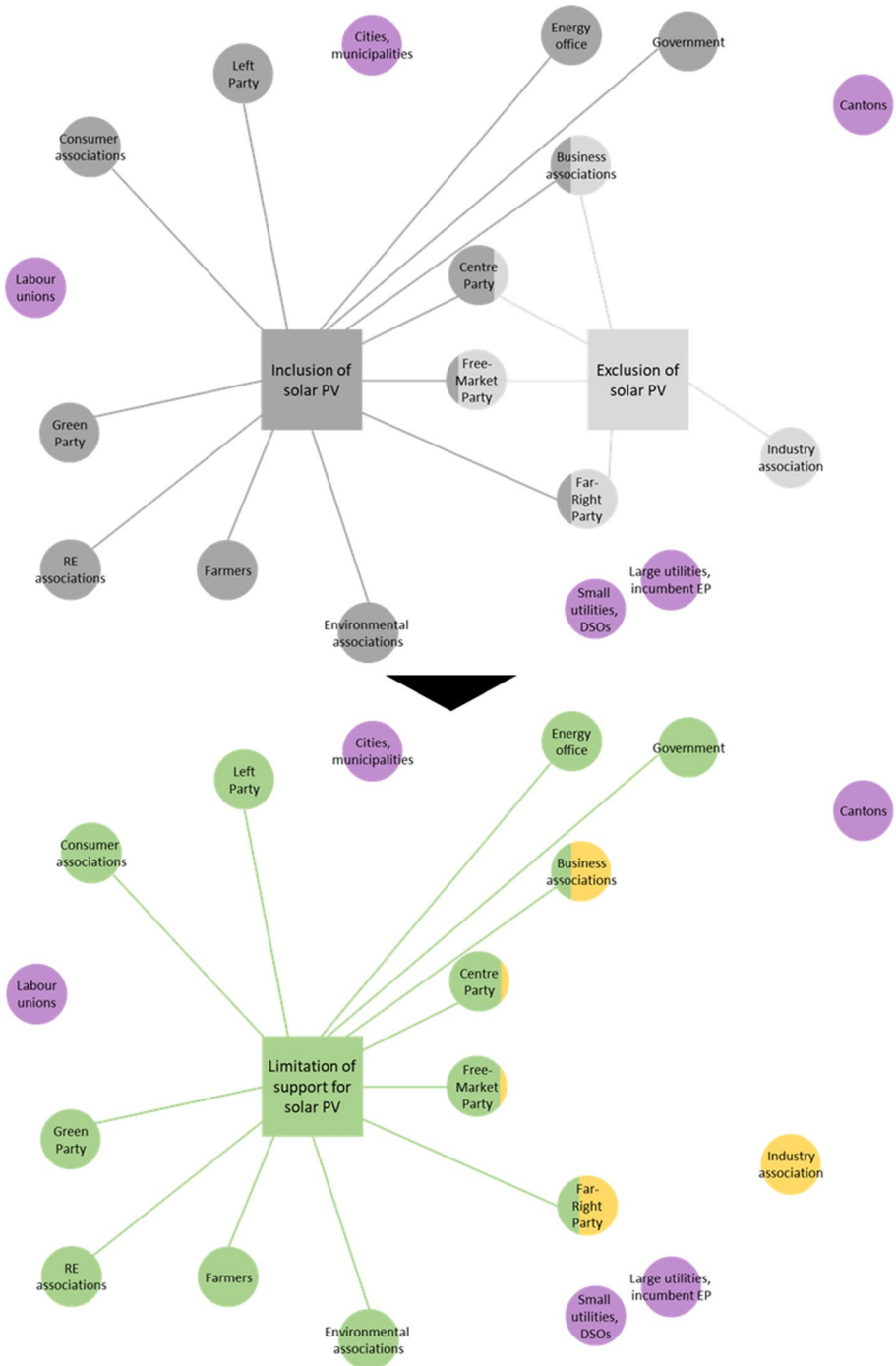
The second *specific policy setting*, the *technologies supported* by the scheme, gave rise to much controversy around solar PV and realigned the coalitions; ultimately, two opposing, more or less equally strong, coalitions emerged (Fig. 7). Some actors, such as the labour unions and the small and large utilities, also left the discussion because of a lack of platform to express their opinions or disinterest in these technical and detailed design elements. One coalition—including the majorities of the Far-Right and Free-Market Parties, parts of the Centre Party, parts of the business associations and the industry association—argued for exclusion of solar PV which, at that time, was still the most expensive RE technology.²¹ The other coalition included the Left and Green Parties, parts of the Centre, Free-Market and Far-Right Parties, the RE, environmental and consumer associations, the farmers, the energy office, and the government. They put forward the argument that specifically solar PV, in which Switzerland already had a small, specialised industry, could create jobs and compete with other countries.²² Additionally, the opponents of nuclear energy realised that their general goal of replacing nuclear power was not to be achieved if one of the RE technologies was excluded. Even though the pro-solar PV coalition outnumbered

²⁰ The details of the specific policy settings and instrument calibrations at low-level abstraction were revised several times in the course of the policy design process (see “[Design elements and sequence of design process](#)” section and Fig. 11) and were one reason why the policy draft shuttled repeatedly between the two parliamentary chambers.⁴⁴ It was, however, not the main reason why the two chambers took so long to agree on a final policy proposition. The main points of disagreement lay in the simultaneously debated measures to increase energy efficiency, as well as the draft on the electricity market liberalisation, which together formed one policy draft.

²¹ An important general instrument logic of all these actors was cost minimisation. A Centre parliamentarian stated during the debate, “we should make sure that the money is used to generate optimum outcome. Optimum outcome is achieved when as much energy as possible is produced from renewable sources at the smallest possible cost. [...] We have to make sure that solar PV does not take too much from the scarcely available resources”—Carlo Schmid-Sutter, AB 2006 S 879/BO 2006 E 879.

