



Original research article

# Phasing out or phasing in: Framing the role of nuclear power in the Swedish energy transition

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## ARTICLE INFO

### Article history:

Received 31 March 2015

Received in revised form 6 November 2015

Accepted 9 December 2015

Available online 16 January 2016

### Keywords:

Nuclear energy policy

Energy transitions

Political ideologies

Sustainable development

Sweden

## ABSTRACT

This article examines how members of the Swedish Parliament framed nuclear energy in the 2010 debate on the future of nuclear power in Sweden in order to understand how politicians construct and contextualize their views on the role of nuclear energy in energy transitions. Our findings suggest that four themes could be identified in the debate and that these were formative for politicians in framing nuclear energy. Even though all political actors anticipate an energy transition towards a more sustainable system, different paths to advancing in this process were brought up in the debate, both with and without prolongation of the nuclear energy program. Our analysis suggests that framings of nuclear energy are closely related to the political ideologies of the parties in the Parliament because the two framings of nuclear energy correspond with the division of the Swedish Parliament into two political blocs. However, views on nuclear energy are not inherent to political ideologies but are constructed. This article thus integrates the politics of nuclear energy within the research on energy transitions.

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## 1. Introduction

In hindsight, 2010 might be remembered as the year when nuclear law was amended in Sweden and permission was given for old reactors to be replaced [1]. This change is not currently emphasized in the public discourse, and there has been little attention to this change in general in Swedish society. Both the change in the legislation and the lack of discussion in society are remarkable because Sweden has had a nuclear phase out policy for several decades. The mere fact that there was any discussion at all on nuclear energy in the form of the new policy proposals demonstrates a break from the previous anti-nuclear rhetoric around the referendum on nuclear energy in 1980 that had shaped nuclear policy since that time. Because it has the potential to transform future developments and further transitions in the Swedish energy sector, the change in the legislation is a turning point worth considering from the perspective of energy transitions.

Energy transitions are still relatively understudied from the perspective of the social sciences [2–4], and the social science-oriented energy studies that do exist mainly investigate the economic and geopolitical dimensions of energy. Miller et al. [5, p. 29] claim that a

societal perspective on the energy sector is needed to complement the conventional perspective of energy studies that mainly focus on the costs of certain energy choices and technologies.

Energy transition is by its nature a political process [6]. The political nature of energy transitions has been acknowledged in the literature [6–10], but there are few studies scrutinizing how political elites represent energy in their rhetoric [11]. Despite the little attention that has been paid to this issue, it is important to emphasize that politicians consider energy in relation to the political worldviews that they adhere to. In particular, they envision energy in relation to their interpretations of models of socio-economic development and political ideals. Politicians thus construct their representations of energy based on the interaction between energy matters and other societal matters. The result of this process, when different representations collide and energy is discussed in the political system, is the emergence of energy policies.

The consequences of these policies and the discussions around them extend to energy and societal relations in the present and in the future; therefore, political decisions regarding energy policies influence broader societal development. Energy transition is a long-term process that requires consistent energy policies over a period of time that is usually longer than the terms of office for politicians. During this time-span, a number of political decisions by various political groups will be taken in order to steer energy transition, and some consistency has to be ensured among these decisions.

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We need to understand how politicians frame energy and energy transitions in relation to their larger ideas about societal development in order to uncover the complexity of energy transitions from a socio-political perspective. The debate on nuclear energy in Sweden, that took place on 17 June 2010, makes for a useful case study in this respect. The interplay between the “green” image of Swedish policies and the debate on the controversial subject of nuclear energy can be an example for other countries that prioritize energy transitions and hold public discussions on various energy sources that can contribute to achieving the goals of these transitions.

This article examines how members of the Swedish Parliament framed nuclear energy in the 2010 debate in order to understand how politicians construct and contextualize their views on the role of nuclear energy in energy transitions. The findings suggest that four themes could be found in the debate, and these have been formative for politicians in framing nuclear energy. Even though all political actors anticipate energy transition towards a more sustainable system, different paths to advancing this process were suggested in the debate, with or without prolongation of the nuclear energy program. The analysis presented here suggests that framings of nuclear energy are closely related to the political ideologies of the parties in the Parliament because the two framings of nuclear energy reflect the division of the Swedish Parliament into two political blocs. However, views on nuclear energy are not inherent to political ideologies but are constructed. The article thus integrates the politics of nuclear energy within the research on energy transitions.

