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## Waste Management

journal homepage: [www.elsevier.com/locate/wasman](http://www.elsevier.com/locate/wasman)

## Discourse coalitions in Swiss waste management: gridlock or winds of change?

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### ARTICLE INFO

#### Article history:

Received 4 June 2017

Revised 31 October 2017

Accepted 2 November 2017

Available online xxx

#### Keywords:

Waste hierarchy

Plastic waste

Biogenic waste

Sustainability transitions

Advocacy coalition framework

Discourse network analysis

### ABSTRACT

As a complex socio-technical system, waste management is crucially important for the sustainable management of material and energy flows. Transition to better performing waste management systems requires not only determining what needs to be changed but also finding out how this change can be realized. Without understanding the political context, insights from decision support tools such as life cycle assessment (LCA) are likely to be lost in translation to decision and policy making. This study strives to provide a first insight into the political context and address the opportunities and barriers pertinent to initiating a change in Swiss waste management. For this purpose, the discourses around a major policy process are analysed to uncover the policy beliefs and preferences of actors. Discourse coalitions are delineated by referring to the Advocacy Coalition Framework (Sabatier, 1998) and using the Discourse Network Analysis (Leifeld and Haunss, 2012) method. The results display an incoherent regime (Fuenfschilling and Truffer, 2014) with divergent belief clusters on core issues in waste management. Yet, some actors holding different beliefs appear to have overlapping interests on secondary issues such as the treatment of biogenic waste or plastics. Although the current political context hinders a system-wide disruptive change, transitions can be initiated at local or regional scale by utilizing the shared interest across different discourse coalitions.

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### 1. Introduction

Waste management has key importance in sustainable use of energy and resources. Every waste product, regardless of having reached the end-of-life stage or not, comprises a bundle of material resources and often has a direct energy content. They also contain embodied energy denoting the sum of energy required to produce that product (also known as grey energy). Taking a life cycle perspective, waste management can well be seen as a management of material and energy flows within society. Scientists have long been concerned with optimizing these flows and designing more eco-efficient, less risky systems for ecosystem quality and human health (Hellweg et al., 2005; Kral et al., 2013). Some of the tools developed to account system flows (i.e. material, energy, financial flows) and assess systems performance are material flow analysis, life cycle assessment, environmental input-output analysis, multi-objective optimization tools, etc. (Morrissey and Browne, 2004; Pires et al., 2011).

Although tools such as life cycle assessment (LCA) which assesses the cradle-to-grave environmental impacts of goods or

services (Hellweg and Milà i Canals, 2014) can support decision making by indicating what option of waste treatment is environmentally friendliest, the translation of LCA results to policy design is contingent to interests and concerns of key stakeholders (Meylan et al., 2015). Furthermore, regulatory processes may often be needed to align environmental systems with orientations provided by these assessment tools. According to Hering (2012), political processes such as regulations are often needed to transform waste management systems from disposal to recycling and reuse oriented systems. This implies that waste management policies and future states of systems are, to a large extent, contingent on politics. Meadowcroft (2011) explains the importance of politics as follows; “so far sustainability researchers have focused largely on policy: what it is and what it could/should be. . . However, much less attention is devoted to political circumstances that make the adoption of such policies likely. But behind policy there is always politics, and getting politics right appears to be a prerequisite to getting policies right”. The political circumstances that Meadowcroft refers to are materialized by institutions, actors and their interests, policy beliefs and coalitions (Milner, 1997). Without taking into account the political context, environmental assessment tools may have a limited impact on decision and policy-making. This is especially so because making an impact on the real world

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requires not only identifying system configurations that deliver optimum solutions (e.g. eco-efficient) but also capabilities to steer the system towards these desired states. Therefore, if the ultimate goal is to realize more sustainable systems, then the current scientific foci and approaches should be broadened to facilitate transitions to such systems. Any such broadened scope requires as a starting point an analysis of politics influencing environmental systems.

Discourse analysis can offer a first insight into the political context by revealing actors' beliefs with respect to contested issues as well as arguments they put forward to strengthen their positions. According to Hajer (1995, p. 44), discourse is "a specific ensembles of ideas, concepts, and categorizations that are produced, reproduced, and transformed to give meaning to physical and social relations." Discourse is thus used as a means to construct reality and develop storylines that can serve as heuristics for further problem framing and decision making. In other words, a discourse is used not only to describe reality but also to change the reality by proposing alternative explanations (Jokinen et al. (1993) cited by Lilja (2009)). Considering their role in the formation of visions and creation of expectations (Berkhout, 2006), discourses stand out as an important aspect of agency (Fischer, 2003). Apart from understanding actors' positions and beliefs, discourse analysis can also reveal contestations and divergences among actor groups. Such tensions can in fact be used to leverage change in a system (Fuenfschilling and Truffer, 2014).