²² The representative of an RE association stated, “we made small flexible solar PV panels that [...] we distributed amongst the parliamentarians saying that Switzerland had know-how in industrial solar PV and that they had to offer a market if they wanted them to stay in Switzerland” (Interviewee 16 in Table 2).

Specific policy setting: Supported technologies—solar PV



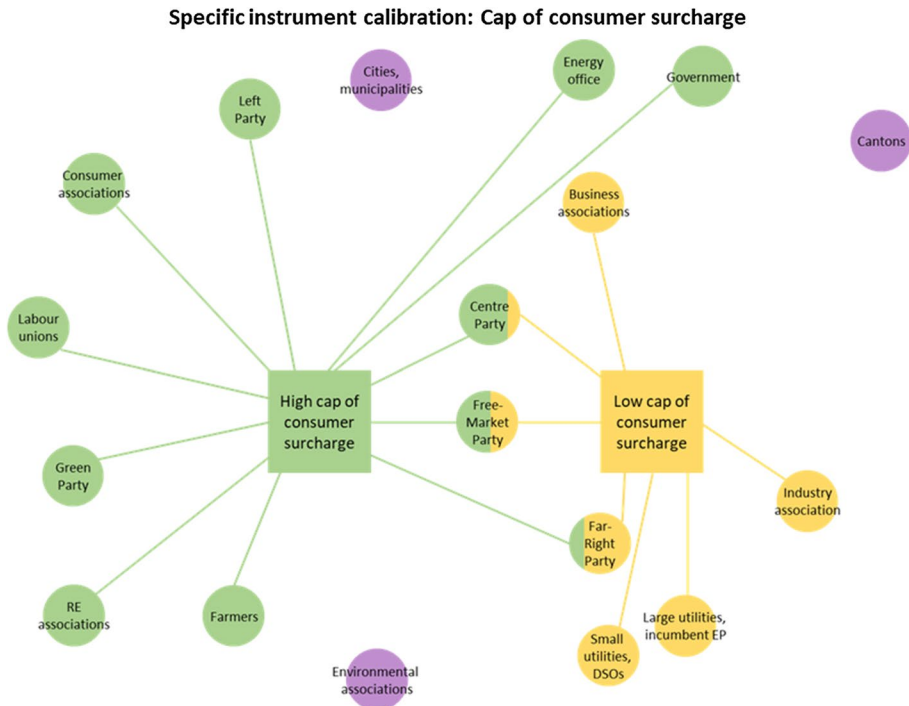


Fig. 8 Actor coalitions around a specific instrument calibration—cap of the consumer surcharge. The squares represent the design elements, and the connected circles represent the actors supporting the design elements. The victorious coalition and its respective design elements are displayed in green, and the losing coalition and its respective design elements are displayed in yellow. Actors who did not participate in the debate and decision-making are displayed in purple. (Color figure online)

the coalition favouring the exclusion of solar PV, a compromise to link the amount of support for solar PV to its price was decided upon. This was a concession by the feed-in tariff coalition to the supporters of a more cost-efficient instrument. The reason for this concession mainly lies in the pro-solar PV coalition's fear that the entire scheme would be put in jeopardy again.^{23 24} This was a strategic decision by the solar PV proponents who anticipated that the falling prices of the technology would automatically increase the amount of support attributed to solar PV.²⁵ The feed-in tariff coalition, thus, strategically agreed to a compromise to ensure the achievement of their high-level goals in the long run and to

²³ The representative of an environmental association stated, “[we] offered a compromise proposal and brought it into the discussions but it did not advance at first. [...] For us, the most important was not to get the entire feed-in tariff rejected again, or at least that it was not challenged” (Interviewee 18 in Table 2).

²⁴ The president of the solar PV association and Free-Market parliamentarian stated, “we were afraid that our opponents would win the palm and that we would be left with nothing. But [with the compromise], we knew that we had the foot in the door. Even though it was little, we could work with it. So we were satisfied” (Interviewee 2 in Table 2).

²⁵ A Left-party parliamentarian stated, “we told them, “You do not take any risk [...]. We will not be able to build a lot of installations if the price is high [...]”. We concluded the deal this way and the prices dropped by [a lot]. During the debate, the price of rooftop solar PV was at 1 CHF/kWh. Now, we are at 0.1 CHF/kWh for a large installation” (Interviewee 3 in Table 2).

avoid providing a trigger for restarting an entirely new design process in the short term. The final coalition supporting this compromise largely duplicated the coalition previously supporting an RE target (Fig. 4). The question of whether to include small hydropower and wind in the scheme was relatively quickly settled by entirely including the former and limiting the latter to only suitable locations.

