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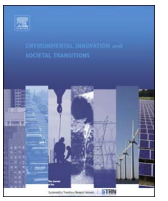

Original Research Paper

Framing low-carbon pathways: A discursive analysis of contending storylines surrounding the phase-out of coal-fired power in Ontario

Daniel Rosenbloom

School of Public Policy and Administration, Carleton University, 1125 Colonel By Drive, Ottawa, K1S 5B6, ON, Canada

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ABSTRACT

Transition studies have made constructive efforts to attend more closely to the politics of sustainability transitions, with discourse emerging as an increasingly important means of interrogating these dynamics. Drawing on discourse perspectives, this study deploys the multi-dimensional discursive approach to explore framing struggles surrounding a climate change mitigation experience of international significance (the phase-out of coal-fired power in Ontario), revealing how ideas, interests, institutions, and infrastructure (the four I's of sustainable energy transitions) interact in constituting pathways to sustainability. This approach captures the way in which contending actors frame issues and technologies, modulating possibilities and shaping the sequences of choices that link current societal arrangements to future low-carbon states. The study elaborates how processes of negotiation among competing interests and priorities helped define the pathway to eliminate coal. It also suggests that regulatory measures may help to accelerate the pace of transitions and succeed where market approaches are politically untenable.

1. Introduction

In the inaugural issue of this journal, Meadowcroft (2011) echoed the call to develop more politically-sensitive understandings of sustainability transitions (Meadowcroft, 2009; Shove and Walker, 2007; Smith et al., 2010, 2005; among others), pointing to the importance of interactions among *interests* (strategies and positions of political actors), *institutions* (layered norms, practices, and relations of power), and *ideas* (frames of reference that shape problem definitions and solution spaces). Since then, transition research has constructively responded to this challenge, with multiple contributions elaborating the role of ideas, interests, and institutions in shaping transformative possibilities. Of particular interest for this discussion, transition studies have begun to more deeply examine the role of discourse in: (1) framing technologies (Bosman et al., 2014; Geels and Verhees, 2011; Rosenbloom et al., 2016), (2) reinforcing or undermining institutional arrangements (Fuenfschilling and Truffer, 2016), (3) modulating the development of protected spaces for innovations (Raven et al., 2016; Smith et al., 2014), and (4) influencing the choices that define pathways to sustainability (Rosenbloom et al., 2018; Stirling, 2014). At base, discursive approaches provide additional leverage in exploring the political dimensions of transition processes, elucidating how actors frame issues and therefore shape the possibilities that might constitute transition pathways. Building on the above contributions, this paper revisits the abovementioned political domains of transitions (ideas, institutions, and interests) and engages with these factors through the *multi-dimensional discursive approach* outlined in Rosenbloom et al. (2016), extending this framework and deploying it to examine a climate change mitigation effort of international significance: the phase-out of coal-fired power in Ontario, Canada.

This study makes five main contributions to transition literature. First, a fourth interacting political domain constituting the politics of sustainable energy transitions is proposed – that is, ideas, institutions, interests, *and infrastructure* (referred to here as the

E-mail address: daniel.rosenbloom@carleton.ca.

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four I's of sustainable energy transitions). Second, analytical refinements to the multi-dimensional discursive approach are offered in order to more explicitly embrace the four I's and *the implications storylines suggest for unfolding pathways*. Here I adopt the socio-technical conception of "pathways", which takes this concept to mean "the unfolding socio-technical patterns of change within societal systems as they move to meet human needs in a low-carbon fashion" (Rosenbloom, 2017, p. 39). Third, the analysis elucidates the framing struggles surrounding the pathway adopted to phase-out coal-fired power in Ontario, which has been called the "single largest GHG emissions reduction action on the continent" and resulted in an annual reduction of roughly 33 Mt of CO2eq (Ontario Ministry of Energy, 2015, p. 3). Not only does this represent a major GHG reduction effort, it is also an instance where a regulatory rather than market-based approach helped promote the journey to decarbonize energy systems. Shedding light on these dynamics is of particular relevance as international jurisdictions (e.g., Denmark, Britain, Finland, Germany, and others) embark upon similar initiatives. Fourth, while the climate-related priorities of Ontario's coal phase-out have been called into question (McKitrick, 2017; McKitrick and Aliakbari, 2017), this study demonstrates that this initiative was motivated and shaped by complex and evolving considerations that were rooted in regional air quality issues but also inextricably entwined with climate change concerns. Indeed, the analysis finds that continual struggles among contending interests and priorities helped define the pathway to phase-out coal. Finally, more general discursive patterns are identified which mark framing struggles around sustainability transitions, explaining these dynamics in terms of discursive resonance (i.e., the strength and alignment of components constituting storylines).

