The Energy of Russia

To Kaja and Nina

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Hydrocarbon Culture and Climate Change

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Contents

Preface

In this book I examine the link between Russia's energy and political power in domestic and foreign policy contexts. The energy of Russia, the power made possible, mediated and programmed by energy, is scrutinized in a way that takes into account a global normative imperative: the urgent need to transform fossil energy-dependent societies into low-carbon ones. I postulate that we can both understand and provide tools for Russia to build a more resilient and sustainable future for itself and the global community by focusing on energy via the prisms of power, spatiality and climate change. I will show how different energy sources – in a broader social and cultural sense – condition and limit Russia's choices, and what the consequences of this are as the surrounding world, global environment, and global energy and climate politics change.

The foundation for this book is the empirical research that I have conducted since around 2010. However, the 'grand narrative' of the book is based on my research interests since the beginning of my academic career in the late 1990s. The main question that has guided me throughout these years is how natural resources, energy and space are governed in Russia, and what those different practices within the system of rule can tell us about the nature of political power. Although my work has involved very interdisciplinary settings and topics, my 'home base' is geography and that, along with the questions we geographers ask, is visible in all my research, including this book. Thus, the ultimate question is the following: how is political power practised with the help of resources and space, and how do geographical factors condition the scope of political power?

In the introductory chapter, I outline the objectives of my book and contextualize the approach I employ through a historical perspective. Furthermore, I use the introduction to contextualize Russia's energy by defining the major actors behind energy policies in Russia and the resources they deploy, in addition to introducing the vision that also concludes this book. The contextualizing segment is partly based on my chapter 'Energy Governance in Russia: From a Fossil to a Green Giant?', in M. Knodt and J. Kemmerzell (eds.), *Handbook on the Energy Governance in Europe* (New York: Springer, 2019).

The second chapter defines the theoretical and methodological approach that I use: I look at Russia's energy via a spatial prism where the flows of energy and materialities with which the flows transect and intertwine are part of political power practices. This chapter is partially based on my previous publications: 'Russian Bioenergy and the EU's Renewable Energy Goals: Perspectives of Security', in S. Oxenstierna and V.-P. Tynkkynen (eds.), *Russian Energy and Security up to 2030* (London: Routledge, 2014) and 'The Environment of an Energy Giant: Climate Discourse Framed by "Hydrocarbon Culture"', in M. Poberezhskaya and T. Ashe (eds.), *Climate Change Discourse in Russia: Past and Present* (London: Routledge, 2018).

The third chapter looks at energy power in the domestic context, and is based on my two previously published articles on Gazprom's national gas programme *Gazifikatsiya Rossii*: 'Energy as Power: Gazprom, Gas Infrastructure, and Geo-Governmentality in Putin's Russia', in *Slavic Review*, 75(2) (2016), and 'Sports Fields and Corporate Governmentality: Gazprom's All-Russian Gas Program as Energopower', in N. Koch (ed.), *Critical Geographies of Sport: Space, Power and Sport in Global Perspective* (Abingdon: Routledge, 2016).

The fourth chapter examines Russian energy power on the international scene by focusing on the little-studied case of Russia–Finland energy trade and diplomacy. This chapter is partly based on my previously published texts and reports I have contributed to: the above-mentioned book chapter in *Russian Energy and Security up to 2030* (2014), a Policy Brief 'Global Energy Transitions and Russia's Energy Influence in Finland' commissioned by the Prime Minister's Office of Finland (2017), and the article 'Russia's Nuclear Power and Finland's Foreign Policy' published in *Russian Analytical Digest*, 193 (2016).

In the fifth chapter, I focus on the environmental issues and energy futures of one of the most central regions for a hydrocarbon-dependent Russia – the Arctic. This chapter is partly based on my 'Introduction: Contested Russian Arctic', in V.-P. Tynkkynen, S. Tabata, D. Gritsenko and M. Goto (eds.), *Russia's Far North: The Contested Energy Frontier* (Abingdon and New York: Routledge, 2018), and 'Russia's Arctic Natural Gas and the Definition of Sustainability', Hot Spots, *Cultural Anthropology* website, 29 July 2016.

The sixth chapter is based on empirical research and focuses on climate change discourse, especially the denial of anthropogenic climate change in Russia. The chapter was written in collaboration with Nina Tynkkynen and previously published as 'Climate Denial Revisited: (Re)contextualising Russian Public Discourse on Climate Change during Putin 2.0', in *Europe-Asia Studies*, 70(7) (2018).

