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European Energy Security: Natural Gas and the Integration Process*

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Abstract

This article explores energy security and integration within the European Union (EU) in the case of natural gas. It theorizes the underlying institutional dynamics of integration by drawing upon the English School as to how more deep-seated informal institutions condition policy-making by EU institutions and Member States as well as the operations of transnational actors such as energy companies. The informal institution of sovereignty constrains the push of the market institution towards a convergent type of integration. Together with the bilateral energy diplomacy and great power management institutions, sovereignty also limits integration in the external gas trade. Internal integration overall remains dependent on the wider European context as is also seen in the functioning of the environmental stewardship institution. The ambiguities among actors occasioned by the implementation of the Third Energy Package suggest a further integration need, but that is constrained by several further driving forces.

Introduction

In May 2010, Jerzy Buzek, the (then) President of the European Parliament, and Jacques Delors, former President of the European Commission, called for the creation of a European Energy Community for a common energy policy to become the next chapter in the European integration process (President of the European Parliament, 2010). This call shows a rekindled interest in energy issues in European integration. The Lisbon Treaty of 2008 foresees shared competences in energy policy between the European Commission and the EU Member States (Braun, 2011). The European Council (2011) has made a fully functioning internal energy market an objective to be operational by 2014, while a more co-ordinated approach is sought in external energy relations. Briefly, significant institutional changes are under way.

Much research proclaiming the renewed salience of energy for European integration is predominantly empirical without more detailed conceptualization. The few theoretically more informed efforts deploy, for example, liberal intergovernmentalism and historical institutionalism to account for the European Commission's gradual seizure of more competences in energy issues (Meyer, 2008). Studies in energy law highlight how the Member States have concomitantly retained power over the origin and form of energy

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resources (Haghighi, 2008). Neofunctionalism has helped to explain the 'Energy Community' policy initiative linking the EU with the Western Balkans and parts of the eastern neighbourhood through energy, to create potential for spillover to further areas (Renner, 2009). The Copenhagen School of security studies has been used to examine the interlinkages of the geopolitical, economic and normative dimensions of European energy security (Belyi, 2003), and to explain why the Russian–Ukrainian gas conflicts of the mid-2000s only served to strengthen Member States' preferences for sovereignty rather than more integration (Natorski and Surrallés, 2008). Subsequently it has been suggested that EU–Russia conflicts may in fact bring EU Member States closer together, while new pipeline projects linking them with Russia may intensify the security logic in the EU–Russia relationship (Kirchner and Berk, 2010).

These studies have revealed the tensions among the EU institutions and Member States and the institutionalization of the Union's energy relations with its neighbours. However, here we suggest that by systematically theorizing the underlying institutional dynamics which on a deeper level shapes and conditions these processes we can form a more comprehensive understanding of European energy security and integration. Our interest in energy security will focus on the case of natural gas, which provides the most rigorous test of integration in this sphere.

Natural gas relies heavily on large-scale infrastructure across several EU Member States and beyond. A fifth of the indigenous natural gas production in the EU is traded by pipelines to other Member States (Cameron, 2007, pp. 21–2). Pipeline supplies from Russia, Norway and Algeria supply almost half of the Union's gas consumption. Several new cross-border pipeline projects lock the Union further with its neighbouring suppliers as pipelines over 3,000 kilometres are not cost-effective. Building new liquefied natural gas (LNG) terminals takes years and will not free the Union from pipelines, as many of these projects are intended to feed into the emerging European markets. Natural gas also represents a transition fuel for the EU on its way towards renewable energy sources, which is likely to continue beyond the 2030s (European Commission, 2011b; IEA, 2012b). Simultaneously, gas is complementary to renewable energy owing to its flexibility and capacity to run base-loads (Natural Gas Europe, 2013). Moreover, EU Member States often regard renewable sources of energy as stimuli to the domestic security of supplies even though corresponding policy targets are set at the EU level (see, for example, European Council, 2013, p. 4). The oil market, by contrast, is essentially global and European integration consequently less salient. The use of coal is set to decline due to climate concerns in the continued absence of commercial clean coal technologies. Nuclear energy policy on a European scale is weak.