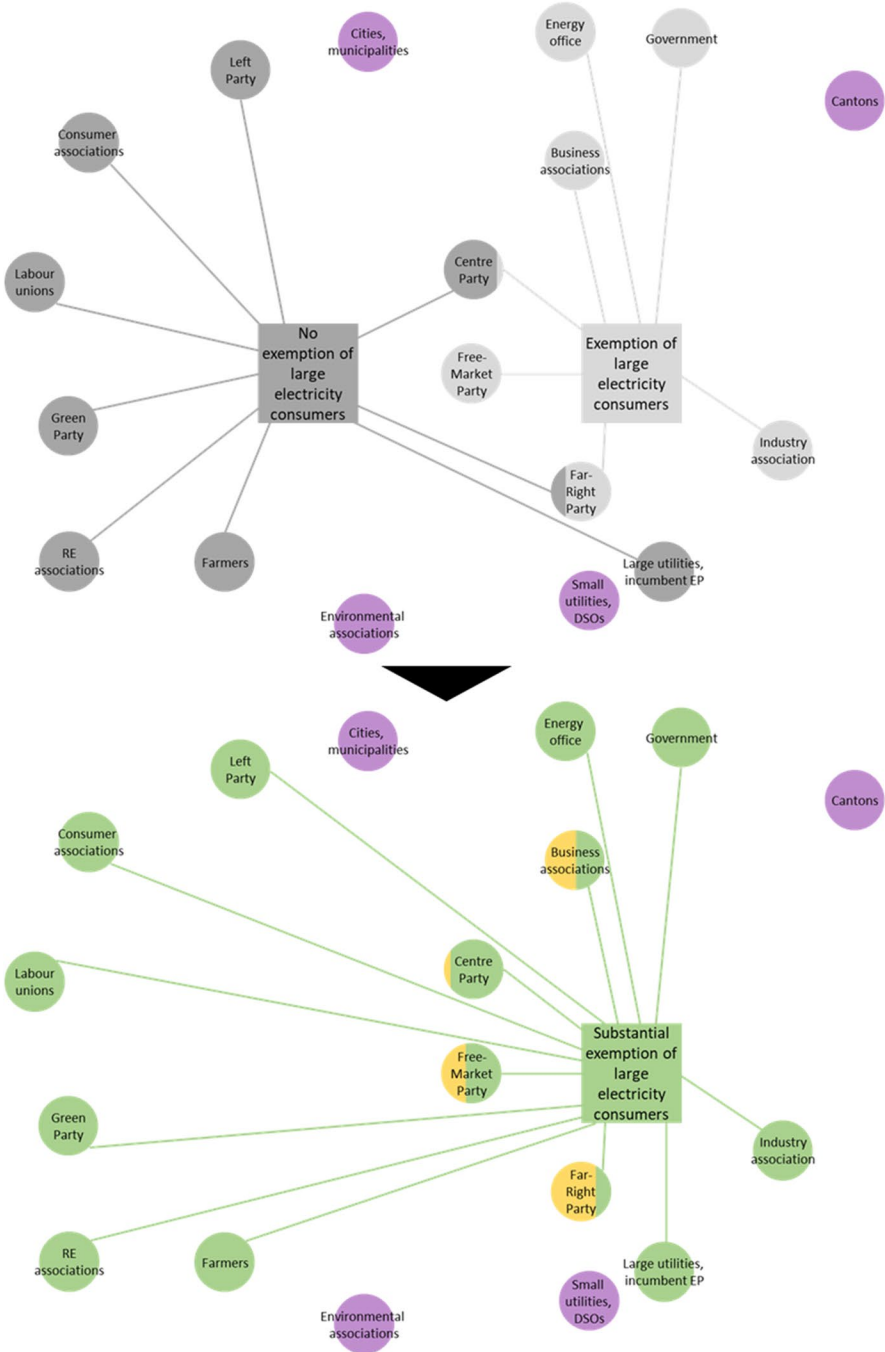
The debate around the *specific instrument calibrations* saw again a realignment of coalitions (Figs. 8 and 9). The consumer surcharge was a major point of debate because a higher surcharge implied more financing for RE technologies but conversely meant higher electricity prices for consumers. A coalition—including the Free-Market and parts of the Far-Right and Centre Parties, the industry association and business associations, the energy office and the government—favoured a low consumer surcharge in line with their higher-level aims and means to avoid additional taxes and fees and minimise cost (Fig. 8). They argued that electricity price increases would harm the economy and households and, hence, inhibit industrial competitiveness. Except for the government and the energy office, members of this coalition also supported the exemption of large electricity consumers from the surcharge, a suggestion brought forward by the industry association and associations specifically representing the energy-intensive pharmaceutical, biotech and metal industries (Fig. 8). These associations, and particularly the industry association, had worked hard to overturn the introduction of the feed-in tariff. However, when they realised their defeat in terms of instrument type, they presented this new proposition on the calibrations' level to make the instrument more compliant with their high-level preferences.²⁶

The other coalition favouring a high consumer surcharge comprised the Left and Green Parties, parts of the Centre and Free-Market Parties and the RE associations. It argued that RE support should be comprehensive to effectively incentivise enough RE deployment. For the same reason, this coalition opposed the *exemption of large electricity consumers* (Fig. 9). Finally, a compromise was found, and parliament opted for a relatively high consumer surcharge and a substantial exemption of the large electricity consumers. This represented a late victory for the industry association, which had unsuccessfully advocated for the least supportive option for RE in every design element but stayed involved throughout the entire policy process. It managed to coordinate effectively with business associations here to get parliamentarians from the Free-Market Party on board, who had previously supported the feed-in tariff. Around the discussion of these specific instrument calibrations, the environmental associations had left the political arena.²⁷

²⁶ An interviewee from the Free-Market Party stated, “[this was] a proposition by the industry association because they felt that the battle was lost. [...] The most important thing for them was not to have to pay the additional costs. In the beginning, they were certain to be able to overthrow the feed-in tariff. When they saw it advancing nonetheless, they came forward with this proposal. [...] It was their last resort” (Interviewee 2 in Table 2).

²⁷ The representative of an environmental association stated, “[we] did not really participate in these discussions anymore. [...] We were not so close to these topics because of limited resources” (Interviewee 18 in Table 2).

Specific instrument calibration: Exemption of large electricity consumers from consumer surcharge



◀ **Fig. 9** Actor coalitions around a specific instrument calibration—exemption of large electricity consumers from consumer surcharge. The squares represent the design elements, and the connected circles represent the actors supporting the design elements. The victorious coalition and its respective design elements are displayed in green, while the losing coalition and its respective design elements are displayed in yellow. As yet undecided design elements and their coalitions are displayed in grey. Actors who did not participate in the debate and decision-making are displayed in purple. (Color figure online)

In summary, at this lowest level of design elements, the coalitions were realigned. On the one hand, the coalitions from previous higher-level debates re-emerged around the solar PV compromise. On the other hand, new coalitions gathered around the questions of a specific RE target value as well as a cap of the consumer surcharge and the exemption of large electricity consumers. Even though these new coalitions were similar to the coalitions around instrument choice, they were not identical and thus had to accept compromises on the two issues. At this level, some actors also simply left the debate because of limited resources, disinterest or a lack of platform to express themselves.