In the seventh and final chapter of the book, I analyse the ways in which today's Russia could escape its problematic fossil energy dependence. Here I look at the first decarbonization efforts inside the hydrocarbon-dependent regime of Putin, and this chapter is partly based on my 'Energy Governance in Russia: From a Fossil to a Green Giant?' cited above. I conclude the book with a vision for a decarbonized and green, and thus resilient and sustainable Russia. This vision is based on the theoretical approach I outline in the second chapter and the empirical findings that I elaborate on in the following four chapters.

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I want to express my gratitude first and foremost to my Research Group on the Russian Environment (http://blogs.helsinki.fi/tynkkynen) at the University of Helsinki. Although my PhD students and post-docs have not per se contributed to my book, their work in keeping our research projects on track and allowing me to focus on this book whenever necessary has been very important. One exception is my research assistant Elena Gorbacheva – now a PhD student – who has tirelessly helped me with many practicalities during the process and also compiled the index. The text has been language checked by Jackie Kosonen.

The second tier of colleagues to whom I am grateful are the *Aleksanterians*, my co-workers at the Finnish Centre for Russian and Eastern European Studies, Aleksanteri Institute, which is part of the University of Helsinki. Special thanks go to Professor Markku Kivinen for being my mentor and critiquing my work. Since I was not the ideal team worker within the Academy of Finland's Centre of Excellence in Russian Studies (2012–17), and thus did not contribute much to the so-called Finnish paradigm in Russian Studies pursued by Professor Kivinen, I felt the need to elaborate on my own approach in this book. Naturally, this work would not have been possible without the generous funding provided by the Academy of Finland for my research projects (285959, 299258, 314472, 319078) and researchers, and the far-sightedness to provide profiling funding for the University of Helsinki to establish the tenure-track position in Russian Environmental Studies, which I have held since 2018.

The third and substantially most important, group of people are those gathered around me by Professor Margarita Balmaceda at Seton Hall University, who is also a Harvard University Davis Center associate. She was my co-worker during her Marie Curie fellowship at the Aleksanteri Institute, and has been my mentor since 2010. I owe her a lot in terms of both international networking and the theoretical approach I have developed over the years. The work of the Study Group 'Energy Materiality: Infrastructure, Spatiality and Power' – Per Högselius, Corey Johnson, Heiko Pleines, Doug Rogers – which is led by Professor Balmaceda and meets biannually in Hanse-Wissenschaftskolleg, a residential Institute for

Advanced Studies in Delmenhorst, Germany, is of paramount importance. Without you guys, this book would have been 'all over the place' and thus lacking the needed focus.

Finally, I want to express my deepest gratitude to two very special people in my life: my former wife and colleague Nina Tynkkynen and my dear friend Kaja Normet. Thank you for your love and support!

1. Introduction: hydrocarbon culture amidst a changing climate

All but one of the chapters of this book, the concluding one, are devoted to the problems arising from the entanglement of fossil energy and political power in Russia. I argue that this is essential, as we cannot come up with any positive and enlightened foresights for Russia and its partners without a very detailed knowledge of the problems in the current energy-political system and its specific hydrocarbon culture mentality. The hydrocarbon-dependent regime of President Putin is both unable and unwilling to see the inevitable systemic change that is approaching, and brought about by global climate change. This Russian deadlock has encouraged me to seek tools to confront the problem. I define the task in this chapter by outlining the aims and scope of the book. The latter part of the chapter contextualizes Russian energy: it is devoted to Russia's energy resources, their extraction, domestic use and export, and also defines the central actors determining the main directions of Russia's energy policies, which includes paving the way towards much-needed climate neutrality.

RESOURCE GEOGRAPHY SETS THE SCENE FOR POLITICAL CULTURE

This book is an attempt to understand how natural resources and energy affect the political aims, societal discourses and cultural identity of the Russian society. Furthermore, it aims to analyse how different energy sources set conditions for specific political and cultural practices that frame Russia's choices, and what the consequences of this are for Russia and the global community. The focus is more on discourses and practices promoted by the elite rather than the popular embrace of that agenda. The fact that high dependence on oil and gas is justified by the economic and political elite via space and time – oil and gas are depicted as part of *Russian identity* and justified with the help of geography and history – is at the epicentre of the analysis.