To scrutinize European energy security and integration regarding natural gas, we ask: (1) what type of integration does the EU promote regarding natural gas to enhance Union-level energy security? (2) Which institutional dynamics explain the state of integration in this case? (3) To what extent do these dynamics permit policy-making furthering integration in this sphere? To answer these questions we proceed from the English School of international relations (IR). Why? First, although originally developed to theorize the international system and 'society' among states, the School has recently been applied to the study of 'regional international societies' in Europe and the EU, including sub-regions like Scandinavia, northern Europe and the Balkans. The Middle Eastern and Northeast Asian regions have likewise been examined (for a review, see Stivachtis, 2013, pp. 44–6; Diez and

Whitman, 2002; Diez *et al*., 2011). Second, the School has also explored policy-relevant research (Haukkala, 2013) and energy security (Aalto and Korkmaz Temel, 2012; Khrushcheva, 2011). Third, to further develop this research stream we rely on Buzan's (2004) structural revision of the School, in particular his idea of how regional international societies like the EU are nested on more deep-seated sets of institutions. This idea of nested institutions is also shared within wider literature on institutions. The resulting 'deep institutional dynamics' links formal institutions like the EU to the underlying institutions, including the institutions of political economy which the English School previously failed to consider (Buzan, 2004, pp. 16–20, 228). Fourth, Buzan's revision of the School lets us include non-state actors in the EU regional international society, which is crucial to properly acknowledge the role of energy companies in energy security. Fifth, this approach enables us to discuss the prospects for further integration via the concept of driving forces. Finally, although our choice of theory stresses structural phenomena like international society and institutions, it is actors who enact and mould these structures throughout integration. States remain equally distinctive as Buzan (2004, p. 91) maintains, but in the case of natural gas they must work with companies and other actors.

At this point two potential concerns regarding the transitivity of our chosen theories should be addressed. First, are we stretching the English School theorization of international society and its institutions to an excessively specific sphere? Here we suggest that energy security is not a narrow or sectoral policy domain as it extends from natural resources and transport to the functioning of markets, and further to institutional regulation and co-ordination, diplomacy and indeed to the associated environmental consequences (Aalto *et al*., forthcoming). Energy security is a genuinely cross-sectoral issue concerning European integration as a whole, thereby warranting the overall perspective offered by the English School. Moreover, the English School helps us to contextualize EU energy security in the wider European society of states on which it crucially depends regarding natural gas in particular, as we show in the next section. Second, will we disregard the role of middle-range policy-making in EU institutions by using English School theory which originally examined higher levels of aggregation? Drawing upon the ideas of the nested nature of institutions and the deep institutional dynamics, we extend our discussion from the wide international English School perspective to the policy-making level and regulation which in Buzan's framework is merely implicit. However, focusing on EU-level policy-making alone would be too limited as the Union, with its competence problems, can only to a certain extent manipulate the wide range of variables affecting European energy security.

In the first section of this article we discuss the type of integration the EU promotes regarding natural gas to enhance energy security. Then we address the institutional dynamics explaining the type of integration in this sphere, ranging from underlying institutions to policy-making. Following that we consider further driving forces of integration, and in the final section compare our findings to those of earlier studies and discuss future possibilities.

I. Integration in the Case of Natural Gas

To assess the type of integration in the sphere of natural gas we first need to ascertain the Union's objectives in this sphere. In other words, which conception of 'energy security'

drives the Union's integration aims in this context? Energy security is a complex term. Therefore rather than a general definition, it is more productive to determine the context in which the term occurs (see Ciută, 2010, p. 126). This is because energy security is used in different ways by different actors, is cross-sectoral in nature and embodies thinking in several expert communities (see Löschel *et al*., 2010, p. 1607).

The relevant context here – the EU's conception of energy security – reveals a 'new' energy security agenda, combining the old concerns of security of supplies (amount, time, location) and price with new, wider environmental and social concerns (see Bilgin, 2011, p. 1083). The core principles of the Union's energy security conception have been reported elsewhere and occur in numerous EU policy documents since the 1990s – *security of supplies*, *markets and competition* and *sustainability* (for example, Commission, 2006). Since the Commission introduced the Third Energy Package of legislative proposals in 2007, additional concerns include *efficiency*, the *socio-economic dimension* of energy and new types of energy *infrastructure* (see, for example, Commission, 2007a, b). The new concerns partly reflect the Union's economic and financial difficulties and embody the mounting pressures to justify integration to citizens and businesses. At the same time these new concerns overlap with the established principles, and do not display similar conceptual independence and enjoy as clear institutional ownership by EU bodies. For example, more efficient use of energy will reduce concerns regarding the security of supplies, may influence the market by bringing down costs, thereby affecting the social dimension and consumers' expenses, and may alleviate sustainability concerns, while it may also imply new infrastructural requirements for networks.

