1. Introduction

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RUSSIAN ENERGY OLD AND NEW

Russian energy policy is a key issue in global energy policy, and energy policy is crucial for Russia. To adequately account for these wide-ranging interrelationships, this book examines Russia's energy policies on several levels. These range from the *national* level, where both Russia's national energy policies and its federal and regional politics related to energy come into play; the *inter-regional* levels, where Russia's energy sales and relations with several European regional energy markets, Eastern European transit states, the Caucasus, Central Asia and Asia are addressed; and the *global* level, where Russian energy supplies and their political, economic, environmental and other implications are critical.

The co-presence of several levels on which Russian energy policies are formulated, coupled with the reciprocal linkages between them, implies that the subject of Russian energy is as complex as it is crucial. This complexity has made Russian gas and oil in particular, together with the proceeds from the export of these goods and the associated politics, a frequent and divisive topic in scholarly analysis and policy commentary. Terms portraying Russia as an 'energy superpower', 'energy giant', 'petro-state', or more critical references to its allegedly 'coercive energy policy', 'energy imperialism' or 'energy blackmail' are part of this debate. At the other end of the debate we find references to a 'natural resources-dependent third world-style economy' and to a possible 'Dutch disease' or 'resource curse' in Russia, coupled with observations of personalized, non-transparent and even partly corrupt management of the state's resource base. In addition to these foreign policy and economics-oriented images others abound.

Where do all these terms and images come from? The diverse commentary on Russian energy at the global level is underwritten by the soaring price of oil from long-term lows in 1998 of some US\$10–15 per barrel. The price leap towards US\$140 per barrel by 2008 helped to lift Russia out of its post-Soviet economic decline and made it one of the emerging powers within the framework of the loose grouping of the BRICs (Brazil, Russia, India and China). The global financial and economic crisis of 2008 caused prices to slump again,

severely affecting Russia's energy dominated and oil price-linked economy, before they reached what for Russia is a very sustainable level of US\$70–80 per barrel in 2010, and topped US\$100 per barrel in spring 2011. At the regional level of Russian-European relations, a significant part of the interest in Russia's energy springs from Europe's heavy dependence on Russian supplies. This helped to fuel alarmist reactions to the conflicts and disruptions in the supplies that have become almost an annual event since 2006. Some of the problems originate in disagreements on energy supply prices and transit fees between Russia and two Eastern European key transit countries mediating a large share of that energy traffic, Belarus and Ukraine. In addition, we find disputes about transit pipelines and other politicized energy conflicts in former Soviet territory, as well as tensions in energy relations with certain EU Member States (see Orttung and Øverland 2011). At the national level, a further source of newsfeed is how energy companies rise and fall in Russia's federal and regional power games, and where foreign energy majors have experienced both successes and dramatic losses, with new energy provinces and energy 'oligarchs' or 'oil barons' riding on energy proceeds.

Apart from that multilevel, yet familiar, oil and gas fuelled agenda of Russian-European and Russian-Eurasian energy relations, towards the end of the 2000s enough has happened to suggest different accounts as well. The most familiar of these is how Russia has become an increasingly important energy supplier to its fellow BRIC member China, as well as to the Northeast Asian economic giants Japan and South Korea. Of these new customers China became the world's biggest energy consumer in 2009, surpassing the USA for the first time in a century. This new market conquest is making Russia a player in Asia with a weight not seen since the dissolution of the Soviet Union in 1991. Russian energy companies have also established partnerships with other energy producers in Asia, Africa and the Americas.

Simultaneously, at the global level energy policies are subject to pressures to turn towards renewable sources of energy while states and international organizations also call for increasing energy efficiency and for energy savings. These calls are motivated by climate change concerns and expectations of increasing difficulties in accessing adequate fossil fuel supplies and acceptable prices, especially among western industrialized countries (for example, Scrase and McKerron, 2009; Kjarstad and Johnsson, 2009). Although this 'green' turn underlines the role of domestically available renewable resources and a set of new energy strategies, thanks to its vast potential in this sphere Russia can be part of that emerging greener energy agenda as well. Russia's participation is in fact crucial for a successful response to global climate change due to its large exports of fossil fuels, high greenhouse gas (GHG) emissions and energy intensive economy. Russia is absolutely central to the implementation of the Kyoto protocol regulating GHG emissions globally and to achieve a new

treaty after the present agreement expires in 2012 (see for example Novikova, Korppoo and Sharmina, 2009; see also Chapters 5 and 10 of this volume).