On the one hand, the book is linked to debates over the societal and political implications of energy, and especially that of energy dependence. Thus, readers will find connections to the academic discourse of the resource curse, for example, a discussion linking the research interests of economists and political scientists in a quest to understand the economic and political implications of high resource rents and economic dependence on one or a few (energy) resources. In addition, the concepts of 'energy superpower' and 'energy weapon' are referred to in the book, but the links between energy power and energy security are examined with a twist differing from the traditional accounts that dwell on the topic of energy as political leverage. Due to the theoretical and methodological choices I make, which echo my understanding as a political geographer of what is interesting and relevant, I emphasize that the spatialities and materialities of energy do play a significant role in explaining Russia's choices. The point of departure is that energy materialities possess agency that frames policies and practices, narratives and discourses by limiting or enabling different actors to exert power. This means that the power of various energy sources and the materialities linked to them, such as oil geology and geography, pipeline infrastructure, a district heating network or the heat produced by gas, set conditions for certain political, bureaucratic, commercial and cultural practices in the society. Due to their spatiality and the materialities – the environment, geology, infrastructures, flows, links, networks and rents related and connected to oil and gas – hydrocarbon energy has a conditionalizing effect on societal development, especially in the Russia context. The fact that geography and history frame Russia's choices (Lo 2015) is amplified via the high dependence on oil and gas, which are once again being depicted as part of *Russian* history and geography. Thus, the agency and power of Russian energy is approached with a viewpoint where Foucauldian power-analytics and Latourian actor-network theory meet a spatially thinking scholar.

One presupposition I make in this book is that Russia is a nation and a country impacted negatively by a high dependence on energy rents and flows. Russia is not cursed on the same scale as Saudi Arabia, Turkmenistan or Venezuela, but much more than the United States or Norway, which are also major energy players. Thus, in econometric terms Russia's dependence is a hybrid falling somewhere between these two groups of oil and gas producers. Before the drop in global oil prices that began in 2014, the income from oil and gas exports covered a little more than half of the government budget (Sabitova and Shavaleyeva 2015). Approximately two-thirds of this – one-third of total budget income – comes from oil, because Russia exports 75 per cent of the 550 million tons of

the oil that it produces to other countries as crude oil (50 per cent) and refined oil products (25 per cent). In contrast, nearly three-quarters of the 650 billion cubic metres of gas produced is consumed in Russia, so it only provides approximately 15–20 per cent of budget income flow. These flows of energy within Russia and especially out to the global markets mean that Russia's energy industry accounts for 25–30 per cent of GDP. These indicators show that Russia is highly, but not chronically dependent on fossil energy rents. As these countries grow more dependent on oil and gas, they become more authoritarian, have weaker (official) institutions, and lag behind others economically (Överland et al. 2010).

My aim is to take this fossil energy dependence as a contextual factor that makes many political, societal and cultural discourses and practices understandable. Therefore, the analysis I carry out provides a more profound explanation of the societal and political effects of energy dependence: my arguments utilize empirical studies focusing on the spatialities and materialities of how energy power is practised in Russia. Naturally, the materialities of energy and the assemblages formed around fossil energies do not dictate decisions, narratives, deeds or words vis-à-vis the central energy, environmental, social and foreign policies of Russia. They frame them to the extent that some powerful actors and institutions, such as the state-owned gas giant Gazprom, may use these spatialities and materialities to foster power strategies that benefit these actors. However, at the same time, these very materialities enable resistance by helping to construct and maintain counter-discourses and practices that challenge the (statist) hegemonic discourses and practices. Here also lies the potential for change: the path dependency that creates the spatialities and materialities of fossil energy also helps us to understand what is needed to build a new more sustainable society that draws its power from different spatialities and materialities. Furthermore, energy spatialities and materialities also possess agency with a power of its own that nobody controls. This agency comes close to infrastructural inertia, but is actually a much wider notion: the agency of energy and its materialities are the product of material and human, infrastructural and social, technical and cultural elements. I study this intertwinement using a power-conscious spatial approach, by asking explicitly how the spatialities and materialities of fossil energy are used as part of a political technology or political power in the Russian context, and how this path dependence can be broken.