The Commission continues to debate with the Council and the individual Member States the exact regulation transforming the principles into policy practice. Before discussing this further in the next section, we draw attention to how, in English School terms, especially the established principles of necessity link EU integration with the wider European society of states in the Union's neighbourhood. The Union aims to create a 'common regulatory space around Europe' which would 'develop common trade, transit and environmental rules, market harmonization and integration' (Commission, 2006, p. 16). Hence the Union attempts to enhance its energy security by institutionalizing its principles beyond its borders. Such an aim raises questions as to how the Union's principles conform to the underlying institutional structure in the wider Europe. We next discuss this generally in order to properly understand the type of integration pursued.

The Union's principle of secure energy supplies refers to the capacity to meet energy demand. Over 60 per cent of natural gas in the EU is imported, while gas accounts for a fourth of the EU energy mix (see European Commission, 2012, pp. 18–20). The EU is faced with dwindling indigenous natural gas production. The most obvious substitutes are coal and renewable energy. While the long-term outlook for coal is bleak due to sustainability concerns, the share of renewable energy is estimated to reach 20 per cent by 2020 and 55–97 per cent by 2050, depending on the scenario (European Commission, 2011b, p. 7). This means continued dependence on imports of natural gas to secure *supplies*. However, after a decade of talks in the Union's energy dialogue with Russia – which supplies a third of the EU's gas imports – the road map until 2050 acknowledges Russia's interest in security of *demand* – that is, a market buying its expensively extracted,

produced and transported commodity (European Commission, DG Energy and Transport, 2013b, pp. 10–16). Here EU institutions endeavour to reconcile the Union's principles with the different institutional logic of wider Europe.

The principle of markets and competition means the extension of the EU's single market rules to gas trading. Market opening aims to develop an intra-Community gas trade expected to increase efficiency and reduce costs due to economies of scale while the associated gas-to-gas competition is expected to exert pressure on gas suppliers (Commission, 2000, p. 5). Overall, competitive energy markets and prices are expected to benefit consumers and promote the global competitiveness of the EU economy (European Commission, 2013a, p. 10). The Commission has introduced a series of regulatory measures since the 1990s, intensifying that work since 2000, the outcome being the Third Energy Package. It has, moreover, strategically applied competition law. Although the resulting more competitive market structure affects both EU actors and third parties, it will not suffice to ensure competition (see Talus, 2012, pp. 229–37; Westphal, 2012). This is because its implementation is constrained by institutional tensions within the EU and by wider institutional and market dynamics, as will be shown in the next section. The markets and competition principle remain a limited energy security measure as long as supplies increasingly turn to imports in a situation where several Member States are connected neither with EU-level gas networks, nor with alternative external suppliers.

Sustainable energy supplies refer to the minimization of the environmental and climatic consequences of energy extraction, production, transport and end use. The use of natural gas roughly halves the climatic consequences compared to other fossil fuels, until carbon capture and storage technologies become more widespread. This is unlikely before 2030–50. Moreover, although the EU is the third largest emitter of greenhouse gases globally, its aim to significantly reduce global CO_2 emissions to the atmosphere and thereby provide environmentally safer energy becomes realistic only in co-operation with other major emitters such as Russia.

In short, a proper discussion of European energy security regarding natural gas needs to extend from the EU's own principles to its relations with key external suppliers, most of whom are located in the neighbourhood, while transit states raise further questions not addressed here (see Balmaceda, 2012). This means that we consider two contexts of integration with their respective institutional dynamics. The English School calls such formations 'international societies'. For Bull and Watson (1984, p. 1), 'international society' comprises 'a group of states that have established common rules and institutions for the conduct of their mutual relations with a firm interest in maintaining these arrangements'. In the case of natural gas, we can refer to 'energy security society'. At its core we find not only a group of states, but also transnational actors: energy companies in charge of actual energy projects and the international financial institutions (IFIs) funding them. As each follows its own bureaucratically adopted principles and enjoys legal status, we treat them as *formal institutions* (cf. Buzan, 2004, pp. 167, 187). We hence contend that energy security society is about *interaction among multiple formal institutions managing the supply and demand situation in the energy markets, taking account of sustainability, with a firm interest in perpetuating these arrangements*.