In this book we will approach Russia's energy policy as a multilevel and complex sphere, developing further the scholarship on energy policy proceeding from similar starting points (for example Aalto, 2007; Prontera, 2009; Strange, 1994; cf. Güllner, 2008). From this multilevel and complex nature, it follows that in practice there is no single Russian energy policy despite serious attempts to create one, most notably under the auspices of Russia's energy strategy until 2030 (Government of the Russian Federation, 2009a). Rather, we posit *several energy policies* ranging from the various forms of energy at issue, and varying between associated industries and different geographical regions of Russia and its multiple export directions (cf. Wenger, 2006, p.17). In order to develop informed analyses of the Russian policies we use field-work material and experience, and local sources alongside existing research, documents and statistics.

We examine Russian energy policies with reference to Russia's established energy agenda where it is Europe's main fossil fuels supplier, and a major energy policy actor within the Commonwealth of Independent States (CIS) on the territory of the former Soviet Union, and where it is extending its fossil fuel supplies globally, especially towards Asia. In addition we will touch upon the new 'greener' energy agenda where Russia faces the increasingly significant climatic and environmental aspects of energy. The tensions between Russia's 'old' and the 'new' energy agendas are further highlighted by the global financial and economic crisis since late 2008, which momentarily reduced the demand for Russia's fossil fuel exports. While reluctant to belittle the importance of the new energy agenda, or the effects of the global economic crisis, we want to accentuate how neither of these two factors is likely to render irrelevant the well-established fossil fuels energy trade linking Russia with Europe and the CIS any time soon (cf. Aalto, 2011a). In the interests of a realistic, comprehensive and forward-looking analysis of Russia's energy policies we study the established and new agendas in parallel while paving the way for the development of a new theoretical approach (see Chapter 2). To specify the distinctive contributions we intend to make, it will be useful to next take stock of existing research.

WHAT DO WE KNOW ABOUT RUSSIAN ENERGY POLICIES?

Scholarly and policy analysis of Russia's energy policies is a small industry in its own right. It includes major academic works, only a few of which are theoretically informed; edited books and case studies mostly concentrating on

empirical analyses of events past and present; and extends to high-cost consultancy reports on highly specific and technical aspects. Owing to the extent of this work it will only be possible to here outline what we (roughly speaking) know today.

The vast majority of work on Russian energy policies available in English concentrates on the country's fossil fuels sector and its exports. If we also include publications in Russian, we find scholarship on trends in the new energy agenda and as ecological issues in energy production (*Energeticheskaja politika*, 2009), Russia's role in global climate change politics (Korppoo et al., 2006), and energy efficiency and renewable energy resources in Russia (*Energeticheskaja politika*, 2008a; b; Øverland and Kjærnet, 2009). There is also research on the coal, electricity and atomic energy sectors in Russia. Although these sectors are still predominantly oriented to meeting Russia's domestic development needs, they also have important interregional and global implications which for practical reasons have been excluded from the scope of our book (see for example Bushuev and Troitskii, 2007).

The Energy Resource Base and Production

The literature on Russian fossil fuels often correctly posits that sector as the foundation for Russian energy policies. Research on Russia's energy resource base and production in disciplines such as geology, engineering and economics, including economic geography, is often ably summarized in the publications of organizations like the International Energy Agency (IEA) representing leading (western) industrialized states, or the Energy Information Administration (EIA) in the USA. This body of work has examined the nexus between the abundance of Russia's fossil fuels and the limits of its technical and economic exploitation. As such it gives us some idea of the limits of the possible and helps us to avoid the excessive voluntarism of some of the commentary in the international policy and academic communities (see below).

Oil sales have generated the majority of Russia's energy export revenue and the country's renewed wealth, although in the 2000s gas has become almost equally important (Bradshaw, 2009a, pp. 4–5). The geologist John Grace exposes the difficulties in assessing Russia's resource base by noting how the Russian oil industry for two decades after the collapse of the Soviet Union adhered to Soviet standards in analysing reserves – the so-called A + B + C₁ system that is slightly different from the western energy companies' system differentiating between proven, probable and possible reserves. Of these, Grace set proven reserves at 68 billion barrels in 2003. This is close to many widely accepted figures, and enough to sustain production at the high volumes of that time for some 22 years. Proven reserves imply a 90 per cent certainty

that they exist, are technically recoverable and economic to produce under prevailing conditions. This makes Russia's reserves the biggest outside the Organization of Petroleum Exporting Countries (OPEC) and seventh biggest globally. Often this is seen to account for some 5–10 per cent of global reserves. Probable and possible reserves would add up to a further 32 and 33 billion barrels, resulting in the range usually given in Russian estimates of some 100 to 150 billion barrels. The Russian calculation system allegedly overestimates the prospects of technical recovery and disregards the pricing effects conditioning the economic worth of those reserves (Grace, 2005, pp. 5, 178–83).