Discussion

We offer a systematic application of Cashore and Howlett's taxonomy of policy design elements to a real-world phenomenon (Cashore and Howlett 2007; Howlett 2014; Howlett and Cashore 2009) and an empirical analysis of the role of actors in nested policy design choices. Specifically, we studied how actors positioned themselves in relation to the individual design elements and how they collectively shaped the policy output during the legislative design phase of the Swiss RE-FiT, which was implemented in 2009 and introduced the first comprehensive support scheme for RE technologies.

Following the hierarchical structure of Cashore and Howlett's taxonomy introduced in the "Policy design" section and Fig. 1, the design process of the analysed policy moved from higher to lower levels of abstraction without revisiting more abstract design elements at later stages. High-level goals and instrument preferences, though not formally decided upon, continuously influenced lower-level design choices. In other words and similarly to Hall's (1993), the policy design process is path-dependent: The number of available expedient design elements at low level of abstraction is effectively reduced and confined by previous decisions taken on more abstract elements.

Our empirical analysis illustrates that the actors' role in the design process has diverse facets and is continuously changing. Various actors take part in and influence decisions regarding policy design elements. In fact, they form coalitions around specific design elements where formal decisions must be taken. These coalitions are not stable throughout the entire policy design process because actors join and leave coalitions depending on the design element. We thus introduce the concept of *design coalitions*, which we define as sets of actors who gather around and advocate for specific policy design elements at any level of abstraction, be they high-level goals or specific instrument calibrations. Design coalitions are the relational structure thanks to which actors translate policy problems from agenda setting into actual policies during the design process. We find that design coalitions and the actors constituting them are dynamic and strategic. In the following, we introduce these two main attributes of design coalitions and subsequently contrast them with the existing actor frameworks introduced in "Policy design and actor conceptualisations" section.

First, our empirical findings indicate that design coalitions are not stable but dynamic. They disaggregate and form anew over the policy design process when moving from one

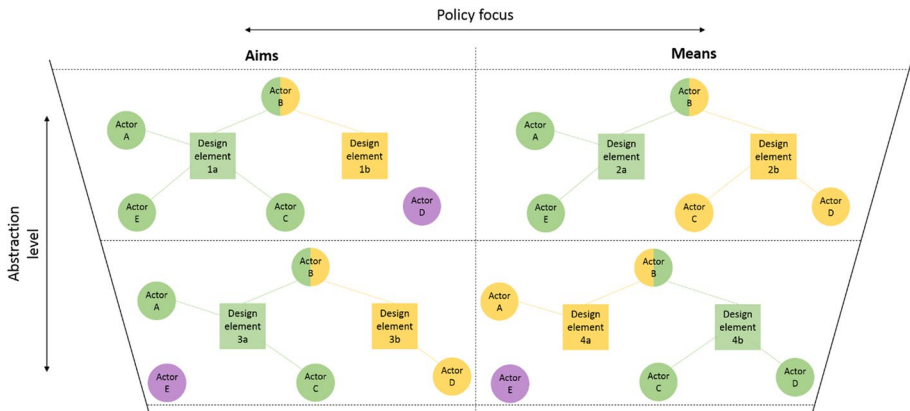


Fig. 10 Stylised coalitions around different policy design elements. The winning and losing coalitions are illustrated in green and yellow, respectively. Actors not taking part in the decision are coloured in purple. Actors may support one coalition throughout the entire legislative process (Actor A); they may be split between coalitions (Actor B); they may change coalitions depending on the design element (Actor C); they may join the legislative process (Actor D); or they may leave the legislative process (Actor E). (Color figure online)

design element to the next and down the different levels of abstraction (Fig. 10). In the present study, a large design coalition formed around the policy objective but split up into smaller coalitions around the policy instrument type. The individual actors constituting a design coalition have predefined, abstract policy goals they want to achieve. However, the perception of how these goals may be achieved can vary greatly between actors. In our empirical case, one goal all actors pursued was low and stable electricity prices. Nevertheless, opinions were highly divided as to whether RE technologies were a viable option for achieving these goals. Additionally, actors weigh the general goals differently—i.e. they have a different hierarchy of goals, as argued by Hall (1993), and thus may belong to different coalitions than actors with similar goals but different goal hierarchies (Schmidt et al. 2019). Our findings also suggest that design coalitions successful at higher levels of abstraction may not obtain what they initially intend when it comes to specific policy settings and instrument calibrations. When moving from one design element to the next, coalitions realign—meaning that different design coalitions aggregate around different elements. Hence, majorities may also change and lead to initially undesired policy outputs. In the empirical case study, one example is the support for solar PV. Large shares of the coalition backing the feed-in tariff as policy instrument type clearly had comprehensive solar PV deployment in mind. However, the final policy output largely limited the support for solar PV because of the opposing coalition significantly gaining strength when the target technologies were debated at the specific measures level. Design coalitions are dynamic, not only because of actors changing coalitions, but also because of actors leaving and (re)entering the entire debate.