Regarding our first research question on the type of integration the EU promotes for natural gas, our two integration contexts can now be called 'wider European energy security society' and 'EU energy security society'. As English School applications to

European integration commonly suggest (Diez and Whitman, 2002, p. 60), the EU-based and wider European societies display different types of integration. Applying for our purposes Buzan's typology of international societies, the wider neighbouring society remains predominantly pluralist, based on survival and self-interest (see Buzan, 2004, p. 152). It features a *coexistent energy security society* where, with regard to formal institutions, states retain a leading role. Energy companies and IFIs are constrained by how states on a case-by-case basis trade in energy without multilaterally agreed principles. Using energy resources for political leverage is possible, as witnessed in the 31 such instances involving Russia during the period 2000–10 (Orttung and Øverland, 2011, p. 77). The consolidation of the EU's energy security concept since the 1990s has moved it in a more solidarist direction based on joint principles. The first version of a more discernible EU energy security society was a *co-operative energy security society*. Member States committed to the three main principles of EU energy security initiated by the Commission with the involvement of energy companies and transnational actors. Yet Member States continued to implement national energy policies and pursue bilateral deals in external energy relations. The internal market provisions in the Third Energy Package represent an ambitious attempt at more integration that can be termed *converging energy security society*. The Commission calls on Member States to commit to the liberalization of energy markets and initiates infringement procedures (Commission, 2007a). In the related energy action plan it advocates increased co-ordination in security of supplies and external energy relations and reiterates a commitment to combating climate change (Commission, 2007b). However, as will be indicated below, the EU institutions and Member States lack a common idea on how to implement these internal and external policy objectives.

The three integration types mentioned are analytically separable. Each type of society will be held together by a different set of what we will call 'informal institutions'. We next address our second research question by discussing how informal institutions explain integration and policy-making in gas markets in the context of EU energy security society that we have found to be strongly embedded into the wider European society.

II. Informal Institutions and the Dynamics of Integration

The formal institutions and their preferred principles discussed so far are underpinned by more deep-seated practices informing and conditioning their action and interaction. The English School calls these 'primary institutions', which are 'durable and recognized practices rooted in values held commonly by the members [. . .] embodying a mix of norms, rules and principles' (Buzan, 2004, p. 181). They represent informal practices shared by the states and transnational actors in society, having 'a constitutive role in relation to both the pieces/players and the rules of the game' (Buzan, 2004, p. 181).

In other research on institutions, these practices are called 'informal institutions' (cf. Nilsson *et al*., 2011, pp. 1118–19). Institutional economics, for example, suggests that the restrictive nature of these informal institutions makes formal institutions resilient, which, however, allows for incremental institutional change (North, 1990, pp. 5–6). Informal institutions are hard to measure, but form a 'deep structure' that helps to explain the continuing policy deviations among EU Member States formally committed to the same Third Energy Package (cf. Van der Meulen, 2009, pp. 835, 840–3). In other words, informal

institutions underwrite the principles of gas trade espoused by EU institutions and those of their trading partners. Via the mediation of formal institutions, informal institutions set the range for actual policy-making which takes the form of communications; directives, decisions and other regulation; and strategic application of legal instruments.

We hypothesize that the ways in which actors – or in this case, formal institutions – subscribe to different sets of informal institutions explain the integration type prevailing among them and conditions the range of their actual policy-making. We will discuss energy diplomacy, sovereignty, great power management, the market and environmental stewardship as being the most significant informal institutions for energy security. We first describe each informal institution and its relationship with integration types (coexistent, co-operative or convergent), and then illustrate how it conditions formal institutions and policy-making.

Energy Diplomacy

Energy diplomacy is about how policy-makers conduct relations with other countries and energy companies either bilaterally or multilaterally, including negotiations in international organizations, seeking to promote the interests of energy companies they host or attempting to balance them with political interests. Historically, bilateralism has helped to create many of the ties and infrastructures linking EU Member States to energy suppliers. While the internal gas market project was initiated multilaterally, in the external gas trade the preference of several Member States and also some energy companies for bilateral gas supply deals currently impedes efforts to move beyond the co-operative type of EU society.

In terms of formal institutions, bilateralism highlights the role of EU Member States. For many of them, bilateralism is a historically developed practice of realizing security of supplies. For example, German–Russian energy diplomacy led by Chancellor Schröder and President Putin facilitated the initiation of the Nord Stream natural gas pipeline project through the Baltic Sea, which for the first time enabled direct supplies from Russia to Germany, reducing transit risks in Belarus and Ukraine that since 2006 had become tangible. In a swap deal, the German companies involved, E.On Ruhrgas and BASF Wintershall, ensured access to fields in western Siberia to have goods to sell to their customers; and in return E.On Ruhrgas allowed Gazprom to invest in its three Hungarian sister companies and BASF Wintershall in its domestic long-distance pipeline operator Wingas. Ultimately, however, the pipeline's finance and construction required multilateralism, as is frequently the case with complex and extensive energy projects crossing several borders and serving multiple markets. Hence the French GDF Suez and Dutch Gasunie entered the project, alongside numerous sub-contractors and IFIs. Due to the apprehensions the project caused among the historical beneficiaries of Russian energy transit (especially Belarus, the Baltic States and Poland), it never became an EU project.

