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Original research article

## How beliefs of the political elite and citizens on climate change influence support for Swiss energy transition policy

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## ABSTRACT

This paper analyzes factors that lead to opposition towards policies in Switzerland that promote a clean energy transition. During legislative processes, both the elite and general citizens can develop resistance towards such policies. The article considers those two perspectives and determines, on both levels, factors that explain opposition. We also specifically take into account whether climate change skepticism, i.e., questioning that climate change is real and human-induced, is a key factor that leads to opposition. Furthermore, we employ structural equation models to account for interactions between the elite and general citizens. The results show that political actors who reject the idea of man-made climate change also oppose the promotion of a clean energy transition, and more generally that elite actors influence how citizens think about the issue. At the citizen level, an increase in climate change skepticism has a negative impact on levels of support for clean energy policy. The link is mainly determined by party affiliation. We conclude that potential strategies for achieving a clean energy transition should focus on motivating citizens because they generally seem to be less polarized and partisan, and thus less opposed to new solutions, than the elite, who tend to be more constrained in their actions.

## 1. Introduction

Most nation states need to adopt ambitious policies and substantially increase low-carbon energy production to achieve their climate goals and to reach a more sustainable long-term energy supply. Many experts of the field view state intervention as necessary for enabling a renewable energy transition because market failures as well as commitment and time inconsistency problems have thus far limited the transition towards clean energy in areas without government support [1,2]. Another factor impeding the transition to renewable energy includes the fact that parts of the political elite (political parties, E-NGOs, administrative offices, interest groups etc.) oppose policies that promote or implement clean energy, especially if they find clean energy neither desirable nor necessary (see also Fraune & Knodt, 2018 in this special issue [Fraune, Cornelia & Michèle Knodt. Sustainable energy transformations in an age of populism, post-truth politics, and local resistance. *Energy Research and Social Science* 2018: 43]). Moreover, on a systems level, scholars find that well-established socio-technical [3–6] and regulatory systems [7,8], like the ones governing energy production and use, tend to be stable and hard to change over time. Finally, political actors and citizens alike are often unsure about what specific policies to implement, because of the diversity of options and

the lack of clarity about policy outcomes [1]. All these factors may lead to substantial delays in the implementation of promotional measures and the deployment of new technologies, which could mean that countries struggling with these issues miss their respective climate and clean energy targets [9,10].

Transition studies have paid considerable attention to the stability of socio-technical systems. Public policy and environmental economics have mostly explored the uncertainty in policy selection. However, few studies explicitly analyze why certain groups of citizens or elite actors oppose policies supporting the transition towards a more sustainable energy system. The paper therefore asks: *What drives elite actors and general citizens to oppose policies that support a clean energy transition?*

To achieve a clean energy transition, it is crucial that states and governments develop and work towards goals that include targets for clean energy production or lower greenhouse gas emissions. Simultaneously, researchers investigating reasons for success or failure of energy transitions need to focus on studying specific policies to better understand where opposition or support from the public comes from, similar to the value-action gap regarding the local siting of technologies (see also Graff et al., 2018 in this special issue [Graff, Michelle et al., 2018. Stakeholder Perceptions of the U.S. Energy Transition: Local-level Dynamics and Community Responses to National Politics and

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Policy. *Energy Research and Social Science*, 2018: 43; [11]). This paper, therefore, focuses on understanding the opposition to clean energy policies and uses it as a proxy for understanding support for the idea of a clean energy transition more broadly [1]. This study adopts an actor-centered perspective and considers the beliefs and preferences of both the political elite as well as general citizens because both play important roles in the legislative process as well as in the later implementation of clean energy policies, as (e.g.) Delina and Janetos [12] or Komendantova et al. [13] show. We thus consider the previous findings and expand the literature by explicitly combining research on both the elite and general citizenry. Understanding the root of opposition towards a clean energy policy is important to identify hurdles and solutions for states in achieving or reformulating their targets in accordance with the preferences of the political elite or citizens. Moreover, even when a productive policy does pass, when the public or political elite do not support it, compliance can still be low and undercut the policy's efficacy (see also Trotter & Maconachie, 2018 in this special issue [Trotter, Philipp Andrew & Roy Maconachie, 2018. Populism, post-truth politics and the failure to deceive the public in Uganda's energy debate. *Energy Research and Social Science*, 2018: 43; [14,15]).