There have been only few studies that looked into the political discourse and policy change in waste management. Davoudi (2000) analysed the change of discourse and institutional arrangement in UK waste management and highlighted the political tensions over different waste treatment options: landfilling, incineration and recycling. Similarly Lilja (2009) analysed the change in discourses from waste prevention to material efficiency in the nine year-long policy process leading up to the new Finnish National Waste Plan. Skarp (2016) used critical discourse analysis (Fairclough, 2001) to assess the influence of neoliberalization in Swedish waste management and, based on her analysis, concluded that neoliberalism is the most important driver and could hinder a transition from thermal treatment (incineration) to material recovery. Silva et al. (2016) compared the emerging discourses of waste prevention and reduction and material cycles within the context of the on-going transition of waste management from end-of-pipe solutions to a circular economy. The authors analysed how the use of policy labels, keywords and frames can result in a different discourse paradigm (e.g. end of life solution or sustainable production and consumption) that eventually might influence the resulting policy initiatives, tools and outcomes. Demonstrating this by comparing the policy labels of zero waste and sustainable materials management, the authors conclude that the use of "waste" as a single term should be omitted in order to increase accessibility and salience of the discourse to actors outside waste treatment domain so that the transitions from linear to circular flows is facilitated.

### 1.1. Research objectives

These studies enable a better understanding of the debates in waste management and how different waste management paradigms such as waste to energy or waste hierarchy evolve and resonate among actors of a socio-technical system through the analysis of discourses. In this article, we attempt to contribute to this rather underdeveloped strand of literature by examining the discourse coalitions in Swiss waste management over major policy issues. Although the aforementioned studies provide contextual insights with respect to the major discourses, a rigorous analysis of key actors' policy beliefs, preferences and the emerging discourse coalitions are essential to acquire a deeper insight into

the political context. The number of coalitions, their size, composition and interaction with one another reveal not only the proponents and opponents of a policy initiative or paradigm but also indicate the likely policy outputs. For instance, two opposing and equally large discourse coalitions may indicate a stalemate unless there is a brokerage that draws both sides to an agreement whereas existence of one large dominant discourse coalition is likely to lead to a different output (Fischer, 2014). Furthermore inquiries on shared frames or concepts within and between coalitions or the presence of actors with moderate positions that can bridge different coalitions provide valuable insight on possibilities of reconciliation or consensus building. The main goal of this study is to provide an analysis of the political context with respect to key actors' policy beliefs and emerging discourse coalitions to elucidate the political opportunities and barriers for a transformation of Swiss waste management to more sustainable alternatives. Considering this as the ultimate goal, this study aims to

- (i) elicit the policy beliefs and preferences of actors on some of the contested issues in Swiss waste management and the arguments they use to defend their position,
- (ii) analyse the discourse networks and delineate coalitions based on shared set of policy beliefs among the actors,
- (iii) identify the actors bridging different discourse coalitions and thus can act as brokers or mediators.

Overall, the findings are expected to shed light into the discursive structure and coherency of Swiss waste management regime, which together yield critical insights for the prospects and likely trajectories of change.

The article consists of six sections. In the next section, the theoretical and analytical concepts that form the basis of the work are introduced. Section 3 presents a brief introduction of the case. Section 4 explains the methodology, how the data were collected and analysed. Results of the analysis and discussion are found in Sections 5 and 6, respectively.

## 2. Theoretical and analytical basis

In order to analyse the political context and its implications for change, we draw on the insights from sustainability transition research field and political sciences – the Advocacy Coalition Framework, in particular.

### 2.1. Sustainability transitions

Sustainability transitions is a research field that deals with bringing about change in socio-technical systems such as waste management (Markard et al., 2012). Being interdisciplinary, it deals with how to promote, influence and govern the transitions of socio-technical systems to more sustainable trajectories. Acknowledging that several factors<sup>1</sup> (e.g. factor 4, factor 10) of improvement (Schmidt-Bleek, 2008; von Weizsacker et al., 1998) is required to tackle the pressing issues faced today such as global warming, loss of biodiversity and resource depletion, the transitions researchers call for system innovation in sectors of provisions like water, energy, transport, waste management. System innovations or the notion of transitions refer to coordinated changes in technology, institutions, markets, user practices and norms to promote sustainable modes of production and consumption (Geels, 2004a). The rationale behind the idea of system innovations is that sectors such

<sup>1</sup> The concept of factors of improvement refers to the need of being more productive with less resources. For instance, factor 4 improvement means being twice as productive while using half the resources (energy and material).

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