Arild Moe and Valery Kryukov (2010, p. 313) conclude Russia's reserve-to-production ratio as being more or less sustainable during the 2010s and for half a decade thereafter. Yet in their opinion the overall trend should cause concern for Russian actors and their customers. Discussing the 'exploration crisis' in Russia, they note how, regardless of technical improvements in the new millennium, using western partner companies' expertise and techniques to totally exhaust the remaining potential of the big fields discovered and originally developed during the Soviet era has only deferred the problems. The new fields intended to replace the Soviet-developed fields are smaller, heterogeneous and more demanding in their geological characteristics, many of them plagued by harsh climactic conditions with little or at best emerging infrastructure (such as in eastern Siberia), or are further north from the current major production areas in West Siberia and Timan-Pechora (see Figure 1.1; also Figure 8.1). Reduced investments in exploration as a result of the financial crisis have worsened the long-term outlook for Russia's oil industry, which now needs high prices to sustain production and may be unlikely to maintain the high volumes of the late 2000s (Jaffe and Olcott, 2009).

In the sector of natural gas the outlook is better. However, similar reservations regarding the reliability and compatibility of the widely discrepant calculations of reserves and production capability need to be factored in. The $A + B + C_1$ formula puts the proven natural gas reserves at 48 trillion cubic metres as of January 2008, accounting for some 23 per cent of global reserves; and expected overall resources at 164 billion cubic metres (Government of the Russian Federation, 2009a, pp. 8, 39). The IEA (2009, p. 51) gives a figure of 45 trillion cubic metres of proven reserves, the biggest of which are located in western Siberia close to the Ural mountains. Prospective production regions exist further northwest to the Barents and Kara Seas, while less than a tenth of eastern Siberia – Russia's emerging fossil fuels production area – has been explored with up-to-date techniques (Poussenkova, 2009, pp. 134–5) (see Figure 1.1; also Figure 8.2).

Russia's natural reserves make it for gas what Saudi Arabia is for oil – home to by far the biggest deposits. However, Jonathan Stern warns us how

Notes: The current major fossil fuel producing regions in west Siberia, Tima-Pechora, Volga-Urals and the Caspian region are marked by medium dark grey colour. Prospective production regions in the Kara and Barents Seas, and South Turgay are marked by light grey colour.

Source: Energy Information Administration, 2009.

Figure 1.1 Russia's main production areas, as well as oil and gas pipelines (towards Europe)

Given the size, complexity and uncertainties ... nobody should be confident of stating that future gas availability will or will not be sufficient to cover the country's internal requirements and external obligations over the next decade and beyond, even if they had conducted detailed research... (2009a, p. 10)

With this warning Stern goes on to note how Russia's domestic gas consumption (where the majority of production goes), and its exports to Europe and the CIS, in that order of volumes, have in the past few decades relied on the super-giant fields in the Nadum-Pur-Taz region of Western Siberia. These fields are 65–75 per cent depleted and output is sharply declining (Government of the Russian Federation, 2009a, p. 40). By cutting demand by 10–15 per cent in Russia and its main markets, the global economic crisis of 2008–09 helped to curb the feared effects of a possible gas squeeze ensuing

from the depletion of main production fields and low investment in new production. Gazprom's roadmap for the next 20–30 years is to bring online compensating production in the Yamal peninsula and the neighbouring Ob-Taz Bay region in the country's northwest by late 2012 and subsequently in Shtokman in the Barents Sea (Stern, 2009a, pp. 2, 4–7). This is complemented by the Eastern gas programme developing Eastern Siberian and Sakhalin Island's resources for domestic use and for exports to Asia, mostly in liquefied natural gas (LNG) format (see for example Bradshaw, 2009a, pp. 7–11).

The considerable amount of research on Russia's pipeline infrastructure has noted how the majority of the country's energy exports flow to Europe through Belarus, Ukraine, and other central and eastern European transit states. While the exploitability of the material resource base is affected by available technology and prices, when speaking of pipeline politics we must add to these the need for long-term contracts to help pay for the pipelines, together with consumer demand; legal frameworks ranging from supranational to national; and diplomatic ties between producers, transit countries and consumers. Variance in these factors accounts for pipeline projects being started, but also abandoned, rerouted and the building consortia reformed. Such fluctuations abound in Russia's pipeline projects (Nies, 2008, p. 7).