By exploring the root cause of opposition to clean energy policies from both the public and political elite, we expand current social science research on energy transitions. Stokes and Breetz [16] as well as Carley et al. [17], for example, assessed the attitudes and culture specific to people affected by the expansion of RE and the decline of conventional power sources. They found that both attitudes and culture could drive people's opposition to policies that promote sustainable energy. To develop a unique perspective on the subject, we combine their insights with literature on climate change skepticism (see e.g., [18–20]), which also seems to be a driving factor in determining whether the public and elite actors oppose a clean energy transition. Climate change skepticism is the belief that climate change either is not as problematic as the scientific community says it is, an altogether denial of anthropogenic climate change, or somewhere in between. Therefore, people can use their skepticism as grounds for rejecting tangible solutions to solving climate change, including supporting a clean energy transition. In addition, political parties and thought-leaders can continue fostering this skepticism by exploiting growing public distrust towards the scientific community and the government for political gain. Therefore, rhetoric that promotes the distrust of scientific facts and sows doubt in anthropogenic climate change can play into a populist mindset. If the frame used by the opposition is that “the government” and “scientists” are trying to force “the people” to live their lives a certain way with no true benefit to them, the result can be deep-seeded antagonism [21] and further distrust not only of climate change but also of the government and scientific community more broadly. In Switzerland and other countries, the right-wing and populist parties tend to promote climate change skepticism and harbor deeper opposition towards clean energy than their more progressive counterparts. Populist parties, therefore, could be exploiting skepticism to further undermine public and political support for clean energy policies [20].

By combining insights from these strands of research, this paper expands on the current debate and increases the understanding of the complex and multi-level participatory processes concerning the clean energy transition. This paper focuses on Switzerland, which is ideal for three reasons: first, Switzerland is often seen as a laboratory for popular votes. This paper thus offers insight for other countries and regions that may rely on similar participatory processes involving both elite actors and citizens, especially when these processes are generally new or specific to the energy sector [22,23]. Second, Switzerland's direct democratic system allows citizens to actively participate in the political decision-making process regarding the deployment of low-carbon technologies. There is a balance of power between the political elite (e.g., parties, interest groups, or environmental non-governmental organizations (E-NGOs)) and citizens. That, in turn, allows us to

investigate the political relevance and relative influence of both entities [24]. In our case, the elite is mainly in charge of the drafting phase, however, the citizens are later able to express their opposition or support for the new energy strategy in a popular vote. Third, the pressure to transition the electric power supply towards more low-carbon technologies is high in Switzerland because, in 2017, the country set ambitious short-term policy measures to support the transition [25]. By voting in favor of the 2017 energy act, the Swiss people accepted two primary policies regarding the production of electricity: a ban on constructing new nuclear power plants, and a gradual increase of taxes levied on electricity consumption to be used for subsidizing RE (among the more general goals within the policy were to increase RE production and energy efficiency). In order to achieve these goals, however, Switzerland needs to adopt additional policies. Because this first slate of policies, as well as the idea of bringing on additional policies, is both controversially discussed, Switzerland is an ideal test-case for exploring opposition towards the clean energy transition.

On the theoretical level, we consider the attitudes and policy preferences of both elite actors and the citizenry as they pertain to clean energy policies [26]. We also consider literature on social acceptance [14,27]. For the elite actors, we apply cluster analyses [28,29]. Cluster analyses allow us to identify not only single actors and their opposition to the promotion of energy transitions, but also the attitudes of whole groups of actors based on their central beliefs. On the individual level, we apply structural equation modeling to assess and identify the factors that influence opposition to clean energy policies [30,31]. The data used for the analysis is based on a survey conducted among elite actors in the energy policy domain as well as on data from a nationally-representative survey questioning citizens about their preferences regarding RE policy. By combining both sources, we present a comprehensive account of why elite actors and citizens alike often oppose clean energy policies.

## 2. Theory

### 2.1. Policy supporting energy transitions

This paper focuses on the drivers behind opposition to renewable energy policy by both the political elite and general public. Most experts agree that a clean energy transition can only be successful when supported by state intervention [1,2]. The range of policy options to accomplish such a goal is broad: they range from highly regulated, like banning nuclear power or implementing a feed-in tariff scheme, to those that are less prescriptive and more targeted such as subsidizing research and development of clean energy options (for an extensive list of measures see Sovacool [32]). Public support, as well as the support of the political elite, is a central prerequisite for success. Political parties, interest groups, and E-NGOs play an important role in the drafting phase of most energy policies, as do administrative entities and local governments. Political parties make the final determination about policy selection, unless a policy makes it to a public vote (at least in the Swiss case under investigation in this study). Although policy selection and a potential public vote are sequentially independent from each other and follow different rules, they are interrelated [24]. For instance, policymakers are susceptible to public opinion, and political parties play a role in shaping public opinion by providing heuristics [33].

Most studies that have attempted to analyze the development of clean energy policy have been conducted under the frame of “social acceptance.” Dermont et al. [14] further emphasize the political nature of social acceptance, since most processes used to promote clean energy policies are inherently political in nature. Policy decisions follow the rules of political institutions such as parliaments, citizens' assemblies, or popular votes [27,34]. Elite stakeholders are crucial during the process of designing policies, but citizens become important actors later in the process when, in a direct-democratic setting, a public vote is triggered on the issue.

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