Second, design coalitions are strategic. Actors' strategic thinking starts when the policy process moves to the general instrument logic element and, further down, to the less abstract design elements. Actors may have preferences in terms of instrument choices, but they are ready to bend these preferences and accept instrument choices contradicting their preferred instrument logic if this is how they can best pursue their general goals on lower levels (if they previously lost on the higher level). Policymakers are able and willing to adopt policies (or design choices) that are inconsistent with distinct high-level goals and instrument preferences. Thus, they are

more strategic—both in the short and the long term—than other frameworks suggest, such as the ACF (Sabatier 1988; Weible and Ingold 2018). Though how much this behaviour is directed by the incentive structure of the specific institutional context deserves further research. In the present study, for example, the Far-Right parliamentarians joined the coalition around a particular policy instrument, even though they opposed policy change and a RE target altogether in the first place, because they perceived that instrument as the lesser of two evils. Conversely, parliamentarians of the Free-Market Party, who would typically prefer the market to select winners, were willing to lower their sights in term of instrument preferences to implement an outcome-maximising policy to boost the domestic RE industry and thus cater to a high-level policy goal, namely industrial competitiveness. Therefore, actors start to think and act strategically early in the policy design process at very high levels of abstraction and do not necessarily act and join coalitions that correspond with their high-level goals and instrument preferences, nor do they entirely abstain from these goals and preferences. The strategic behaviour of actors is also reflected in the fact that they coordinate with actors whose interests may only marginally overlap. These coordinating activities can even include new as well as previously opposing actors since design coalitions change depending on the design element that is being decided upon. Case studies analysing RE in other jurisdictions show that the interest-driven behaviour of actors is not unique to the Swiss case but that it can also be found in other political and institutional settings. For instance, the German feed-in tariff and, particularly, the generous support for solar PV was implemented by an unorthodox coalition of interest-driven actors including farmers, metalworker unions, the SME confederation and conservative *Länder* governments besides environmentalist and green groups (Jacobsson and Lauber 2006). Similarly, in the USA, conservative Republicans support wind power in Texas despite their environmental scepticism because of its positive economic impact in rural districts (Jepson et al. 2012; Rygg 2012; Stokes 2020). While actors have a preference for specific general aims and means, they will try to bend the design elements on lower levels to meet with their preferences as much as possible, in case they are incapable of pushing for their preferred design elements at a higher level. In the present empirical case study, an example is the industry association, which initially opposed any introduction of new taxes and fees in favour of RE. However, when parliament opted for RE support, the industry association joined the debate again, this time to limit the extent of support to more expensive technologies and the consumer charge and to obtain an exemption for large electricity consumers. Our analysis also suggests that those actors unsuccessful at the higher level are even more likely to stay in the process and thus invest resources at the lower level to push for design elements that are more aligned with their high-level goals and instrument preferences. Conversely, actors whose interests are satisfactorily met with higher-level design elements may drop out of the process at lower levels to save resources. However, unsuccessful actors being able to stay in the policymaking process and, more generally, design elements being individually decided upon, depends on the institutional rules of policymaking in a given jurisdiction.

Design coalitions are different from the policy designers previously conceptualised in the literature and presented in “[Actors in policy designing](#)” section in that they include more actors implicated in deciding on a policy design than only governments and their advisory system. Obviously, the number and the breadth of actors depend on the specific institutional context of a policy design process. Yet, we argue that design coalitions will emerge—especially in new policy fields, but also in amendments of existing policy designs—where more actors than only the government are active. The actor conceptualisation presented here is also different from the established ones illustrated in “[Actor conceptualisations in the policy process literature](#)” section, including policy entrepreneurs, epistemic communities, discourse coalitions, and instrument constituencies. Design coalitions are not limited to specific stages of the policymaking process and include the entire policy design output rather than focusing on specific design elements. For instance, policy entrepreneurs

and epistemic communities are problem-driven and, thus, disappear once their preferred policy issue has made it onto the agendas of policymakers, i.e. before the design process of a policy is finished. Instrument constituencies exclusively push for one specific instrument and, hence, omit all further design elements surrounding the instrument choice. Therefore, the actors in these three conceptualisations are exclusively interested in distinct high-level or mid-level abstraction design elements while design coalitions focus on all levels of abstraction including the very specific ones. Additionally, design coalitions include the entire set of actors engaged in the design process and do not focus on a specific subset of more important agents. Importantly, our actor conceptualisation does not challenge the other concepts but should be understood as complementary. Kingdon's (1984) policy entrepreneurs, for instance, may push for their preferred policy solution as part of a design coalition which serves them to get their proposal through the policymaking process. The present case actually offers evidence for this in that specific members of the Left Party were interested in pushing for a RE-FIT very early on and seized the chance to build a coalition in favour of it when the window of opportunity opened up. Our concept of design coalitions also differs from advocacy coalitions as conceptualised by the ACF in terms of the reasons why actors side to form coalitions and in terms of how dynamic these coalitions are. As discussed in "[Actor conceptualisations in the policy process literature](#)" section, the ACF's underlying assumption is that political conflict and agency are completed once the policy instrument is chosen. Our new insights contrast with this notion, which does not consider strategic action and actors' self-interest as building blocks for coalition formation, or as Ingold and Varone (2011, 322) write, '[f]urthermore, the ACF does not explicitly consider the (material) self-interests of policy actors and of policy brokers beyond their belief systems. Several authors applying the ACF have, in fact, found that interests could also be a strong driving factor for policy actors to join an advocacy coalition [...], Sabatier [...] himself admits that, under certain circumstances, interests may play a crucial role'. While we do not argue against actors having beliefs on different levels, we find that they display strategic behaviour outside of situations of high conflict, and they build coalitions beyond the mere instrument choice on all levels of policy design. Additionally, the ACF conceives coalitions as stable over long time periods and, thus, focuses on macro-policy developments that lead to coalition shifts (Knox-Hayes 2012; Sabatier 1988; Weible and Ingold 2018). In contrast, our design coalitions offer a conceptualisation of coalitions on the micro-level of policy design decisions. Our concept thus considers a different unit of analysis: While advocacy coalitions are considered drivers of *policy change and stability on a general level*, design coalitions are useful in analysing *what element* of a policy changes and *why*.