For example, the Russian and German-led consortium for building the Nord Stream pipeline along the Baltic Sea (the first track to be completed by the last quarter of 2011; see Chapter 6) and the South Stream project along the Black Sea (scheduled for completion by 2015; see also Figure 1.1 and Dusseault, 2010a) respond to the problems experienced with the ageing transit pipelines of the central European route that have so far carried the bulk of that traffic. In particular Belarus and Ukraine are seen as unreliable transit states that should be bypassed in the future (see Liuhto, 2009). These two new pipelines, along with many oil transit projects, are reorienting Russia's European transit towards northern and south-eastern Europe (Aalto, 2009) (see also Figure 1.1).

Another front to compensate for Russia's transit bottlenecks in oil exports is opening up in north-eastern Asia with the completion of the East Siberian Pacific Ocean (ESPO) pipeline from Taishet in the Irkutsk oblast to Kozmino Bay in the Pacific (see Chapter 8; also Figure 8.1). For Asian partners this will compensate for the gradually diminishing production in East Asia and help to diversify the region's Middle Eastern imports. Yet soaring gas production costs in eastern Siberia are delaying Russia's gas supply projects (Motomura, 2008, pp. 68–78). In this context Russia's new gas projects seem in the mid-term to be limited to supplies of LNG from Sakhalin Island that started in small volumes in 2009 with technical support from international companies (see Figure 8.2).

Research on Russia's plentiful peat and its huge renewable resources – in which peat is often controversially included in Russia – has pointed out that

together with domestic coal burning and nuclear energy expansion, increasing the share of these resources in domestic energy provision will release more oil and gas for export. Russia's renewable resources include hydropower, solar power, wind power, geothermal power, tidal power and biomass (see Chapter 5; also Kulagin, 2008; Øverland and Kjærnet, 2009).

Natural Resource Economics, Energy Economics and Business Studies

Natural resource economics and energy economics, together with the applied field of business studies boast a well-defined research programme built on economic theories and with close connections to the study of Russia's resource base. Scholars investigate issues such as how energy prices, market developments and various energy rents (received and then paid to transit states and domestic actors) impact on Russia's energy companies, the state, its economic basis and society. One debate within this literature revolves around whether Russia's resource use has created a sort of 'Dutch disease' (for example Fetisov, 2007; Roland, 2006). Booming income from energy exports as prices went up after 1999, together with Russia's own higher production, caused a rise in the exchange rate of the rouble. When money generated through energy sales is pumped into the domestic economy, the strong currency prompts consumers to buy more imported goods because they have suddenly become more affordable. This feeds higher inflation and undermines domestic manufacturing, which faces competition from cheap imports and a punitive exchange rate. From this Marshall Goldman (2008, pp. 12–13) develops a thesis of a 'Russian disease' where energy proceeds trigger field ownership disputes and compromises democratic development.

While many cite Norway and the USA as among the few countries to make resources a blessing rather than a curse, the work of Clifford Gaddy and Barry Ickes (2010) stands out in this context. Alongside many others, they note how heavily dependent the Russian economy is on oil prices (see for example Hanson, 2009a; Sutela and Solanko, 2009). Until 2009, oil prices also largely determined the prices in Russia's gas contracts, in a system where gas prices were tied to a basket of replacement fuels consisting of oil and oil products. However, in 2009 the market entry of cheap LNG prompted many of Russia's European customers to violate parts of their contracts and pay penalties. Since then the long-term future of the oil–gas price linkage has been under pressure. Its precise future depends on market conditions (Stern, 2009b, p. 12). Given that up to two thirds of Russia's export earnings and some 40 per cent of its budget come from oil and gas sales (Hanson, 2009a; Liuhto, 2010, pp. 9–24), it follows that oil prices inevitably also affect the Russian state as a whole.

Against this background Gaddy and Ickes posit natural resources not as a curse but a blessing to Russia and something from which it *must* benefit. They

note how the annual sales of companies in the *non-oil* and gas sector have followed annual average oil prices since 1999. In the midst of the financial crisis, the shares of these companies plummeted more dramatically in the Russian RTS stock market than oil and gas shares did. Had Russia diversified its economy more prior to the crisis, as advocated by many analysts to avoid the Dutch disease, the negative impact on gross domestic product (GDP) would have been even greater (Gaddy and Ickes, 2010, pp. 285–90). In the first half of 2009 the absolute decline in GDP was 10.4 per cent compared to the same period in 2008. In some manufacturing sectors the drop was more than 30 per cent (Tabata, 2009a, p. 692).

