Energy Policy 86 (2015) 520–528

Contents lists available at ScienceDirect

Energy Policy

journal homepage: www.elsevier.com/locate/enpol

Collaboration patterns, external shocks and uncertainty: Swiss nuclear energy politics before and after Fukushima

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HIGHLIGHTS

- Energy shocks create uncertainty in policy processes.
- Behavioral and policy uncertainty have influence actors' collaboration patterns.
- Under uncertainty, collaboration is based on trust rather than on similar preferences.
- Under uncertainty, scientific actors are not preferred collaboration partners, but are active themselves.

ARTICLE INFO

Article history:
Received 20 February 2015
Received in revised form
4 August 2015
Accepted 6 August 2015

Keywords:
External shocks
Uncertainty
Policy-making
Collaboration
Exponential random graph model

ABSTRACT

Energy shocks like the Fukushima accident can have important political consequences. This article examines their impact on collaboration patterns between collective actors in policy processes. It argues that external shocks create both behavioral uncertainty, meaning that actors do not know about other actors' preferences, and policy uncertainty on the choice and consequences of policy instruments. The context of uncertainty interacts with classical drivers of actor collaboration in policy processes. The analysis is based on a dataset comprising interview and survey data on political actors in two subsequent policy processes in Switzerland and Exponential Random Graph Models for network data. Results first show that under uncertainty, collaboration of actors in policy processes is less based on similar preferences than in stable contexts, but trust and knowledge of other actors are more important. Second, under uncertainty, scientific actors are not preferred collaboration partners.

1. Introduction

Energy shocks such as the Fukushima accident in 2011 can have far-reaching consequences on several levels. On the level of individuals, the nuclear accident in Japan led to lower energy consumption (Wakiyama et al., 2014), as well as changed the risk perception of nuclear energy and decreased its acceptance among the general public (Kim et al., 2013; Siegrist et al., 2014; Siegrist and Visschers, 2013). On the level of countries, and partly as a consequence of the decreased acceptance among the public, the accident led to initiatives for policy change towards nuclear-free energy production in several countries. Indeed, external shocks such as the Fukushima accident are an important explanation for policy change in public policy theories (Grossman, 2015, 2012; Nohrstedt, 2005; Sabatier and Jenkins-Smith, 1993). External shocks influence policy images of the public as well as of collective political actors (Baumgartner and Jones, 1993; Hall, 1993), i.e. they put into question existing policies and complicate the elaboration of future policies. Yet, little is known about the behavior of collective political actors such as parties, interest groups, or administrative agencies in policy processes taking place after external shocks. External shocks create uncertainties for actors, as they have to deal with new issues, new images, and new policy solutions. This paper examines the collaboration behavior of actors in energy policy processes. It studies a policy process before the Fukushima accident with relatively low uncertainty, and a policy process after the Fukushima accident with higher uncertainty.

Understanding collaboration patterns within policy processes is crucial (Ingold and Fischer, 2014). It allows insight into mechanisms by which collective political actors negotiate new policies. The literature shows that, for example, preference similarity or perceived power explain collaboration between political actors (e.g. Berardo, 2013; Gerber et al., 2013; Henry, 2011; Ingold, 2011;

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http://dx.doi.org/10.1016/j.enpol.2015.08.007
0301-4215/

Leifeld and Schneider, 2012). However, incentives for collaboration among actors also depend on whether a policy process evolves in a context of uncertainty or, on the contrary, in a stable and certain environment (Newig et al., 2005; Sigel et al., 2010). After external shocks, political actors need to deal with two types of uncertainty. First, external shocks do not only change actors' policy preferences, but also bring new issues on which actors' preferences are unknown into a policy sector. Actors therefore suffer from behavioral uncertainty (Fink and Harms, 2012; Krishnan et al., 2006) with respect to preferences of other actors. Second, given that external shocks increase the pressure for developing new policies (see Grossmann, 2012, on "do something"), actors have to deal with policy uncertainty, i.e. uncertainty with respect to implications and effects of potential new policies (Krishnan et al., 2006; Metz and Ingold, 2014).

This article analyzes the collaboration networks among collective political actors in two subsequent policy processes in Swiss energy policy. First, the policy process on the new law on nuclear energy that took place between 1998 and 2003 evolved in a context of relatively low uncertainty. Second, the policy project of the "Energy Strategy 2050" started after the Fukushima accident in 2011, and includes Switzerland stepping out of nuclear energy production and increasing its energy efficiency as well as energy supply from renewable sources. This policy process might lead to major policy change in Swiss energy policy, where nuclear energy has traditionally played an important role (Kriesi and Jegen, 2001; Sager, 2014). It therefore involves high behavioral and policy uncertainties for actors. Studying the collaboration networks in these two processes within the same policy sector allows for assessing whether actors behave differently depending on the degree of uncertainty a policy process has to deal with. I rely on exponential random graph models (ERGMs) in order to uncover factors accounting for the collaboration behavior of actors.