Historically speaking, from Siberian fur in the sixteenth and seventeenth century to Siberian, Arctic and Far Eastern oil, gas and uranium in

the twenty-first century, Russia has always been socially and economically dependent on the extraction of natural resources and production of raw materials. In that respect, one can argue that natural resources, and even today, energy have always been part of the formula that explains the framework and scope of politics and policies in Russia. The argument I make here is that Russia's high societal dependence on the extraction of natural resources impacts not only politics and policy but also the polity (e.g. Ferguson and Mansbach 1996). Polity refers to the whole spectrum of how the society is governed and ruled, including how it is kept intact discursively. A polity is made up of 'identity', 'resources' and 'hierarchy', which are factors that explain and justify each other. Identity is linked to the (natural) resources that are, again, linked to the way the society is governed. This is the situation everywhere concerning any nation or state: the environment and its resources *do* effect the identities of that particular culture. However, the fact that Russian society has *always* been governed in a hierarchical top-down fashion by tsars, general secretaries and presidents, who exert their personal power and that of the elite over the people in a non-democratic way, urges us to ponder more thoroughly the link between identity, rule and resources. In this book, I argue that the high dependence on natural resources and – in the case of Putin's Russia – energy encourages a more authoritarian rule than what would have been the case with a different view of resource geographies and the economic strategies utilizing those geographically versatile resources. Thus, the geographies of natural resources and histories related to their extraction play a pivotal role. The fact that the main stock of natural resources – from furs to timber and coal and from hydrocarbons to uranium and diamonds – has historically been located in the periphery and thus spatially detached from the main bulk of population and from central settlements and cities in the core areas is the key to understanding the form of rule that has developed in Russia. The rulers have never really been dependent on people as resources, but on natural resources that have been and are detached from communities and the people. Thus, my argument is that geography has played a significant role in framing how the country has been governed – and it continues to do so.

Thinking of the polity formed over centuries in the territory we know as today's Russia, another concept – namely Great Power or *Empire* – is closely linked to the discussions on polity and of paramount importance. I argue that in the Russian case, the empire rather than the state is the territorial manifestation of a polity. The territories of an empire are not strictly defined and fixed, as with Westphalian states, which leads to a fluid body politic and, thus, implicitly to unpredictable behaviour.

Political scientists who focus on Russia and politicians and diplomats who know Russia tend to agree only about this: Russia has been and remains unpredictable. Approaching this discussion with a spatially schooled mind inspires the following question: is Russia as a nation and as a polity doomed by its geography? Is it doomed to authoritarian rule and poor governance, unpredictability and, subsequently, violence towards its own people and the outside world because of this built-in unpredictability, and therefore seen as a pariah state among the nations of the world? The economic and political trends of post-Soviet Russia unfortunately strengthen this gloomy prediction (for example, Gel'man 2015; Gessen 2017). The role of natural resources – especially fossil energy, oil and gas – has increased significantly since the last Soviet decade: in the 1980s the GDP share of the energy sector was about 10 per cent, whereas during the 2010s it is around 25 per cent (Simola and Solanko 2017). The energy sector did not dominate the Soviet economy, but it does dominate Russia's. In addition to arms, energy and raw materials are the only competitive Russian products in world markets. The recent increased inputs to the arms industry is the direct consequence of energy rents, oil and gas money, which are easily available to the regime and are also used to protect the regime against enemies – internal and external, real and imagined. I argue that the violence Russia has carried out is linked to the fact that the Putin regime feels threatened by internal and external actors – it either really thinks that it is a surrounded fortress that other groups and states want to conquer and destroy or it uses this narrative as clout to justify extreme measures that distract public attention from the real structural problems facing Russia (Gel'man 2015; Yablokov 2018). At the heart of this fear is the realization that the regime is in fact extremely weak, and its legitimacy constantly challenged first and foremost by the Russian people. A central issue being challenged by the population is the role of Russia as a mere producer of raw materials, 'an energy-producing appendage of the West' (Rutland 2015), as this is linked to the layman's experience of economic injustice prevailing between the elite and the people. Therefore, the increasingly central economic and political role played by hydrocarbons has to be justified to the Russians; and this must be done, as the future of the Putin regime itself is in many ways dependent on hydrocarbons. This has pushed the regime to build a legitimizing narrative around hydrocarbons, in addition to turning the focus from systemic economic and societal problems caused by the fossil energy dependence to producing conflicts on the international arena in hopes that the construction of an outside threat will unite the Russian people under the grand strategy. Thus, the violence Russia has practised

and propelled in Ukraine and Syria, and the hostile actions towards its Western partners – from meddling in elections, mingling with and funding the far-right, performing 'covert' targeted military operations, hacking and trolling, and even running a state-led doping programme – are all carried out in order to produce fault lines in Europe and America and to weaken the West. All this may seem like we are witnessing a strong Russia. However, what we really see is the fearful leadership of a 'Potemkin Empire', which understands that its power and legitimacy are actually built on very shaky ground.