On this basis Gaddy and Ickes argue that diversification would not have made economic sense and that prior to the crisis Russia benefited enormously from its competitive advantage of abundance of natural resources, and that this is likely to continue. The problem rather is that in Russia's case the proceeds ensuing from energy exports are misused in a 'resource addiction' to maintain Soviet-era domestic production structures in the interests of social and political stability. Unlike that addiction, they argue that Dutch disease was mostly avoided by building a large petroleum fund divided up into the Reserve and National Wealth funds (see Gaddy and Ickes, 2010, pp. 290–2). In April 2011 the former stood at US\$26 billion and the latter at US\$91 billion; while by spring 2010 the overall reserves were already on an upward trend again at US\$460 billion (see Ministry of Finance of the Russian Federation, 2011a; b; Liuhto, 2010, p. 51; Medvedev, 2010).

Energy Diplomacy, Energy Security and the Geopolitics of Energy

Economic analysis of sorts is often combined with a focus on energy diplomacy, energy security or the geopolitics of energy in research conducted in fields like contemporary history, political science and international relations (IR), and area studies (such as Finon and Locatelli, 2008; Perovic et al., 2009; Wenger et al., 2006). These three literatures represent internally highly diverse pursuits sharing empirical themes rather than theoretical frameworks. Many authors do not even articulate any sort of background theory (for example Baev, 2008, p.155). Often these studies respond to the policymaking needs of actors such as the USA, its energy import needs and global power balance calculations; or security of demand in Russia's main energy markets; or the security of supplies within the European Union (EU) or its Member States. Here the divisive nature of energy policy becomes apparent. For large energy importers like the EU and the USA, energy security means security of supplies at acceptable prices. For large energy exporters like Russia, it means stable demand and good prices in its main markets. For energy transit countries it implies a constant flow of transit rents and leverage over the countries of origin. In each case it is

usually underlined that in order to understand Russia's energy diplomacy, we must pay attention to both economic and political factors.

Many studies focus on EU–Russia energy diplomacy or Russian–Eurasian energy politics for the simple reason that on those fronts there is a lot to study due to the many political bodies and business relationships mediating between them (for example Balmaceda, 2008; Romanova, 2007; Stulberg, 2007; see also Chapter 9). Several disputes can also be pointed out between these actors in the 2000s (Orttung and Øverland, 2011, p. 78). In terms of theorizing the interplay of political and economic considerations in Russia's external energy relations, Adam Stulberg's (2007) work has the highest research programmatic ambitions. He draws upon realist and liberal IR theories on the role of power and interdependence respectively, and the literature on 'soft power' for exploiting relative advantages in the sphere of energy policy, in order to influence the other party's options and choices made. Combining these perspectives with the insights of prospect theory on how policymakers are risk-acceptant when facing probable losses, and risk averse when thinking of gains, he develops a theory of 'strategic manipulation'. The first condition for Russia to be able to manipulate its energy customers' decision-making is that it wields market power in the targeted country. Second, Russia must be able to line up its statecraft and energy companies together into a united front. With this framework Stulberg examines Russia's energy relations with Central Asian states. He finds that Russian decision-makers are not always highly cognizant of how precisely to best affect the target countries' perceived risks and opportunity costs. Russia's ability to 'manipulate' is highly variable from country to country and depends on whether what is at issue concerns oil, gas or nuclear politics.

In a more mono-theoretical IR approach that uses a neo-classical realist theory, and which also is close to applications of traditional geopolitical frameworks to energy politics, Anita Orban (2008) partly supports Stulberg's emphasis on the compatibility of power play and market power, and his finding of Russia's diversified impact upon its energy customers. At the same time Orban partly contradicts Stulberg's assumption of relationships of interdependence between Russia and its customers or 'targets', by speaking of Russia's 'energy imperialism'. She assumes that Russia's primary motive in its neighbourhood is to increase its power and that the most effective means to that end is expanding its politico-economic presence in the energy sphere. These aims are conditioned by the Russian leaders' perceptions of the country's role in the balance of power and the resources available to the Russian state. From her East and Central European case studies she finds Russia to have been most successful in Slovakia and Hungary. The analysis concludes with various policy recommendations for the USA, Central and Eastern Europe and the EU, on how to limit Russia's influence. Most of these suggestions are diversifica-

tion projects away from Russian energy. Somewhat remarkably, as many of the proposed projects and measures are relatively expensive or do not make direct economic sense, they undermine the emphasis on the balance between political and economic considerations. Hence from the starting point of the interplay of economic and political considerations we arrive at a geopolitically tuned 'to-do' list for Russia's energy customers. Alongside such steps to overcome Russia's alleged 'energy imperialism' we find calls to 'end Russian leverage' (Baran, 2007) and characterizations of Russia's 'coercive energy diplomacy' (Larsson, 2006a) which is a 'danger to Europe' (Smith, 2006, p.1). More moderate accounts term Russia 'a key regional player with global ambitions' (Perovic, 2009, p. 9), with limited leverage over its main energy customers in Europe (Closson, 2009).

