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Illustrating the use of concepts from the discipline of policy studies in energy research: An explorative literature review



Thomas Hoppe a,*, Frans Coenenb, Maya van den Bergc

- ^a Policy, Organisation, Law & Gaming (POLG), Department of Multi-Actor Systems (MAS), Faculty of Technology, Policy & Management (TPM), Delft University of Technology, Jaffalaan 5, 2628 BX Delft, The Netherlands
- b Department of Governance and Technology for Sustainable Development (CSTM), Institute for Innovation and Governance Studies (IGS), Faculty of Behavioural, Management and Social Sciences (BMS), University of Twente, P.O. Box 217, Enschede 7500 AE, The Netherlands
- ^c Department of Public Administration (PA), Institute for Innovation and Governance Studies (IGS), Faculty of Behavioural, Management and Social Sciences (BMS), University of Twente, P.O. Box 217, Enschede 7500 AE, The Netherlands

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ABSTRACT

With the increasing challenges the energy sector faces, energy policy strategies and instruments are becoming ever more relevant. The discipline of policy studies might offer relevant concepts to enrich multidisciplinary energy research. The main research question of this article is: How can policy studies contribute to multidisciplinary energy research, and in how far does research on energy policy actually use the concepts of policy studies? The article presents key theoretical concepts from the discipline of policy studies and shows how they can be of use in multidisciplinary energy research. This is illustrated by presenting the results of a systematic review of academic literature on the use of policy studies concepts in academic literature on energy policy in The Netherlands. Results reveal the main theoretical concepts that were used as well as the identification of major research clusters. Results also show that many concepts from policy studies were actually integrated into eclectic theoretical frameworks.

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1. Introduction

Energy is essential to our society as it is one of the main drivers of human development [1]. All economic sectors require constant supplies of energy. People cannot and do not want to live without access to energy. Energy must be available at all times, it must be affordable, and it must be produced, distributed and consumed in sustainable, clean ways. Hence, the energy supply deserves constant attention and care from citizens, business, and government.

In a recent publication in *Nature* Benjamin Sovacool claimed that energy issues and energy research more than ever are in need of social sciences research [2]. First, a call was made for more research into social aspects related to energy consumption, and second, for more research into the demand side of energy markets. The two are badly needed, because energy issues, thus far, have been researched rather one-sidedly (technical and economic research emphasizing the supply side of energy markets). Moreover, it is typically this type of research that is published in the most prominent energy journals (e.g., *Energy, Applied Energy, Energy Policy*). Grand societal

energy issues (such as the transition to decentralized sustainable energy systems), however, call for research that also pays attention to the social and demand side related aspects of energy markets. Multi-disciplinary research into socio-technical, behavioural, institutional, governance and policy aspects of energy markets seems of imminent importance, especially because policy makers are in need of valid and reliable information that supports evidence-based decisions in policy-making on energy (transition) issues. Sovacool calls for more attention to the latter, which he mentions 'institutions and energy governance'; issues that request collective action into solving energy problems [3].

With the globally increasing demands for energy, and the recent Paris COP21 climate summit agreement, the policy aspects of energy are becoming ever more relevant. Where energy markets fail, and do not solve negative externalities, governments are expected to intervene and regulate the markets. All aspects having to do with energy consumption, energy distribution and energy production are to a large extent determined by government policy [4]. For instance, in some countries energy consumption is heavily taxed, energy distribution is only permitted to grid operators, and energy production and supply are subject to severe environmental policy requirements.

^{*} Corresponding author.

E-mail address: T.Hoppe@tudelft.nl (T. Hoppe).

Energy policy can be defined in different ways and energy policy varies by country. In the U.S. energy policy addresses the issues of energy production, distribution, and consumption. Energy policies are basically formulated to combat energy problems. The U.S. energy policy Act ensures that there is secure, affordable and reliable energy for the future. Energy policy may include measures and instruments like legislation, international treaties, subsidies, incentives, tax incentives and other policy instruments [5]. The European Union uses energy policy to make sure that three objectives are met: (i) to safeguard secure energy supplies to ensure reliable provision of energy; (ii) to ensure that energy providers operate in a competitive environment that ensures affordable prices for consumers; and (iii) to stimulate sustainable energy consumption, and to lower greenhouse gas emissions, pollution and fossil fuel dependence [6]. In The Netherlands energy policy is defined as "the entire set of policy measures and instruments to assure reliable, affordable and clean supply of energy carriers, on the short run and the long run, to spur sustainable, economic development of economies on both the macro, meso and micro level" ([4]: 17). Some of the objectives of energy policy in the three examples mentioned appear value driven and may be contested. In sum, energy policy concerns the set of policy instruments that are used to ensure reliable, affordable, clean energy provision, and spur economic development. Given the importance energy policy has for the functioning of economies and society, it might be expected that energy policy would attract considerable academic attention. For academic journals such as Energy Policy this is most certainly true. However, one might wonder whether this also applies to social science disciplines studying the very government interventions in the energy domain.