During the Putin era and since 2000, economic affluence and wealth has also been increasingly concentrated in the hands of a shrinking group of people. Today, three-quarters of the wealth in Russia is owned by 1 per cent of the population, or approximately 1.5 million people. In comparison, this figure is less than 40 per cent in the United States and China (Shorrocks et al. 2016). The ability to accumulate wealth within networks of power may seem like an outcome of deliberate decisions. However, the ability to do so is also linked to the specific geographies of energy. Since the number of people employed in the oil and gas sectors in Russia is relatively low, despite the fact that companies such as Gazprom are among Russia's biggest individual employers, the workforce in the oil and gas sector has poor bargaining power. The silence of the few people needed to keep the hydrocarbons flowing from the wells to households, power plants and export can easily be 'bought' and tamed, without the need for the regime to submit to labour's political agenda. Timothy Mitchell (2011) describes this paramount change in labour bargaining power when the global energy transition pushed us away from dependence on coal, and married us to oil and gas. People employed in the coal industry were a political body that had a democratizing effect in Western industrializing countries: the labour unions would not have been strong without the bargaining power of the coal workers, who were in a position to halt industrial production dependent on coal via strikes and blockades, thus providing leverage in relation to how capitalists and political elites could accumulate wealth and power. This leverage potential existed during the Soviet economy, as coal and steel industries were economically pivotal in addition to being major employers. Of course, this leverage position can easily be contested by arguing that the totalitarian nature of the Soviet state did not allow this position for the workers. We know that the labour unions of the Soviet Union were *de facto* weak (Blom et al. 1996). The labour unions provide some social stability in today's Russia, but remain as weak as during the planned economy. Moreover, the most lucrative and thus important sector of the Russian economy – oil and gas industries – is a good employer with high salaries, but oil and gas

workers have poor political leverage. It accounts for a meagre 1–2 per cent of the overall workforce, depending on the definition (Simola and Solanko 2017). The fact that oil and gas are produced in areas with extremely low population densities, detached from settlements and the densely populated European Russia, further enables the Putin regime and its closest entourage to keep the main rents and networks of power in their hands. The geographies of natural resources and those of fossil energy thus allow the Russian leadership to carry out policies that serve their interests and consolidate power via two factors that reinforce each other. First of all, the sector that produces rents and enables power within Putin's entourage is (socio-)politically weak due to the low number of people employed in that sector, and therefore easily controlled and tamed. Second, the production and transportation – and to lesser degree refining – of oil and gas take place in spatially extremely confined points and corridors in the territory of Russia, detached from the lives of most Russians, which means that extracting those resources does not expose the Putin regime to any serious conflicts with the local communities and Russian society.

In summary, oil and gas both make it possible for and push Putin's regime to be violent towards its own people and pay little attention to international norms – from respecting the sovereignty of other states to promoting global efforts to mitigate global climate change. I emphasize that a Russian Empire that is less dependent on hydrocarbons or similar resources that centralize power could still be an unpredictable and violent actor. However, I argue that the *likelihood* of this is significantly lower in an energy and resource-wise decentralized, economically regionalized and politically federalized Russia than under the contemporary hydrocarbon-based rule. Next, I will discuss the premises for moving away from that diabolical hydrocarbon dependence.

RESOURCES FOR ENERGY TRANSITION?