While in the present study we have only focused on one jurisdiction and, more specifically, on one phase of the policymaking process, we believe that our findings are generalisable beyond Switzerland and the legislative process, as also suggested by the examples from other countries given above where similar actor behaviour is found. The Swiss case is unusually well structured and transparent when it comes to which elements are integrated in the final policy design, but similar discussions take place in other institutional arrangements; yet they are potentially not executed in an equally public manner.

Conclusion

In this paper, we inductively analysed the design process of the Swiss RE feed-in tariff and the role of actors therein on the basis of Cashore and Howlett's (2007) taxonomy of nested policy design elements. Specifically, we studied how the political design actors positioned themselves during the policy design process in relation to individual design elements and

ultimately shaped the policy design output. We show how actor coalitions change throughout the process, depending on the design element under discussion. Following these results, we have derived the concept of *design coalitions*, which we defined as sets of actors who gather around and advocate for specific policy design elements. Design coalitions are the relational structure through which actors translate policy problems into a final policy design during the legislative process and are not stable, but of a dynamic and strategic nature.

Our study offers first insights into how design coalitions appear and change in the public policy design process. By systematically considering policy design in our exploratory investigation, we show that actors behave more strategically than existing concepts and theorisations of the policy process argue. We contribute to the understanding of how political design actors shape the policy design output by proposing a new, mid-range concept that links actors and policy design.

Further research is needed, not only to empirically confirm and refine the introduced concept of design coalitions, but also to analyse the role of actors in cases of policy dismantling (Burns, Tobin, and Sewerin 2018; Jordan, Bauer, and Green-Pedersen 2013) and policy layering (Howlett 2014), as well as in complex policy mixes (Schmidt and Sewerin 2018). While we believe that the concept of design coalitions is generalisable beyond the analysed policy and country, future research is necessary to analyse how much the actors' behaviour is directed by the incentive structure and the institutional setting of a policymaking process. In addition, while we have found instances where members of design coalitions coordinated in the empirical analysis, we largely map the design coalitions in the empirical analysis along overlapping preferences. Further research into coordinating activities between members of design coalitions, for instance, on the basis of a network analysis could help strengthen and refine the here proposed concept. In line with the literature on path dependency and feedback policy (Béland 2010), further research could help establish the role of design coalitions' strategic choices for kicking off and sustaining long-term policy feedback loops (Jordan and Matt 2014; Jordan and Moore 2020; Levin et al. 2012).

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Compliance with ethical standards

Conflict of interest The authors declare no competing financial interests.

Appendix

See Fig. 11, Tables 1, 2, 3, 4.

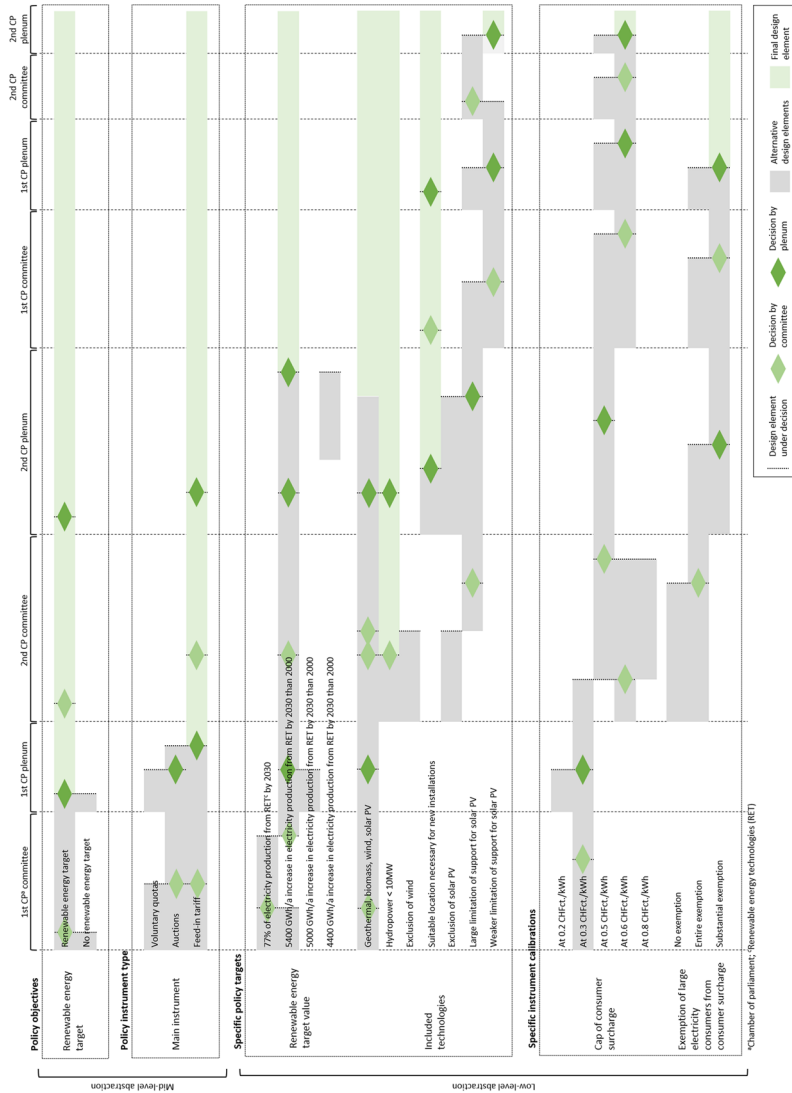


Fig. 11 Simplified process of design element decisions taken in the empirical case. The sequential chart is read from left to right. The grey bars represent the alternatives debated for each design element, and the green bars represent the final design element, as summarised in Fig. 2. The dotted lines display the alternatives available for each decision, and the diamonds represent which alternative is chosen. Note that committee decisions are not binding and must be decided again by the plenum