These examples show how much of the research on energy security and the geopolitics of energy is geared towards wider questions of the nature of international relations or linked to nation or bloc-specific foreign policy goals. These are important considerations for policymakers and policy analysts, in particular, in that they pertain to wider questions of balance of power and demand-supply patterns (see Lesage, Graaf and Westphal, 2010), but they do not represent the primary concern in this book. Here these issues are contemplated from the perspective of the formation of Russia's energy policies, conditioned by processes at the national, interregional and global levels. In general, energy security is a wider theme whereas energy policy and its formation is a more specific *and* more fundamental problem. Without understanding the content and formation of energy policies it is meaningless to speak of energy security.

The Federal and Regional Politics of Energy

In order to look inside the black box of energy policy formation processes within the Russian Federation, we also wish to contribute to the small but important body of literature on the federal and regional politics of energy between Moscow and Russia's energy provinces. This literature accentuates the role of resource use in regional development and centre-periphery relations in Russia; and in some cases highlights the personalities, corruption, intrigue and the overall murky conditions of decision-making. The overall gist of the literature relates to deficiencies in the functioning of institutions in Russia (for example Buccellato and Mickiewicz, 2009; Dusseault, 2010b; Orttung, 2009; Tkachenko, 2007).

At this point some general patterns begin to emerge. First, each of the works discussed represents particular approaches, or at best combines two. At the same time the bulk of the scholarship available is interested primarily in producing mere empirical knowledge that frequently ends up lagging behind events, lacking any predictive value, quickly losing its import and lacking

adequate linkage to other works. This clearly does not help in developing energy policy research or the academic study of Russian energy. Second, earlier studies of Russian energy policies clearly represent a multidisciplinary endeavour where work in several disciplines is used in an additive sense, when scholars combine perspectives with one another (see Long, 2011). Third, although, for example, economic and political perspectives are frequently combined in this way, research in the more theoretical sense remains fragmented along disciplinary lines, as is typical of multidisciplinary work. In particular scholars in economics operate in a relatively insular discipline (Jacobs and Frickel, 2009, p. 49). For their part some political scientists ignore or downplay underlying economic, geologic and infrastructural realities. Fourth, most scholars produce work mainly for their own audiences. The situation is even more dire in the highly specialized area of energy law, where most of the research (and the demand for it) pertains to the EU, not Russia. All this leads to a lack of an overarching framework to indicate a suitable slot for each body of work to generate more holistic and/or synthetic knowledge of Russia's energy policies. Importantly, this is not simply a feature of the study of Russian energy policy, but of the study of energy policy in general.

As a solution to some of these problems we propose a comprehensive and synthetic analytical model of the formation of Russia's energy policies which can subsequently be applied to any other cases as well. All contributors to this book were asked to think how looking through that model, or individual aspects of it, would influence their work, and to relate their respective discussions to that model as much as possible. In this way we aim to provide an analysis of the levels and complex dimensions underwriting Russia's energy policies, and of their interrelationships, in order to make it is easier to relate the individual contributions to one another; to see what aspects of the puzzle of Russian energy are addressed in each individual piece and what is left out; and what is the totality of the puzzle that ultimately should be covered. In this book, we can naturally only address a part of that big puzzle. We invoke earlier research, documents, statistics, news material, and whenever possible complement these conventional sources with interviews and field experiences. Many of the contributions to this book build on extensive site visits and discussions with energy industry insiders and governmental regulators over several years, not all of which can be recorded here. Sources both in Russian and other relevant languages in other regions crucial for Russian energy are used.

WHAT WILL WE SAY ABOUT RUSSIAN ENERGY POLICIES?

The existing approaches yield useful information but represent a relatively

fragmented whole despite their multidisciplinary connections, which connote some mutual communication and factual supplementation of one another's findings and perspectives. For this reason, instead of merely pursuing the classificatory approach used in the literature survey above, in this book we prefer to think anew. Consequently in the next chapter we propose a new analytical model covering the whole field of Russian energy policy formation, reserving a place for each of the approaches surveyed while simultaneously opening up new lines of enquiry (for this type of an approach to knowledge generation, see Laudan, 1977).