Russia is an energy giant – and this concerns hydrocarbons, coal and uranium as well as renewable energy. In addition, Russia has the technologically relatively developed society needed to foster an energy transition towards a low-carbon economy. Russia has a large bioenergy potential via its forests, which are the largest in the world, but its extensive territory also provides the potential to develop wind, small-scale hydro, solar and geothermal power in an economically viable way. Despite this promising premise, a more accurate glance reveals that high dependence on extraction of natural resources, which defines the Russian

economy and politics, is an aspect hindering the transition towards carbon neutrality and renewable energy. The most crucial factor defining energy governance in Russia is the fact that its territory is endowed with large deposits of oil, gas, coal and uranium. Especially, the pivotal role played by oil and gas industries in the Russian economy and the strong linkages between political power and the fossil energy sector seem to be at odds with the energy transition objectives also set in Russian governmental strategies since the early 2000s. The energy sector covers roughly a quarter of national GDP and the export of oil and gas alone contributes from one-third to half, depending on the price of oil, to the Russian state budget revenues (Simola and Solanko 2017). In this situation, determined by the realities of Russia's political economy, it is therefore hard to set an unbiased playing ground for those industries and actors making it possible to pave the way for energy transition towards a low-carbon society.

An abundance of energy and resource coupled with historical paths has created immense industries in all non-renewable energy sectors in Russia. The colossal size of the industries and companies in the natural resource sector is the result not only of political history and large resources per se, but also of particular resource geographies: the globally salient deposits of hydrocarbons, coal and uranium are not evenly distributed in the Russian Eurasian space, but concentrated in specific areas that are mostly far away from the population centres. As a result, the oil, gas, coal and uranium industries have required major infrastructural investments in order to develop resources found mainly in the periphery. The fact that gas industry leader Gazprom controls 40 000 kilometres of gas pipelines is thus the outcome of the political economy history in Russia, as well as the distinct population and resource geographies of a country with the propensity to 'stretch' these infrastructures. This feature then magnifies the energy–society loop: the more Russia has been forced to invest in energy infrastructures (such as gas pipelines, oil ports, etc.) to maintain production volumes that allow a particular level of rents, the more its political choices have been decreased concerning the energy transition from a carbon-based to a carbon-free energy system.

Energy efficiency objectives promote, at least on the discursive level, the introduction of renewable energy sources (RES) because renewables are also seen as a substitute, especially for oil and coal in the domestic energy mix. Nonetheless, this goal seems very difficult to attain, despite the fact that the legislative base to invest in renewable energy projects has been laid, and there are a few cases of recent successful RES projects. Russia has all the material resources to become a 'Green Giant', but at the moment it is severely falling behind all other major energy powers –

the EU, China and the United States – in RES deployment. Lastly, the proportional increases in RES utilization may encourage the idea that a major transition is already underway in Russia, but this is only due to the exceptionally low starting point of RES utilized in Russia.

THE 'ENERGY MIX' TODAY

Russia is a significant energy exporter and rents obtained from exports of oil, gas, coal, uranium and nuclear technologies constitute about half of Russia's budget revenues, in addition to which the energy sector produces about a quarter of Russia's GDP. Around half of the energy produced in Russia is consumed in the country, which means 730 million tons of oil equivalent (toe), out of 1370 toe total. Since the 1970s, the share of natural gas has increased significantly in the energy mix, and today it accounts for half of the overall energy consumption in Russia. Oil covers around one-fifth of Russia's energy demand, coal a little less than 20 per cent, and nuclear 6 per cent. Hydropower and renewables both cover between 1 and 2 per cent of the total energy demand, but hydropower and nuclear power cover one-third of electricity production in Russia, with each accounting for 15 per cent. Gas dominates electricity production with a share of almost 50 per cent, although its role has diminished during the last decade, whereas nuclear, coal and hydropower each constitute about one-sixth of the electricity produced in Russia (Table 1.1).

The transition from heavy oil and coal to gas in heat and power generation is a paramount systemic change in the energy sector of Russia. This change is pivotal not only due to its positive local and global environmental impacts – gas consumption releases far less pollutants affecting human health and ecosystems on a local (SO_2, NO_X, soot, etc.) as well as global (CO_2) level than oil and coal – but also concerning the role of players in the field of energy markets and policy. The gas sector is consequently central in all energy policy fields in Russia: gas covers half of overall energy consumption and along with electricity production, households are very dependent on gas indirectly via district heating and directly because gas is extensively used in cooking.