Table 1 National-level policymaking process in Switzerland according to Sciarini (2006)

Phase	Step	Event	Actors
Pre-parliamentary phase	1	Initiation of a legislative process	State actors (federal parliament, government, administration), cantons (via cantonal initiative), citizens (via popular initiative), international bodies
	2	Preparation of preliminary project	Civil servants, independent experts, possibly administrative working group
	3	Possibility of preliminary public consultation	Interested stakeholders
	4	Preparation of project draft (law, ordinance)	Concerned administrative body, expert committee incl. specialists and representatives of stakeholders, cantons and political parties
	5	Public consultation process	Interested stakeholders incl. political parties and organisations, cantons, etc.
	6	Analysis of public consultation process	Concerned administrative body
	7	Internal administrative consultation process	All ministries and federal offices
	8	Finalisation of project draft including a statement specifying the ensued process, goals, content, financial implications, etc.)	Concerned administrative body
	9	Decision on project draft and statement and transmission to parliamentary bodies	Government

Table 1 (continued)

Phase	Step	Event	Actors
Parliamentary phase	10	Decision on priority of the project and the chamber of parliament to discuss the project first	Presidents of the two parliamentary chambers
	11	Examination of the project	Respective committee of the parliamentary chamber first in discussing the project
	12	Entry debate and decision	Plenum of parliamentary chamber first in discussing the project
	13	Debate and decision on individual elements	Plenum of parliamentary chamber first in discussing the project
	14	Repetition of Steps 11–13	Respective committee and plenum of parliamentary chamber second in discussing the project
	15	Repetition of Steps 11–14 in case of diverging decisions in the two parliamentary chambers	Respective committees and plenum of the parliamentary chambers
Referendum phase	16	Compromise negotiation and proposal in case no agreement is found after two shuttle runs	Equal number of members of the respective committees of each parliamentary chamber
	17	Debate and decision on individual elements of compromise	Both parliamentary chambers
	18	Final vote	Both parliamentary chambers
	19	Possibility of referendum (facultative or compulsory depending on the normative level of the act)	Citizens
	20	If acceptance of act in possible referendum or no referendum, transfer to administration to initiate the process to elaborate the corresponding ordinance If rejection of act in possible referendum, start of new legislative project	

Table 2 Summary of interview partners

Person	Category	Description
1	Policymaker	Member of first chamber of Swiss national parliament and of the respective environment, spatial planning and energy committee
2	Policymaker	Member of the Left Party, and various RE and environmental associations Member of first chamber of Swiss national parliament and of the respective environment, spatial planning and energy committee
3	Policymaker	Member of the Free-Market Party President of a solar PV association Member of first chamber of Swiss national parliament and of the respective environment, spatial planning and energy committee
4 ^a	Policymaker	Member of the Left Party Member of second chamber of Swiss national parliament and president of the respective environment, spatial planning and energy committee
5	Civil servant	Member of the Centre Party Head of the Energy Office
6	Civil servant	Head of renewables at the Energy Office
7	Civil servant	Employee at the Energy Office
8	Civil servant	Employee at the Energy Office
9	Civil servant	Employee at the Energy Office
10	Civil servant	Employee at the Energy Office
11	Civil servant	Head of renewables at the transmission grid operator
12	Civil servant	Head of feed-in tariff at the transmission grid operator
13	Representative of industry association	Head of biogas association
14	Representative of industry association	Head of agricultural biopower association
15	Representative of industry association	Head of solar PV industry association
16	Representative of industry association	Employee of renewable energy association
17*	Representative of industry association	Employee of large utilities' association
18	Representative of environmental association	Employee of environmental organisation
19	Representative of industry association	Employee of industry association

^aThese people preferred to give a written statement by e-mail rather than being interviewed

Table 3 List of coded design elements

Design element	Codes	Included cue statements	
General policy goals	Industrial competitiveness	Industrial competitiveness, job creation, value creation, innovation, support of SMEs, support of peripheral areas	
	Energy security and independence	Energy security, energy independence, energy sovereignty, reduction of energy dependence, use of domestic resources, reduction of energy imports, diversification of electricity supply, prevention of black-outs	
	Sustainable energy provision	Sustainable energy provision, climate change mitigation, fossil-fuel phase-out	
	Liberalisation of electricity market	Liberalisation of electricity market	
	Decentralisation of electricity production and electricity market	Decentralisation of electricity market, democratisation of electricity production, break-up of electricity monopoly, increase of actor diversity, opening of electricity market for small producers	
	Low and long-term stable electricity prices	Low electricity prices, long-term stable electricity prices, no additional fees on electricity prices	
	Mitigation of nuclear risk	Mitigation of nuclear risk, replacement of nuclear power, shutdown of nuclear power plants	
	Technology selection	Technology selection, technology specificity, pick winners, need to support specific technology/technologies, same starting conditions for all technologies	
	Technology neutrality	Technology neutrality, no differentiation between technologies	
	Market logic	Market logic, market-based mechanisms	
General instrument logics	Policy effectiveness	Policy effectiveness, outcome maximisation	
	Cost minimisation	Cost minimisation, cost efficiency, cheapest units of electricity	
	Subsidiarity principle	Subsidiarity principle	
	Non-coerciveness	Non-coerciveness, voluntary measures, no new taxes or fees, low state	
	Renewable energy target	Renewable energy target, support of renewable energies, increase of renewable energy deployment	
	Against renewable energy target	Against renewable energy target, no support of renewable energies	
	Policy objectives	Renewable energy target	Renewable energy target, support of renewable energies, increase of renewable energy deployment
		Against renewable energy target	Against renewable energy target, no support of renewable energies

Table 3 (continued)