The new analytical model provides a shared theoretical platform and organizational device for all chapters to this book. Most chapters link up with only certain aspects of the model as their aims are narrower than the model's relatively comprehensive approach to processes of energy policy formation; some take the model to the centre of investigation; some add further perspectives necessary to set the formation of Russia's energy policies into the wider context of global energy politics. In this sense the model allows for different angles from which to consider energy policy, and serves as a device structuring research efforts. It thus becomes partly a 'menu-for-choice' and partly a springboard for further studies.

The model is built around the idea that energy policy actors – states, bureaucracies within them, energy companies, international financial institutions, and so on – need to make sense of their policy environment in order to create viable policies. To do so they adopt different cognitive frames guiding their policy choices. With the help of these frames they assess the various dimensions of their policy environment: resource geographic, financial, institutional and ecological. In more theoretical terms, these four dimensions represent the structure in which energy policy actors operate and which they have to navigate more or less successfully. As a result we arrive at a structurationist model of energy policy formation where both actor agency and the conditioning structures have a role, and where various energy political events may occasion changes in the ways in which the actors assess their policy environment (see Chapter 2).

In the second part of the book Markku Kivinen's chapter focuses on the national level of energy policy formation by analysing the different frames guiding the choices of political and business actors in Russia. He argues that after the demise of the Soviet interdependence frame, which accentuated the role of cheap energy deliveries and shared energy infrastructure in sustaining the Soviet bloc and the Soviet Union, the business frame, with an accent on profits, has become predominant in Russia. Yet to an extent it exists in parallel with the often mentioned 'energy superpower' frame, which for its part accentuates the role of political gains in the energy business. Overall, however, the business frame is a more solid description of the cognitive frames of

Russian actors. Kivinen illustrates his argument with expert interviews, and presents a set of hypotheses for further study on tensions between the interests of the Russian state, the various interests groups within its bureaucracy, and within and between oil and gas companies in Russia. In this way he further concretizes our research agenda where energy policy formation is studied as a dynamic process fed by historically changing frames guiding the actors and the formation of their different (occasionally converging but also often diverging) interests and associated struggles (see Chapter 3).

David Dusseault takes the examination further into Russia's federal and regional energy politics by examining energy policy actors and their policy environments in Russia's new and emerging Eastern oil and gas provinces, where energy projects are in different cycles of production: in the Irkutskaiia administrative region (oblast) (in particular the Kovytkha gas field); the Sakha Republic (Chaiadinskoe gas and oil field); and Sakhalin Island in Russia's Far East (Sakhalin-2 oil and gas projects). He finds that in the 2000s Russia's federal institutions have strengthened their grip in all three cases in relation to other actors. This nevertheless only poses a bigger task for the Russian government and Russian institutions in general to manage the challenges inherent in these projects across the resource geographic, financial and institutional dimensions, and distribute the revenue or rent generated from the projects across political, economic and social groups in the country. Such wider interests than energy policy proper are significant for the development needs of these peripheral regions. So far only in Sakhalin is production well under way, and consequently there is solid evidence of regional interests being realized. In the other two cases the legitimacy of the energy projects rests on a similar outcome (see Chapter 4).

Nina Tynkkynen and Pami Aalto take up the role of environmental sustainability in Russia's energy policies at the turn of the 2010s. First of all they note how the Russian understanding of environmentally sustainable energy differs from that widely used in the West. Again, here too it pays to study the national level of energy policy formation even when what is at issue is a supposedly global concern with 'borderless' environment and climate change. While Russia has a lot of potential to improve its energy efficiency and possesses abundant renewable resources for developing a more environmentally sustainable and less fossil fuel-based energy policy, several other features currently prevent such a perspective from becoming more widespread in the country when viewed along the resource geographic, financial, institutional and ecological dimensions. Some new policies are concomitantly formulated supporting an 'ecological' or 'renewable energy superpower' frame in Russia, to steal some space from the fossil fuels-based 'energy superpower' framing that to an extent coloured the 2003 energy strategy in Russia but waned in the new strategy of 2009 (see Chapter 5).

In the third part of the book we use aspects of the theoretical model to examine the interregional level, or the interaction between Russian energy policy actors, Russia's transit states and its energy customers in the country's adjacent regions. These case analyses include Russia's foreign energy policies in the case of the Nord Stream gas pipeline project linking Russia's key northern European energy customers to the new resources in the Yamal peninsula and Shtokman fields in the Barents Sea. Looking at the institutional dimension of energy policy formation, in this chapter Hanna Smith finds several different interests that drive the Russian, German and other parties involved in this project which has towards the 2010s become increasingly multilateral (again) after a brief bilateral format. This includes various energy security interests pertaining to supply, demand, or security of transit (depending on actor); profit interests; and political power interests. In addition, identity-based factors, or in this case feelings of *ressentiment* – a particular type of politics of past negative experiences, in particular for Ukraine and Poland – are important factors explaining why the pipeline had to be built bypassing these formerly so important transit states (see Chapter 6).