Table 1.1 Total primary energy supply (TPES) in Russia (IEA 2018b)

Essential energy data, 2016 Total energy production: 1373.7 Mtoe (natural gas 39.2%, oil 40.0%, coal 15.2%, nuclear 3.8%, hydro 1.2%, biofuels and waste 0.6%), +29.5% since 2002
TPES: 732.4 Mtoe (natural gas 50.7%, oil 23.7%, coal 15.5%, nuclear 7.0%, hydro 2.2%, biofuels and waste 1.1%), +18.4% since 2002
Electricity generation: 1088.9 TWh (natural gas 47.9%, nuclear 18.1%, coal 15.7%, hydro 17.0%, oil 1.0%, biofuels and waste 0.2%, geothermal 0.1%), +21.6% since 2002
TPES per capita: 5.2 toe, +21.4% since 2002 TPES per real GDP: 0.34 toe/USD 1000 GDP PPP, –23.6% since 2002

Nonetheless, there are significant regional differences in the energy mix, with the European part of Russia, excluding the High North, depending on gas, nuclear and hydropower, whereas Siberian Russia, especially the Far East, still relies on coal as the main energy source, although central Siberian industrial cities have evolved around massive hydropower plants that function as the primary source of energy for the heavy industries in these centres (Novosibirsk, Krasnoyarsk, Irkutsk, etc.). High reliance on coal, especially in the Russian Far East affects regional and even foreign policy considerations in the Kremlin. Thus, the national gas distribution programme, *Gazifikatsiya Rossii* (see Chapter 3), is carried out not only to raise gas coverage in the peripheral parts of European Russia and decrease the high level of energy poverty in these locations, but also to connect Siberian and Far Eastern regions and population centres to 'mainland' Russia. This connectivity is vital both in maintaining central control over these far-away regions, and subsequently impeding Chinese influence in this region that Moscow views with a geopolitical glance: as a potentially separatist region (cf. Wengle 2015, p. 10).

Wood has traditionally been the main source of energy in many Russian peripheral settlements in the countryside, as well as the source of energy and raw material for the Russian forestry industry mainly located in the Northwest and in Southern Siberia. Russia's overall capacity in renewable energy is vast, but less than 1 per cent of its total primary energy production is based on renewables (see Table 1.1). However, when measured in terms of what is economically viable with today's

prices and technology, Russia could produce one-third of its domestic primary energy with renewables (Shuiskii et al. 2010, p. 325). In addition, more ambitious policies would allow renewables to cover all electricity demand in Russia (Bogdanov and Breyer 2015).

EXPORTING A BEAR'S SHARE

Russia exports roughly half of its energy production, 640 million tons out of 1370 million tons produced yearly. European Union countries are still by far the biggest buyers of Russian energy, but flows to China are increasing. The EU member states buy approximately 60 per cent, or 330 million tons, of oil produced by Russia, which is equivalent to three-quarters of the oil exported by Russia. Although oil is economically the most important commodity between the parties, trade issues and especially disputes over gas dominate the headlines. Russia produces approximately 600 billion cubic metres (bcm) of gas, but unlike oil most of it – nearly 70 per cent – is consumed in Russia. Gas is the most important energy commodity within Russia, and also the most power-vested in terms of both domestic and foreign policy. The EU countries import approximately 200 bcm of gas from Russia, accounting for one-third of all Russian gas production. Almost all gas flows to Europe via a few major and politically debated pipelines: old pipes traversing Ukraine, Belarus, Poland and other Central European countries, and the new Nord Stream I and in all likelihood also the twin pipeline Nord Stream II in the near future. In combination, they move up to 110 bcm of gas along the bottom of the Baltic Sea from Russia to Germany, and from there on to European markets. In the future, the Russian gas companies Gazprom and Novatek also aim to export gas to European and world markets in liquefied form, LNG.

In addition to exports of hydrocarbons – oil and gas, as well as refined products from oil, gas condensates and gas – Russia is a major provider of coal and uranium. Again, the EU market is the primary destination for Russia's coal and uranium. Russia produces approximately 300 million tons of coal annually and one-third of this, or 100 million tons (in energy content this is equivalent to 70 Mtoe), is bought by EU countries. The volume (2150 t) and share (15 per cent) of uranium of Russian origin feeding European nuclear power plants, some of which are Soviet/Russian design, is also significant (WNA 2016). In terms of importing energy to the EU space, Russia provides approximately one-third of all imported fossil energy sources – oil, gas and coal – in all the sectors, and

one-sixth of all uranium. All in all, Russia is a pivotal provider of energy to the European markets, and an emerging seller of energy to China.