Regarding policy-making, the resilience of bilateralism seriously constrains EU-level external energy relations. In its 2011 communication on external energy relations, the Commission urged Member States to speak with one voice in external energy relations, to exchange information on their agreements and negotiate EU-level agreements with third parties (European Commission, 2011a). In its response, the Council welcomed enhanced co-ordination but only recommended EU-level negotiation on a 'case-by-case

basis', respecting Member States' own energy dialogues with third parties (Council of the European Union, 2011). By 2013 the European Council agreed to review how to ensure a 'level playing-field vis-à-vis third country energy producers as well as nuclear safety in the EU neighbourhood' (European Council, 2013, p. 4).

Sovereignty

Natural gas resources are often regarded as essentially sovereign owing to their unique nature and territorially delimited deposits. In the Lisbon Treaty, the Member States supported this view by leaving the energy mix, sources and origin under national sovereignty. But they committed to the materialization of the internal energy market; and in related documents agreed on co-ordination in external energy relations and on the 20-20-20 targets of a 20 per cent share of renewables, 20 per cent increase in energy efficiency and 20 per cent lower greenhouse gas emissions by 2020 (for example, Council of the European Union, 2011; European Council, 2011). This mixed picture reflects the problems in translating the shared competence in energy into practice. On a more conceptual level, we find Westphalian sovereignty predominant in coexistent and co-operative societies, as expressed in the co-operation in external energy relations. In the convergence type, sovereignty is pooled, as it is, for example, in the intended regulation of the internal market (cf. Diez *et al*., 2011, pp. 126–7).

Sovereignty prioritizes Member States as formal institutions, underlining their reluctance to cede more powers to the EU. As was declared by German Minister of the Economy Philipp Roesler in August 2013: 'We don't want any meddling in energy policy' (Reuters, 2013). *Vis-à-vis* external gas trading, the implementation of the Third Energy Package accentuated the diversification of import sources without limiting Member States' choices. Although the number of gas suppliers increased from 14 to 23 during the period 2000–12 (European Commission, 2012, p. 5), EU-level policy mostly concentrates on promoting interconnections via improving transit infrastructure and third party access.

Westphalian sovereignty limits policy-making by conditioning what Member States make available for the internal market and how they allow external policies to be steered. In its May 2013 Conclusions the European Council instructed: 'develop indigenous energy resources' building on the experience in some Member States that have 'heavily invested in renewable energy technologies', while 'respecting Member States' choices of energy mix' (European Council, 2013, p. 4). This sovereignty imperative echoes the Council's 2011 insistence that 'the implementation of the external dimension of the EU energy policy [. . .] is subject to the need to respect the respective competences of the EU and Member States or between the institutions as laid out under the Treaties', and stresses that regulatory co-operation with neighbours 'should take into account the diversity of the EU's neighbours and their own energy policy objectives' (Council of the European Union, 2011, p. 3). Because Member States have committed to mutual solidarity in case of energy security threats without having agreed on enforcement mechanisms, EU-level policy-making easily flounders in such a system of large grey areas (see Braun, 2011, p. 8).

Great Power Management

Great power management concerns the interaction of large Member States and the EU with major energy powers within the limits of competence division. In the case of natural

gas, the EU lacks great power status. The foremost such power in the wider European society is Russia. The EU includes declining or small producers (the United Kingdom, the Netherlands, Denmark) and large buyers with powerful energy companies forming part of suppliers' energy security calculations. However, only the United Kingdom, France, Germany and Italy attract the recognition of more than one neighbouring power (cf. Bilgin, 2011, p. 1086). This fragmented constellation further explains why society remains limited to a co-operative type in the external gas trade.

Distinct from bilateral diplomacy and sovereignty, great power management more selectively raises the status of large Member States as formal institutions. However, alongside their predominance the Member States have allocated the Commission a formal-institutional role as manager of the EU–Russia energy dialogue. Policy-making in the dialogue is essentially technical because the great power management institution keeps the Union fragmented. The narrow remit in the dialogue's gas segment has, however, permitted the establishment of a forum for gas businesses and regulators, an early warning mechanism in 2006 (upgraded in 2009) and it also helped to resolve conflicts over long-term supply contracts (Romanova, 2012, pp. 34–6). The dialogue's road map for 2050 attempts to help the parties to reduce 'current and future risks' in gas trade policy-making regarding infrastructure, regulation and investment. It also includes objectives for information exchange to 'reduce uncertainty to [. . .] a "tolerable level"' (European Commission, 2013b, pp. 13–16).

