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Spillover dynamics in energy controversies

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Motivation

Energy controversies have been widely studied. Such studies are, however, generally based on either single case studies, providing rich and in-depth understanding of (local) dynamics of planning processes, or they focus on understanding responses to a specific technology (not bounded to a location). These studies tend, therefore, to overlook a key dynamic in controversy, namely that publics respond to projects by drawing on earlier experiences.
Spillovers occur when actors' explicit reference to experiences with a similar technology elsewhere, or with earlier experiences with other technologies at the same location, determine the discursive space of the controversy, and thereby the dynamics of the controversy.
Spillovers are usually considered to be contextual factors and as such ignored as part of the policy debate
The objective of this paper is to conceptualize spillover as an important dynamic in controversies and to develop a research agenda.

Methods

The paper is based on a review of the literature from social science and humanities on energy controversies and on the analysis of three specific cases to understand the mechanisms of spillover.

Three types of spillover

We identify different types of spillovers in energy controversies.

- Spillovers may be spatial: a controversy in one place may spill over to another place. We refer to this type of spillover as *geographical spillover*.
- Spillovers may concern technologies: a controversy on one technology may spill over to another technology, as the example above on geothermal energy and fracking illustrates. We label this type of spillover as *technology spillover*.
- Spillover may also be temporal: it may arise from earlier controversies about other policy issues within a region. We label this type of spillover as *historical spillover*.

Geographical spillover in the Dutch shale gas debate
In 2009 the first plans were made for exploration of shale gas in the Netherlands, when the British oil company Cuadrilla requested exploration permits for two areas in the Netherlands. In 2011, Cuadrilla received the permit to start exploration in Boxtel, a small town in the south of the Netherlands. From that moment onwards, the controversy rapidly expanded. What started as a local debate on safety and risks of shale gas exploration, soon erupted to a fierce national debate on the role of shale gas in the energy transition. In these dynamics, spillover from controversies on shale gas in the US and the UK played an important role. References were made to the movie Gasland and to earthquakes in Blackpool, UK. The case is therefore an illustration of geographical spillover.

Technology spillover in the Swiss deep geothermal energy debate
The Swiss Energy Strategy 2050 supports the development of deep geothermal energy (DGE) production. This triggered debates in the national and local parliaments about whether authorising DGE in Switzerland would open the way to fracking for the exploitation of shale oil and gas. In the town of Haute-Sorne in the Canton of Jura in western Switzerland, residents have opposed a project by drawing on arguments against fracking for shale-gas. Opponents argue that DGE is just like fracking and that it will cause repeated induced earthquakes and groundwater pollution like in US regions that have experienced a shale boom, even suggesting that DGE projects might be a cover-up to develop shale gas exploitation.

Historical spillover in the Dutch Peat Colonies
In 2011 the formal planning procedures for two onshore wind farms in the north-east of the Netherlands were initiated. Both plans triggered fierce local opposition. In addition to common arguments against wind power like the impact of sound and shadow flicker and impact on landscape, opponents also drew from pre-existing sources of contention on the region's past. As renewable energy production has become more and more prominent, the north-east of the Netherlands has been faced with several initiatives for large-scale wind-farms. This has triggered an existing sentiment that renewable energy production is yet another way for the rest of the country to profit from the region's resources. Public debates and issues triggered by preceding energy (related) projects spilled over in this northern Dutch context and (negative) experiences from the past are being projected onto current or proposed projects.

Outlook for a research agenda

Compared to other notions such as "context" or "environment" that are used to describe the effects of site-specific features on energy controversies, the notion of spillover presents several advantages:

1. it emphasizes the agency (intentional or not) needed to "make" something become a context;
2. the notion of geographical spillover points to the possible discursive connections that shape the space of a controversy by linking remote locations;
3. historical spillovers highlight that the relevant past for a project is not limited recent events or other project related controversies.

Our conceptual and empirical explorations of spillover as an important dynamic in energy controversies raise several questions that seem worthwhile to explore. We will propose here four lines of research that support a more detailed understanding of the workings of spillovers in controversies. These lines of research relate to:

1. the empirical analysis of arenas, actors and strategies;
2. the influence of conventional and new forms of media;
3. meta-analysis of the dynamics of controversies, and
4. to normative questions about the political and democratic repercussions that come with spillovers.