The reminder of the article is structured as follows. In the theoretical part, I first discuss both types of uncertainties. I then formulate hypotheses about the differences between actors' collaboration behavior depending on whether a process involves more or less uncertainty. Subsequently, I describe the case, data, and methods. Results of the ERGM are discussed before presenting conclusions and policy implications.

2. Methods

2.1. Shocks and uncertainty in policy processes

External shocks provide both collective political actors and the general public with new evidence on a given issue or a policy; alternately, they influence the emphasis both the public and collective actors put on given aspects of an issue. They can therefore change actors' preferences on existing as well as new issues, and potentially change the image of a policy (Baumgartner and Jones, 1993; Hall, 1993; Sabatier and Jenkins-Smith, 1993).

External shocks and changing policy images create uncertainty, which can be defined as limited knowledge about future, past, or current events (Walker et al., 2013). The literature distinguishes several interdependent types of uncertainty (Newig et al., 2005; Sigel et al., 2010). This article focuses on behavioral and policy uncertainty. Behavioral uncertainty relates mostly to limited knowledge about current events. It refers to the difficulties actors experience when they try to anticipate the preferences of other actors with respect to both existing and new issues (Fink and Harms, 2012; Krishnan et al., 2006). In any policy process, actors usually lack the complex knowledge of all current and future institutions, of the interconnectedness of others' decisions, and of the strategies and preferences adopted by others (Lubell, 2013). However, there is arguably more behavioral uncertainty if some actors are about to change their preferences, and if new issues are dealt with in a policy process (Weible, 2008: 626). In such situations, actors are themselves uncertain about which norms to follow (Newig et al., 2005), and anticipating the preferences of others is thus even more complicated. Policy uncertainty also relates to new evidence, issues, and preferences, but describes limited knowledge about the future. Under the conditions of policy uncertainty, the choice of policy instruments is complicated, as the effects of choosing one instrument over another are not clear (Landry and Varone, 2005). Actors suffer from substantive knowledge deficits (Newig et al., 2005), and have a hard time recoginzing "the links between actions and consequences" (Weible, 2008: 626). They are thus uncertain with respect to their choice of policy instruments, and the potential effects of introducing new policy instruments or abandoning old ones (Aoki, 2007; Arentsen et al., 2000; Krishnan et al., 2006; Metz and Ingold, 2014).

2.2. Collaboration in policy processes

Collective political actors such as political parties, interest groups, or administrative agencies in democratic systems need to collaborate with others in order to get access to information and resources, influence decision-makers, coordinate their activities, set up advocacy coalitions, and thereby achieve their policy preferences. It has been shown that (a) actors with similar preferences tend to collaborate (Henry, 2011; Weible, 2005; Weible and Sabatier, 2005; Zafonte and Sabatier, 1998), (b) actors are power driven and tend to collaborate with others they see as influential (Henry, 2011; Stokman and Zeggelink, 1996), (c) actors tend to establish collaboration relationships along pre-existing and trusted contacts (Berardo, 2009; Leifeld and Schneider, 2012), and (d) given types of actors—for example, state actors in Europeanized policy processes—have specific incentives for establishing collaboration relations (Fischer and Sciarini, 2013).

This paper innovates by taking into account the context of uncertainty, which I anticipate will interact with these classical drivers of collaboration. Both behavioral and policy uncertainty affect the incentives of actors when looking for collaboration partners.

First, under conditions of behavioral uncertainty, actors are unsure about the policy preferences of potential collaboration partners. Due to the external shock, new issues and policy instruments are discussed, about which actors' preferences are unknown. Furthermore, actors might have changed their preferences with respect to existing issues due to the external shock. Under conditions of uncertainty, actors have a harder time recognizing preference similarity and using this information as a basis for establishing collaboration. Therefore, higher behavioral uncertainty in a policy process corresponds to a lower importance of preference similarity as a driver for collaboration.

Hypothesis 1. : An increase in behavioral uncertainty is inversely proportional to the importance of preference similarity for the establishment of collaboration.

Second, given the difficulties of anticipating preferences of potential collaboration partners, actors search for information on the (new) preferences of other actors. Finding out about (new) preferences of potential collaboration partners is easiest for actors which are of the same organizational type (Carpenter et al., 2004: 225). Actors of the same type know about the organizational functioning of their peers, tend to be active in the same institutional venues, and have access to similar types of information. For example, whereas political parties are mostly active in Parliament, interest groups participate in the policy process within hearings or