The Market

The market is promoted especially by the Commission which, as noted above, increasingly attempts to reconcile the interests of businesses and citizen-consumers in the liberalization of gas markets (see European Commission, 2012). This attempt is the single most important factor pulling the current society towards convergence.

Although the Commission is the leading formal institution advocating the integration of internal markets, it is handicapped by the slowness of many Member States to implement the Third Energy Package, and the opposition to its proposals by some energy companies. Further constraints include suppliers' adherence in the wider European society – Russia in particular – to state capitalism rather than market liberalization. This has persuaded Member States to pursue hedging strategies through bilateral deals with suppliers.

On the policy-making level the Member States watered down the Commission's initial proposals on third party access to infrastructure, which was intended to facilitate market entry for large and small businesses and hence encourage competition. France and Germany in particular also forced compromises in ownership unbundling intended to separate gas production from transmission in order to prevent vertically integrated companies from controlling the whole value chain (cf. Talus, 2012, pp. 231–4). The French and German former state monopolies, EDF and GDF, and E.ON and RWE, lobbied their state patrons and were consequently allowed to retain ownership of gas and electricity networks if supervised and managed by an independent operator (Euractiv, 2009). Finally, Member States also curtailed the proposed powers of the new Agency for the Cooperation of Energy Regulators (Talus, 2012, pp. 234–6). However, *vis-à-vis* Russian supplies, Member States never challenged the Commission's antitrust inquiry in September 2012

on Gazprom's possible anti-competitive behaviour related to market partitioning, restrictions to supply diversification and oil-price indexing of gas contracts.

Environmental Stewardship

This informal institution informs the EU's 20-20-20 energy targets, with more envisaged by 2050 (European Commission, 2011b). It also makes natural gas an important transition and complementary fuel. Buzan (2004, p. 186) argues that environmental stewardship is also feasible within pluralist societies, and indeed some weak references to it occur in the natural gas provisions of the EU–Russia energy dialogue's roadmap (European Commission, 2013b, pp. 11, 14–15). Yet it remains a more integral part of co-operative and convergence type societies as seen on the EU side.

The 20-20-20 goals not only underline the co-ordinator role of Union-level formal institutions, but also respond to targets agreed on by global-level institutions like the Kyoto regime. Yet in practice Member States apply different national approaches in the implementation of the targets. This causes fragmentation of the internal market. Therefore the Commission serves as an arbiter to reconcile EU-level legislation with Member States' flexible implementation (European Commission, 2013a, pp. 7–9).

Policy-making informed by this informal institution is decisively affected by changes in the structures of extra-EU markets. The EU's coal consumption in 2012 increased as the market entry of unconventional gas in the United States reduced European coal prices. This, combined with milder winters, the economic crisis and increased use of renewable energy, reduced EU gas consumption in 2012 (Badida, 2013). In other words, we not only note the partial consequentiality of this informal institution for EU policy-making, but also the dependence on wider international societies.

The five informal institutions discussed influence the integration type, the balance among formal institutions and the extent of their policy-making. Overall, the informal institutions drive energy security integration in different directions. To elaborate these dynamics and prospects for change in more detail, we consider further drivers.

III. Further Driving Forces and Prospects of Integration

The tensions identified among informal institutions constitute one driver in their own right. Although harmony among informal institutions is more the exception than the rule, it brings stability when it prevails (Buzan, 2004, p. 250). Tensions among informal institutions are hence needed for the type of integration to change. Tensions between the actors constituting the society are another driver. Although our discussion centres on integration among states, within the EU and beyond, it also assigns a crucial role to transnational actors.

Interplay between States and Transnational Actors

Integration is more robust if the state and transnational actors pull it in the same direction. The institutions of energy diplomacy, sovereignty and great power management remain more or less firmly in the hands of states. In the EU, however, states have to negotiate with energy companies, IFIs and non-governmental organizations (NGOs) on the definition and role of the market and environmental stewardship institutions.

Natural gas companies in the EU and wider European context have traditionally viewed bilateral deals restricting wider co-operation among themselves and Member States as part of their business (Westphal, 2008, p. 93).Their preference for long-term contracts also prompted a negative reaction to the liberalization of the Third Energy Package. However, since 2008 the arrival, mainly from Qatar, of larger volumes of LNG and mergers with electricity utilities has created a new market situation (Talus, 2012, pp. 228, 230–1). This strengthened the Commission's efforts to break the national champions' anti-competitive positions. Its Gazprom inquiry of 2012 was accompanied by Lithuanian and Polish authorities' attempts to reduce Gazprom's dominance in their gas markets (Raszewski, 2012, pp. 142–4).