Margarita M. Balmaceda probes more deeply into the institutional dimension of Russia's foreign energy relations examining the gas disputes with Ukraine (1994–2010) and gas and oil disputes with Belarus (2000–10). In particular she highlights the central role of domestic institutional struggles on both sides and how interests groups on both sides, Russia and its transit states, are interconnected as they share in the same energy rents and are parts of the same value-added chains. This approach underlines how Russia and its transit states are not unitary actors; neither do they have unitary energy policies. Gazprom and the Russian state trade various types of economic and political gains between them, and the involvement of intermediary companies in foreign deals implies the co-presence of personal interests (see Chapter 7).

Shinichiro Tabata and Xu Liu examine the eastern shift in Russia's interregional energy relations. They show that this shift is driven by a need to replace the West Siberian large production base that is becoming depleted, with new resources in East Siberia and the Far East; and by an interest in diversifying Russia's export markets towards China, Japan and Korea and a wider social interest in promoting economic growth in Russia's Eastern regions. In their analysis of the ESPO oil pipeline from Irkutsk to Skovorodino and on to China and Russia's Pacific coast, they find the decision to construct the pipeline informed by strongly political frames, its two spur lines driven by a business frame of diversifying markets, and its final route conditioned by environmental considerations. At the same time, tax relief is given to the regions that in the future are set to supply oil to fill the pipeline. The policies adopted have helped to kick-start production in these regions, have increased exports to the

Far Eastern market and have also most markedly boosted regional development in Sakhalin, as also noted by Dusseault in Chapter Four. These fairly impressive results notwithstanding, in their Eastern policies Russian actors are constrained by the heavy tax burden, high transportation fees and insufficient natural gas demand in the Far Eastern region. Both governmental actors and companies are guided mostly by the business frame in the cases studied (see Chapter 8).

The fourth part of the book moves the discussion into a wider context by analysing the global environment of Russian energy policies. Nina Poussenkova focuses on the relatively little discussed subject of how since the 1990s, Russian oil companies have been expanding their activities not only in Russia's immediate neighbourhood in Europe, in the Caucasus and the Caspian region, but also towards Asia and the Americas, for example. She argues that the resource geographic, financial and institutional dimensions have exercised variable impact on the oil companies' global expansion interests. After the centralized export policies of the Soviet era, in the 1990s access to finance and making profits became more important, highlighting the benefits of internationalization for the most agile private companies such as Lukoil, and Yukos, whose assets were later acquired by the fully state-owned Rosneft. This was part of the process by which institutional actors – the state's representatives in particular – regained some of their positions in the 2000s. With their re-entry, they in fact made the operating environment of energy companies more challenging. In several cases governmental involvement backfired in the companies' global expansion plans. Yet by the 2010s the state-backed Rosneft was gradually usurping Lukoil's leading position in Russian oil companies' internationalization (see Chapter 9).

The global outlook is completed here by Michael Bradshaw's contribution, which focuses on Russia's role in solving global energy dilemmas in the midst of efforts to ensure energy security, responding to economic globalization and climate change. These wider challenges make for a very uncertain and volatile environment for Russia's modernization aims. Energy proceeds must play a large part in achieving these aims because of their centrality to Russia's political economy – something that will not diminish in the near future. Russian actors have reacted slowly to the global climate change debate. Although the potential climatic and other consequences are now being assessed in Russia, the country's leadership has at best taken an ambivalent attitude towards the global institutional politics of managing change through the Kyoto process. In contrast to the virtuous cycle of increasing energy efficiency and reducing GHG emissions, Russia's energy sector faces severe financial and technological challenges in trying to develop the new oil and gas fields in its remote regions where environmental conditions may be about to change drastically (see Chapter 10).

Overall, as also discussed in the conclusion by Pami Aalto, we end up with the complex nature of the policy environment in which actors must formulate and implement their energy policies as specified in our model. In the conclusion the model's importance for learning about Russian energy policies is assessed. As part of that task it is also discussed how our analyses have helped to evaluate the hypotheses on public and business energy policy actors in Russia, which were suggested in Kivinen's chapter, and what remains to be done in future studies (see Chapter 11). We hope that the model we use here will generate further research – not only assessing the model's benefits and drawbacks, but also helping to develop detailed case studies and comparisons, and stimulating balanced analyses of Russia's energy.