



Institutional change in European natural gas markets and implications for energy security: Lessons from the German case



Kirsten Westphal*

Stiftung Wissenschaft und Politik (German Institute for International and Security Affairs—SWP), Ludwigkirchplatz 3-4, Berlin, Germany

HIGHLIGHTS

- EU natural gas market regulation primarily aims to establish competitive markets.
- German/EU regulatory approach has externalities for supply security.
- Institutional changes and breaks with path dependencies take place in Germany/the EU.
- Institutional change results in increasing uncertainty and complexity.
- Subsequent change in perceptions and expectations may destabilise trade relations.

ARTICLE INFO

Article history:

Received 11 June 2014
Received in revised form
24 August 2014
Accepted 26 August 2014
Available online 3 October 2014

Keywords:

Institutions
Germany
Russia
EU
Natural gas
European natural gas market

ABSTRACT

This article focuses on institutional change in the German gas market driven by EU internal market and climate policies. It argues that institutional change has functional externalities for energy security. The German gas market provides a useful case study, as Germany is the biggest continental gas market, a major hub and transport country which has largely privatised, unbundled and separated its natural gas undertakings. Transition is ongoing, tending towards an internal market. Inter/national natural gas economics is in flux. Institutional evolution has repercussions for corporate and market structures, the operating of the system and the realization of transactions. Changes in the institutional framework crucially affect energy security, which is often associated with institutional stability. On the basis of this case study, it is argued herein that the security of natural gas supplies should be reexamined in the context of the developments described above, since overall the institutional changes in natural gas security lag behind the EU's internal natural gas market development.

© 2014 Elsevier Ltd. All rights reserved.

1. Introduction

This article examines the role of institutions with regard to energy security in the German natural gas market. As an EU Member State, Germany's energy policy has been informed by the strategic triangle of energy policy: economic efficiency; sustainability; and energy security. The first two have driven the energy policies in the past years. Achieving a fully integrated and competitive internal energy market has been Brussels' major impetus. Climate protection has been high on the agenda in Berlin and Brussels, too. Russian–Ukrainian gas disputes have influenced EU energy security policies. The hierarchy of and the political preferences attached to the respective angles have changed over time, likewise the corresponding definitions. The understanding of sustainability has oscillated

from environmental stewardship and climate protection to mitigation and adaptation. Economic competitiveness ranges from efficiency, affordability to (industrial) competitiveness.

The article explores the profound restructuring of the German gas market and its governance, driven and shaped by EU internal market reforms, climate policies and their respective implementation in Germany. The research question is: How have Germany's gas market reforms affected energy security?

This contribution takes an evolutionary approach to the EU's gas market reforms of 1998, 2003 and 2009; these have transformed the institutional setting, organizational structures and underlying transaction to realize natural gas supplies, but path dependence matters, too. Institutions have an order-creating function and can enhance stability, trust and solidarity (see also Aalto, 2014). These elements are essential for energy security, which is indispensable to (national) economies' performance and social welfare, and, as such, is widely viewed as a public good. Government failure, or rather governance failures, stem from the challenge of achieving and

* Corresponding author. Tel.: +49 30 880070.

E-mail address: kirsten.westphal@swp-berlin.org

balancing the triad of objectives of sustainability, economic competitiveness and energy security. The first hypothesis proposes that the ongoing transition, both on the national as well as the all-European/EU level has implications for the system's resilience, its sensitivity or even vulnerability with regard to supply shocks. The second hypothesis is that the changing internal institutional structure has also affected relations with external suppliers. This has critical externalities for supply security, which, in turn, is linked to institutional stability.

2. Methods and material

2.1. Scope of analysis

This article scrutinizes the effect of formal institutional change in German natural gas markets and more precisely the implementation of the Internal Market reforms (Directive 98/30/EC, Directive 2003/55/EC; Directive 2009/73/EC, 2009) on the organization and functioning of transactions vis-à-vis energy security, focusing on two dimensions of energy security: system resilience and trade relations with Russia.

The article takes a snapshot of the setting pre-2009 and thereafter until spring 2014. The year 2009 was a watershed for an 'unbundled' gas system in Germany, which recorded the most severe supply crisis in February, during the Russian–Ukrainian gas dispute. Spring 2014 is the endpoint of the analysis because the annexation of the Crimea and the situation in Ukraine may profoundly change the energy relationship between the EU and Russia (for political reasons). Therefore, the article does not provide a history of bi-directional interaction between German gas industry and EU gas market policies developments (see on these issues Grätz, 2011, Duffield and Westphal, 2011). Considering institutional change, the contribution describes major path-dependencies and structural ruptures shaping the post-reform gas industry, while conceding that the functioning of German gas markets with its high import share of 88 per cent is influenced by rapidly changing international gas markets and geopolitical events. However, these factors are beyond the scope of the in-depth analysis. Regarding external energy relations, this contribution concentrates on energy trade relations with Russia. Of course, the management of an energy relationship extends beyond mere trade, but external energy governance is analysed elsewhere (see Ratner et al., 2013; Dreyer and Stang, 2013 and 2014; Glachant et al., 2012; Aalto, 2007; Correljé and van der Linde, 2006).