The liberalization induced by the Third Energy Package fragmented the vertical integration of energy companies within the EU by means of the unbundling provision. Its implementation makes companies more dependent on Union-wide regulation, while they continue to need political support from their host states to access new sources and markets abroad, in the neighbourhood and beyond. Companies simultaneously depend on IFIs, which fund cross-national energy projects. IFIs, in turn, depend on states for regulation, financial guarantees and incentives.

The crucial energy security implication of this both more fragmented and interdependent actor constellation is a lack of control throughout the whole natural gas chain. Suppliers have an interest in scarcity, while unbundling and the ambiguities in the competence division between Member States and the Union dilute the responsibility for the public good of security of supplies (Westphal, 2012, pp. 6–7). Without delegation of powers from Member States to the Commission, while other actors remain unable to coalesce, the EU's slow progress towards a convergent integration type is likely to be fraught with tension, and weaker types of integration may well prevail elsewhere in Europe.

The Nature of Binding Forces

Binding forces demonstrate the depth of the internalization of institutions and the overall integration type. Therefore, how coercion, calculation and belief hold the society together and how these forces interact with one another affects the stability of the integration type. Coercion offers less stability than calculation, which in turn is a less stable mechanism than belief (Buzan, 2004, pp. 129, 253–4).

Because the Third Energy Package maintains shared competences in energy policy, coercion does not entirely work. Calculation is the most important binding force in the current converging integration within the EU. Firm joint beliefs are few. Some commitments in the Third Energy Package move towards legal convergence, but Member States' commitments to their implementation vary, as is well seen in the 19 infringement cases the Commission initiated against them in 2011–12 (European Commission, 2012, p. 8). The United Kingdom, Denmark and Sweden liberalized their gas markets prior to the Commission's efforts in the 1990s. France and Germany led a group preferring to protect their national champions. In eastern, central and southern Europe some Member States wish to protect their markets from possible price controls by Gazprom or the Algerian Sonatrach (see Proedru, 2012, pp. 61–4). We hence find convergence within limits. With such heterogeneity among the Member States, the best they can do is to calculate that others will also prefer a moderate degree of convergence.

The Materiality of Energy Resources and Distribution of Power

The materiality of energy security implies a less malleable driver than the mostly social drivers discussed so far. Fossil fuel resources in particular are geographically concentrated in a few regions. This limits their exploitation. Energy reserves, the technology to extract them, energy infrastructure and energy storage facilities are key indicators of changes in this driving force. The inherent materiality of energy differentiates it from other currently contested spheres of integration – for example, financial and fiscal policy, or 'European identity'.

The only fossil fuel likely to increase its share by 2035 is natural gas (IEA, 2012a). The exportable production of conventional gas available for the European market will increasingly be concentrated in Russia and the Middle East, which have few incentives for liberalization. Alongside the anticipated gradual advance of renewable energy, the possible advent of unconventional gas on the European market may alter the material conditions, possibly helping to diversify gas flows and exerting further pressure on conventional gas suppliers to change oil-indexed price mechanisms (IEA, 2012b, p. 5). Its production has already made the United States self-sufficient and contributed to decreasing gas prices in Europe not only in spot markets as LNG has become cheaper, but also in pipeline contracts. The tendency to relinquish oil-indexed prices is expected to continue and result in a shift towards hub-based pricing and a more diversified portfolio of contracts in Europe (Stern and Rogers, 2011, pp. 36–7). This shift may also force a new balance in the distribution of power.

Concurrently within the EU unconventional gas faces environmental concerns, possible problems with landowners, a need for new technology and service industries, and a shortage of equipment (Euractiv, 2010; Hoyos, 2010). According to the IEA (2012a, pp. 128–9), the share of unconventional gas in the EU's indigenous production will at best reach 47 per cent by 2035, which barely equals 12 per cent of demand. The difference it will make to Europe's net imports of gas between the best case and low case is 30 billion cubic metres. If Europe's reserves can be converted into economically and environmentally viable production, unconventional gas may compensate declining indigenous production and help to maintain import dependence at around 60 per cent (IEA, 2012a, pp. 128–9; Pearson *et al*., 2012, p. xi).

Briefly, although the changes witnessed and foreseen along with the material driver may facilitate internal integration in the EU and provide greater bargaining power to Union-level actors in the external gas trade, these prospects are constrained by long lead times in the introduction of new resources such as LNG and unconventional gas, several lock-ins to existing resources, technology, infrastructure and suppliers. Overall, this driver reveals a sphere where political economy is much more crucial than assumed in the current English School-inspired writing on European integration. While Buzan (2004) tried to open up the School to the economy, some of the current approaches do not discuss the markets and competition institution in the context of constituent forces of European society (Diez *et al*., 2011).