It is here that we argue that the academic discipline of policy studies has much to offer to energy studies. Given recent academic attention to issues like energy transition, renewable energy and low carbon strategies, scholars of policy studies would potentially have lots to study, analysing (different forms of) energy policies and their implications for energy markets, and providing advice to policy-makers on how to (re-) design energy policies. In such studies, they can make use of the abundant theories of the policy process¹ addressing issues such as agenda-setting, policy implementation, and capacity building. We argue that this would enrich interdisciplinary energy research. We feel that policy studies can add something new providing advice to policy makers on designing energy policies and analysis of the impact and effects of energy policies that have been implemented. In a preliminary exploration we noticed that although a journal like Energy Policy indeed includes articles addressing studies in which the authors used concepts related to theories of the policy process (e.g. [7–12]). Inspection of the journal's published articles however suggests that the majority of articles published are economic in nature, using quantitative models to establish the impacts of energy policies (both ex ante and ex post), with little room for the use and elaboration of theories of the policy process and theories of governance.²

This article originates from a debate in an academic energy policy research network, in which the authors participate. During the debate the question was raised what theoretical concepts of the policy studies' discipline can contribute to multidisciplinary energy research. In addition the idea was launched to conduct a systematic literature study to explore the ways in which policy studies'

In the following section we address the potential of policy studies for multidisciplinary energy research and argue which policy studies concepts might be useful to energy research (Section 2). In Section 3 research methods are addressed. In Section 4 the results of an exploratory literature review to illustrate the use of concepts from policy studies in energy research are addressed. In Section 5 these results are discussed. We conclude the paper in Section 6, where we also suggest how to further the (international) academic research agenda on the use of policy studies research in the energy domain.

2. Introduction to policy studies

In order to explore the potential of policy studies for the multidisciplinary study of energy we first introduce policy studies as an academic field. Sovacool's claim that social science related disciplines, methods, concepts, and topics remain underutilized and perhaps underappreciated in contemporary energy studies research [3] might also apply to the discipline of policy studies. We think that energy, and in particular energy markets (as heavily regulated sectors full with policy incentives), form a domain to which concepts from policy studies can be applied with a good fit. The discipline is an untapped source for energy research. In this section the basic principles of the policy studies discipline are presented together with a set of disciplinary concepts and research questions that could be of great relevance when applied to the energy domain. Although policy studies covers a few sub-disciplines it goes beyond the scope of this study to address them in length.⁴

2.1. The academic discipline of policy studies

Policy studies is an independent academic field of study with academic journals and conferences of its own. It addresses the content, processes and effects of government policy in its political and societal environment [13]. The basis of a need for policy studies goes back many centuries. It concerns the need policy makers have to be provided with valid and reliable (evidence-based) knowledge on how to design policy and how to decide when one has to choose between policy alternatives. However, it is only since World War II that systematic academic interest into a discipline of policy studies has manifested [13], and a book on 'policy sciences' [14] was published. The latter called for systematic research into the policy phenomenon, and professionalization and institutionalization of policy sciences. In the 1950s and 1960s the academic discipline evolved (e.g., following the work of Dahl, Laswell and Lindblom). During this period it was given different names; e.g., 'policy science', 'policy research' and 'policy analysis'. By the 1970s three perspectives co-existed: policy analysis (cf. making the best decision when choosing between policy alternatives); mega/master policy (cf. creating the 'right' conditions and guidelines that policy designs should meet); and meta policy (cf. policy on how to design (sectoral) policy; e.g., basic policy requirements that a

concepts are actually used in the energy literature. In taking up the idea the main research question of this article is: *How can policy studies contribute to multidisciplinary energy studies' research, and in how far does research on energy policy actually use the concepts of policy studies?*

¹ Here we refer to a broad set of theories relevant to understanding the policy process. Weible and Sabatier (Eds.) (2014) provide an overview of key theories of the policy process. However, this is far from complete. Hill and Hupe [22] for instance, show that studies of policy implementation alone already contain an abundance of theories.

² See also Section 3.3 of this article for more evidence on this phenomenon.

 $^{^{3}}$ The research colloquium on "Energy and climate governance" of The Netherlands Institute of Government Studies.

⁴ Sub-disciplines within policy studies relate to: policy making and policy process oriented studies (explaining policy change or termination), implementation studies (addressing implementation and effectiveness of policy), governance studies (addressing the wider governance context in which policies are formulated and implemented). Additionally the field is divided between constructivist researchers that focus on meanings of policy phenomena on the one hand and researchers focusing on quantitative oriented explanatory studies on the other hand (e.g., explaining policy output or – outcome).

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