2.2. Methods and concepts

The article builds upon the methodological framework introduced by Aalto (2014). Institutions shape the market order, determine the functioning of markets and can mitigate the ecological and climatic consequences of energy use (ibid.). The major focus of the present analysis is on how formal regulations and rules shape the gas industry organization e.g. state and regulatory institutions and companies. Change in formal institutions affects the rules, norms and practices by which interactions and coordination among actors is realised. Such informal institutions are both problem-solving and enabling, and facilitate transactions. They create stability and (mutual) trust. Ideally, institutions reduce transaction costs, mitigate information costs and reduce monitoring and enforcement costs. Transaction costs arise "when a good or service is transferred across a technologically separable interface" (Williamson, 1981, p. 552). The question is whether alternative governance structures e.g. hierarchical organization within a firm or market-based transactions are more efficient "in planning, adapting and monitoring task

completion" (Williamson, 1981, p. 553; Coase, 1937) and in coping with complexity and uncertainty.

In the past, vertical integration of public utilities has been deemed the optimal way to organize energy supply, grid-bound transport (a natural monopoly) and distribution (Haase, 2009). The Internal Market reforms – the Directive 1998 (Directive 98/30/EC), the Internal Market Package 2003 (Directive 2003/55/EC) and 2009 (2009/73/EC)* – are intended to create a new order and establish a liberalized, competitive, well-functioning and integrated EU gas market. With the Third Package regulation has been reinforced by ownership unbundling as the preferred model, antitrust enforcement, the abolition of destination clauses in long-term contracts, access tariffs and network codes and favours short-term dealings (see also: Talus, 2014). With the Lisbon Treaty (Art. 194) energy security (and in particular supply security) became a field of shared competencies, necessitating coordination among the Union and its Member States (Andoura et al., 2010; Braun, 2011; Andoura, 2013). The shift from state-regulation and monopoly power to markets and contracts is profound (see Talus, 2014) and changes the underlying organizational structures in the gas market industry. Transactions now have to be realized between separated and independent companies due to unbundling. This changes the mode and logics of transactions, their scope, frequency and time-frame. According to Williamson (1981) and North (1988, 1992) institutional change is most critical and transaction costs deserve attention if competition is rising and transparency is diminishing. Therefore, the article highlights the repercussions and implications of institutional change for the organization of transactions, the operation of the system and the functioning of the market.

The functional reference point in this analysis is energy security. Historically, the securing of energy supply and energy services has presupposed political action. Supply security is thus a key function of energy policy (Fischer, 2011, p. 31). Formal regulations and rules may have both intended and unintended consequences given the function assigned to them. Institutional change affects the very nature of organizations and the respective transactions, with repercussions for the institutional stability associated with predictability in the markets and thus, energy security.

Energy security is commonly defined as the uninterrupted availability of energy sources at affordable prices while respecting environmental concerns. Supply security exists when customers can meet their energy demand without interruptions and at appropriate prices, today and in the future (CONSENTEC/EWI/IAEW, 2008, p. 2). Energy must be supplied reliably and economically efficiently in the form, at the time and at the place it is needed (Clingendael Energy Programme (CIEP), 2004). Energy security is not limited to import dependency; security risks must be assessed throughout the natural gas supply chain (see also Buttermann and Freund, 2010; Yergin, 2006, p. 76). The domestic dimension of energy security, for its part, relates to resilience, that is, the sensitivity, robustness and vulnerability of a system to external shocks and crisis. In the EU, security of supplies (see European Commission 2006, 2011, 2013) has been closely linked to functioning internal markets (Council Directive 2004/67/EC, 2004.). The regulation concerning measures to safeguard security of gas supply ((EU) no. 994/2010) was developed after the experiences of the Russian–Ukrainian gas dispute in 2009, thereby creating for the first time, a binding, EU-wide standard for supply security.

From the viewpoint of energy exporting countries security of supply is also a function of security of demand, which can be understood as transparent, well-informed and predictable consumer and marketing policies (Dicke, 2009; Qabazard, 2013). The EU integrated climate and energy targets, the 20–20–20 package as well as the German energy transition (*Energiewende*) are relevant in this respect. Emissions from natural gas consumption are significantly lower than those from other fossil fuels. Natural

Download English Version:

<https://daneshyari.com/en/article/7401280>

Download Persian Version:

<https://daneshyari.com/article/7401280>

[Daneshyari.com](https://daneshyari.com)