Conclusions

In this article we have systematically analyzed the institutional dynamics of European energy security and integration in the case of natural gas. As a key part of this we have

demonstrated why the EU's efforts to ensure its energy security depend in this case on what we termed 'the wider European society of states and transnational actors'. By scrutinizing the functioning of both formal and informal institutions in energy security and integration, and considering further driving forces relevant to our case, we exploited the ability of the English School 'to look at several things at once' (Buzan, 2004, p. 228). At the same time, proceeding from the idea of the nested nature of institutions, we extended the English School towards policy-making by showing how informal institutions condition formal institutions and policy-making in our case of natural gas. With the 'deep' institutional approach so developed, we can comprehend interaction among several types of actors on several levels within the EU-based society and their interaction with the wider European society – all of which is imperative in the analysis of such a complex and cross-sectoral issue as natural gas.

Regarding our first research question on the EU's type of integration, we found that full implementation of the Third Energy Package would inch the Union's internal energy market decisively towards a convergent society. However, in external energy relations the type of integration remains closer to the co-operative one; in particular we pointed out how the Council watered down some of the Commission's more ambitious proposals for convergence among Member States in this sphere.

Regarding our second question on how the type of integration can be explained by referring to the underlying institutional dynamics, we showed that the informal institutions of bilateral energy diplomacy, sovereignty and great power management are particularly consequential to the Union's vacillation between convergent and co-operative integration. The strength of the sovereignty institution is evident in Member States' reluctance to share their competence extensively with the Commission, thereby creating a truly 'common' policy. This makes us more circumspect than Kirchner and Berk (2010) regarding any likelihood of a more integrated, common EU energy policy. Both the Lisbon Treaty and subsequent policy-making developments traced here underline Member States' sovereign preference for their choice of energy sources and origin, and conditions for exploiting energy resources. In external energy relations, we find them reluctant to cede any of their competence, preferring a 'case-by-case' approach according bilateral energy diplomacy a privileged status where large energy companies enjoy a crucial role as part of a political economy where state and capitalist institutions are interwoven. Reacting to this, the Commission has begun to advise Member States (for example, Bulgaria and Poland) so that their bilateral agreements do not contradict the Third Energy Package. Yet the institution of great power management further constrains the Union's integration capacity in external gas trade relations and weakens it *vis-à-vis* actors in the neighbourhood. We discussed the market and environmental stewardship as predominantly converging institutions, but found that the Commission's concern with the assumed benefits of increased competition for European households and businesses translated into a partial defence of national champions and national regulation in the Member States' implementation of the internal market provisions of the Third Energy Package. The operation of the environmental stewardship institution, for its part, reduces the policy return of intra-EU integration and privileges the wider European and global levels. Although Diez *et al.* (2011) find the traditional set of informal institutions transformed in the case of the overall 'European regional integration society', in the case of natural gas we find a lesser extent and effects of integration. At the same time

we stress the need to scrutinize the market institution – in particular to better comprehend the Union's institutional transformation and its adaptation to the changing international political economy in its neighbourhood and beyond, which earlier studies have left too open.

Regarding our third question on the extent to which further integration is possible, in addition to the ambivalent integration potential found among informal institutions, we examined three further drivers. First, the precarious balance due to the partial implementation of the Third Energy Package between the EU, Member States and transnational actors undermines energy security and indicates a need for further integration. Second, among the Member States a lack of shared beliefs and patterns of calculation as the binding mechanism currently inhibits such further integration. Third, changes in the materiality of energy and distribution of power may facilitate the liberalization efforts of the Commission and some co-operation in external energy policy as long as it does not endanger Member States' policies. Yet this driver is simultaneously characterized by several lock-ins. This final driver also has implications regarding Buzek and Delors' call for a European energy community. In the 1950s Europe's own energy resources and the support of a great power (the Marshall Plan) were significant in launching European integration. However, as we have shown, EU Member States have scant hope of reducing their dependency on natural gas imported from supplier states, which view it as a strategic commodity crucial to national interests – and which are set to dominate the conventional gas markets. In the EU, unconventional gas can help to offset declining conventional production, which can at best mean avoiding further pressures to increase imports. In the global markets, it is expected to change pricing mechanisms and allow different types of contracts thereby facilitating liberalization. However, such increased flexibility also has potential to strengthen the bilateral energy diplomacy and sovereignty which we have found so crucial.

In short, in the case of natural gas, the constellation of formal and informal institutions, as well as the further drivers discussed in this article, suggest that at best a limited degree of further integration is likely, despite the political capital invested to address the increasing salience of energy security debates in Europe.

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