Design element	Codes	Included cue statements
Policy instrument types	Feed-in tariff Auctions	Feed-in tariff Auctions
Specific policy settings	Voluntary quotas	Voluntary quotas
	5400 GWh/a	5400 GWh/a
	Against 5400 GWh/a	Against 5400 GWh/a
	Inclusion of solar PV	Inclusion of solar PV
	Exclusion of solar PV	Exclusion of solar PV
	Compromise for solar PV	Compromise for solar PV
	Inclusion of wind	Inclusion of wind
	Exclusion of wind	Exclusion of wind
	Suitable location to receive support	Suitable location to receive support
	Against suitable location to receive support	Against suitable location to receive support
Specific policy instrument calibrations	High cap of consumer surcharge	High cap of consumer surcharge
	Low cap of consumer surcharge	Low cap of consumer surcharge
	Compromise for consumer surcharge	Compromise for consumer surcharge
	Exemption of large electricity consumers	Exemption of large electricity consumers
	No exemption of large electricity consumers	No exemption of large electricity consumers
	Substantial exemption of large electricity consumers	Substantial exemption of large electricity consumers
	High cap of consumer surcharge	High cap of consumer surcharge
	Low cap of consumer surcharge	Low cap of consumer surcharge
	Compromise for consumer surcharge	Compromise for consumer surcharge
	Exemption of large electricity consumers	Exemption of large electricity consumers

Table 4 List of coded actors and the actors included therein

Coded actors	Included actors
Green Party	Grüne Partei Schweiz (GP), Parti écologiste suisse (les verts)
Left Party	Sozialdemokratische Partei der Schweiz (SP), Parti socialiste suisse (PS)
Centre Party	Christlichdemokratische Volkspartei der Schweiz (CVP), Parti démocrate-chrétien suisse (PDC)
Free-Market Party	Freisinnig-demokratische Partei der Schweiz (FDP), Parti radical-démocratique suisse (PRD) Liberale Partei Schweiz (LPS), Parti libéral suisse (PLS)
Far-Right Party	Schweizerische Volkspartei (SVP), Union démocratique du centre (UDC)
Government	Bundesrat, Conseil fédéral
Energy office	Bundesamt für Energie (BFE), Office fédéral de l'énergie (OFEN); subordinate agency of the Swiss Federal Department of the Environment, Transport, Energy and Communications
Cantons	Konferenz kantonaler Energiedirektoren (EnDK), Conférence des directeurs cantonaux de l'énergie Regierungskonferenz der Bergkantone, Conférence gouvernementale des cantons alpins Individual cantons
Cities, municipalities	Schweizerischer Städteverband, Union des villes suisses Schweizerischer Gemeindeverband, Association des communes suisses Cantonal and local municipal unions
Industry associations	Economiesuisse Schweizerische Gesellschaft für Chemische Industrie (SGCI) Interessensgemeinschaft der energieintensiven Branchen (IGEB) Schweizerischer Arbeitgeberverband, Union patronale Suisse Cantonal chambers of industry and commerce
Business associations	Schweizerischer Gewerbeverband (SGV), Union suisse des arts et métiers (USAM) Swissmem Verband schweizerischer Elektroinstallationsfirmen (VSEI), Union suisse des installateurs-électriciens (USIE) Cantonal and local business associations

Table 4 (continued)

Coded actors	Included actors
Large utilities, incumbent electricity producers (EP)	<p>Swisselectric</p> <p>Energieforum Schweiz, forum suisse de l'énergie</p> <p>Aktion für vernünftige Energiepolitik Schweiz (AVES)</p> <p>Fédération Romande pour l'Energie (FRE)</p> <p>Verband schweizerischer Elektrizitätsunternehmen (VSE), Association des entreprises électriques suisses (AES)</p> <p>Schweizerische Vereinigung Atomenergie (SVA)</p>
Small utilities, distribution system operators (DSOs)	<p>Individual nuclear and hydropower plants</p> <p>Swisspower</p> <p>Verband schweizerischer Elektrizitätsunternehmen (VSE), Association des entreprises électriques suisses (AES)</p>
Farmers	<p>Local DSOs</p> <p>Schweizer Bauernverband (SBV), Union suisse des paysans (USP)</p> <p>Landwirtschaftsrat</p> <p>Schweizerischer Alpwirtschaftlicher-Verband</p> <p>Cantonal and regional farmers' unions</p> <p>Individual farmers</p>
Renewable energy (RE) associations	<p>Schweizerische Energiestiftung (SES), Fondation suisse de l'énergie</p> <p>AEE suisse</p> <p>Swissolar</p> <p>Suisse-Eole</p> <p>Schweizerische Vereinigung für Sonnenenergie, Société suisse pour l'énergie solaire (SSES)</p> <p>Biomasse Schweiz, Biomasse Suisse</p> <p>Holzenergie Schweiz, Energie-bois suisse</p> <p>ADEV Energiegenossenschaft</p> <p>Interessenverband Schweizer Kleinkraftwerkbesitzer (ISKB)</p> <p>Solarenergie für Demokratie</p> <p>Nordwestschweizer Aktionskomitee gegen Atomkraftwerke (NWA)</p>
Environmental associations	<p>WWF</p> <p>Schweizerische Greina-Stiftung, Fondation suisse de la Greina</p> <p>Greenpeace</p> <p>Stiftung Landschaftsschutz Schweiz, Fondation suisse pour la protection et l'aménagement du paysage</p> <p>Pro Natura</p> <p>Rheinaubund</p> <p>Ecologie libérale</p>

Table 4 (continued)

Coded actors	Included actors
Consumer associations	Stiftung für Konsumentenschutz (SKS) Fédération romande des consommateurs (FRC) Schweizerisches Konsumentenforum Associazione consumatrici della Svizzera Italiana (ACSI)
Labour unions	Schweizerischer Gewerkschaftsbund (SGB), Union syndicale suisse (USS) Travail Suisse Unia

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