## 2. Energy representations and politics in energy transitions

Energy transition as a concept has had a growing importance in a world currently facing a number of challenges in the energy sector [12]. While definitions of energy transitions have shifted over time and there is no universal definition [12], energy transition generally implies “a structural change in major societal subsystems” [6, p. 324] that often leads to changes in energy mix and innovations in energy systems [12].

Energy transitions have taken place throughout history, and various conditions have driven the associated structural changes [13,14]. Most modern energy systems are not sustainable, and this raises a number of questions in terms of their economic, social, and environmental aspects. Araujo [12, p. 113] describes how current energy transitions are faced with unusual circumstances. Because the current challenges facing energy sectors, especially those challenges related to climate change, are urgent, governments need to intervene to a larger extent than they have in previous energy transitions. Grubler [14] (also in [15]) argues that energy transitions can be induced by the policies that governments adopt. Energy policies that provide incentives for actors in the energy sector to engage in activities that are in line with the planned transitions are a crucial mechanism for inducing change in the energy sector [14].

Although concerns about climate change mitigation, efficient technologies, and energy security are widespread nowadays [16], there are no unified solutions to these matters. Meadowcroft [6, p. 327] believes that current transitions can be formulated in a number of ways: from fossil fuel to non-fossil fuel, from carbon-emitting to carbon-neutral economies, and from non-renewable energy sources to renewable energy sources. The challenges, needs, and possible solutions in the energy sector are socially constructed and as they are understood differently, contested. This means that contests in articulating current problems and suggesting ways to deal with them are inherent to energy transitions.

Even though the current period seems to require more urgency on the part of governmental interventions [12], it still takes a long period of time for structural changes in the energy sector to be realized. Such major transformation will involve several generations in this process [16], and to prevent disruptions in energy transitions there is a need for persistence and continuity in energy policies [14]. White et al. [17] argue that policy consistency is a challenge for the energy sector and that unexpected policy changes create hindrances for development in the energy sector due to an inability to attract investments.

While politicians change and new governments come into power, the meanings of energy sources embedded in energy policies formulated by these governments persist and influence further policy transformations. Political discussions of energy transitions are of importance for future generations because they construct issues that later might guide societal transformations [11,18]. Similar to the argument that “previous energy transitions have involved significant cultural and social shifts” [16, p. 4], the current energy transitions are intrinsically related to society and thus involve shifts in understanding energy and its role in society. Because energy use is inevitable in society [2] and is part of the public discourse [12], energy transitions are naturally a part of the surrounding, and continuously changing, political context. Thus, actors (in this case national decision-makers) will construct their representations of energy—and subsequently their desired direction for energy transitions and policies—upon other societal aspects.

The need for more sustainable and climate-neutral energy sources has sparked interest in nuclear energy in recent decades [19]. Nuclear energy has been perceived as a controversial energy source almost from the first years of its development, and it has faced significant public opposition in a number of countries around the world [20,21]. However, recent efforts to mitigate climate change involve the minimization of emissions that have a negative impact on climate, and nuclear energy is sometimes seen as an energy source that can contribute to a more climate-neutral energy mix. A number of researchers, though, claim that the development of nuclear energy and renewable energy are exclusive to each other [22], and thus the potential of nuclear energy to make a significant contribution to climate change mitigation could be questioned. While nuclear energy is seen as an acceptable energy source in some European countries (France, Finland, the UK), it has faced significant opposition in others (Germany, Italy, and Belgium). According to EU regulations, it is up to the member states of the EU to decide whether or not they will allow nuclear energy in their national energy mix. In general, the contribution of nuclear energy to the transition to more sustainable energy systems remains an ambiguous and much-discussed issue. This article demonstrates how the role of nuclear energy in the transition to sustainable energy sources is framed in the Swedish case, but the findings might be of interest in studies of other countries going through similar discussions or considering nuclear energy development.

## 3. Nuclear energy discussion in Sweden

Nuclear energy became a subject of intense public debate in Sweden in the late 1970s when the government was considering building more reactors and in the aftermath of the Three Mile Island accident in the US. The widespread and visible critique against nuclear energy was mobilized by anti-nuclear movements and by political parties eager to bring this question to the political level. This mobilization resulted in a national referendum on nuclear energy in 1980. The referendum had an advisory status. Three alternatives were suggested, all of which were to some extent expressions of anti-nuclear positions because they were all in favor of a phase-out and they all framed nuclear power as a temporary

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