The argument in this paper unfolds in the following steps. The analysis begins by detailing the multi-dimensional discursive approach, proposed extensions, and specific methodological choices. Subsequently, the discursive dynamics surrounding the elimination of coal in Ontario are examined, revealing several contending storylines. The paper concludes by reflecting on the identified discursive patterns and their implications for transitions theory and practice.

2. Approach

Over the past several years, discourse has emerged as an increasingly important approach to elucidate the political dimensions of sustainability transitions (e.g., Bosman et al., 2014; Geels and Verhees, 2011; Munoz et al., 2014; Raven et al., 2016; Roberts, 2017; Rosenbloom et al., 2016; Teschner and Paavola, 2013). While discourse-transition crossovers are founded upon a variety of theoretical foundations (e.g., Fischer and Forester, 1993; Hajer, 1995; Schmidt, 2008), they have a fundamental, albeit often implicit, interest in scrutinizing the four interacting political domains of socio-technical transitions, weaving connections among ideas (as reflected by narratives and frames of reference), institutions (as reflected by rule systems), interests (as reflected by strategies and positions of political actors), and infrastructure (as reflected by material systems; see Fig. 1). Teschner and Paavola (2013, p. 449), for instance, submit that ideas "frame and constrain what can be perceived as possible solutions to societal problems" and "alongside infrastructural networks and vested interests, can help [explain] lock-in". Framing, in this view, is not only about making sense of complex realities but also relates to important strategic functions as actors actively structure policy issues in such a fashion as to privilege particular solutions and interests (Rein and Schön, 1993; Stone, 2001). Fuenfschilling and Truffer (2016, pp. 299–300), similarly, elaborate how actors work "to construct meaning, beliefs, rules or standards and thereby shape the course of institutional change", with discourse underpinning much of this "institutional work". Still others explicate the way in which actor networks struggle over the legitimacy of particular technological arrangements (e.g., nuclear energy facilities) and their associated socio-

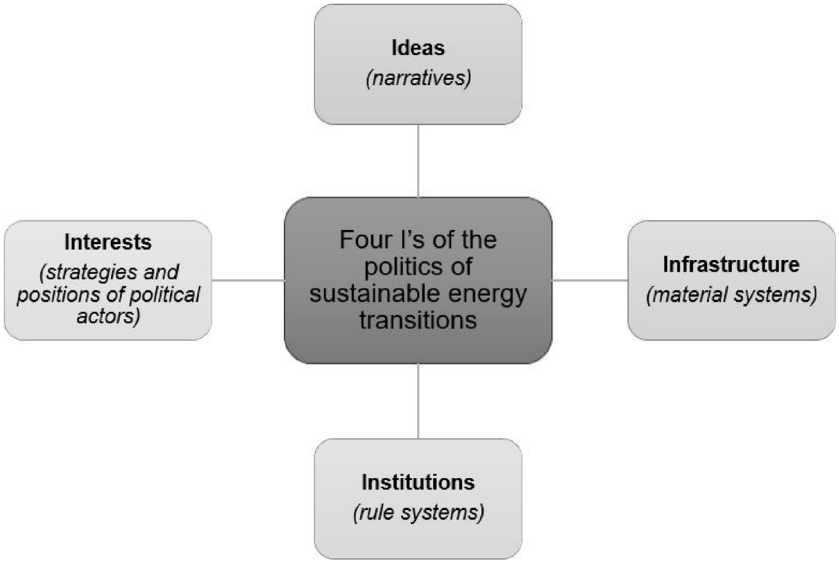

Fig. 1. The interacting political domains of sustainable energy transitions.
This figure depicts the four interacting domains that constitute the politics of sustainable energy transitions. Prominent ways these domains manifest are presented in parentheses, reflecting possible points of access for analysts to gain traction on the four I's.

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