As discussed above, domestic consumption of renewable energy in Russia has not evolved remarkably. However, real competition for Russian renewable energy might develop in a decade or two. For example, about 80–90 per cent of bioenergy produced in Russia is currently exported. By far the biggest importer thus far has been Sweden, where a large number of private households rely on pellets for heat production. Finland, Germany, the Netherlands, Denmark and Italy have emerged as important buyers of Russian bioenergy (Aguilar et al. 2011, p. 90). For Russia, it would make sense to export those forms of renewable energy that are exportable, mainly bioenergy, and proceed in replacing domestic fossil fuel consumption with non-exportable renewable energy and with hydro and nuclear power. The fact that the EU is moving fast in the renewables sector and that Russia seemingly plans to rely more on renewables only after 2020 (Ministry of Energy RF 2009, p. 23) creates a win-win situation for these energy partners, especially with consideration to the next decade or two. *The Energy Roadmap 2050* (European Commission 2011a), which was formulated between the two parties and in the framework of the EU–Russia Energy Dialogue (European Commission 2011b), clearly states that Russia could become a source of both renewable electricity and bioenergy imports for EU countries.

INSTITUTIONAL ACTORS ON THE ENERGY SCENE

The official agencies in control of energy issues within the Russian state administration are the Ministry of Energy (min-energo-gov.ru) and the Ministry of Natural Resources and the Environment (mnr.gov.ru). The former outlines Russia's energy policy, such as the Energy Strategy of Russia (Ministry of Energy RF 2009, 2017), whereas the latter has the mandate to issue licences for new energy developments, for example, granting rights concerning which enterprises can access which energy deposits. The President and the Presidential Administration (en.kremlin.ru/structure/administration) do not have a separate organ focusing on energy issues and policy, yet the President has legislative powers through decrees (*ukaz*) that also apply to the energy sector. However, the President has straightforward leverage on the decision-making of the three state-owned energy companies, Gazprom, Rosneft and Rosatom – all of which are central actors in terms of defining energy policies in Russia.

Gazprom is an open joint-stock company (OAO) in which the Russian state has owned 50 per cent plus one share since 2005. It is the successor to the Soviet Ministry of Gas Industry and at the moment employs more than 450 000 workers, produces 70 per cent of Russia's gas and also includes finance and media in its portfolio. Despite the fact that Gazprom is a commercial enterprise and not a state corporation, it can be defined as a parastatal company. Naming it as a parastatal company implies that the Russian state and President Putin's regime exercise authority over the decisions of the enterprise to a greater extent than its legal position as a commercial enterprise would allow. Naturally, not all the decisions of the enterprise are politically motivated, as business rationale is the main motivation for operational decisions taken by the company. Moreover, Gazprom is a vast company that includes dozens of regional subsidiaries with objectives and political voices stemming from the realities of the Russian regions. That said, all strategic moves, especially concerning overseas operations and major infrastructure projects, are decided by Putin's entourage. Since the company is controlled by Russia's political elite, it has more privileges and also more state-defined societal tasks than any other enterprise in Russia. In the 2010s, Gazprom lost its monopoly over gas exports and had to grant other companies, primarily Novatek, Rosneft and Lukoil, access to the domestic gas pipeline system. However, the monopoly still predominates in practice despite the fact that more competition is now allowed. This position has allowed it to diminish competitors' opportunities to increase their market share in regional energy mixes or the national gas market. This makes Gazprom's position in the Russian domestic energy sector an exceptional one: it has the power to block renewable energy and coal producers who have prospects to increase their production in the Russian regions, as well as the ability to prevent oil companies from feeding associated petroleum gas into the national pipeline system (more on Gazprom in Chapter 3).

Rosneft is another state entity focusing primarily on oil production. It is the world's largest listed oil company by output and has a workforce of 250 000 employees, bringing it close to Gazprom in terms of its role in the Russian economy and society. With 50 per cent state ownership, Rosneft can be similarly defined as a parastatal company, despite its substantial private and foreign ownership (BP and unknown offshore owners each hold 19 per cent). The national oil company, which is the successor to Mikhail Hodorkovsky's Yukos oil company that was taken over by the state in the early 2000s, is to an increasing extent challenging Gazprom's monopoly in the gas sector and that of the second largest gas producer Novatek, which is privately owned but still controlled by people close to the president. Rosneft has a central role in the energy efficiency

of oil production in Russia, which is a major contributor to the greenhouse gas (GHG) emissions and other environmental problems of the country. This is linked to the fact that Rosneft produces two-thirds of Russia's oil and also has the lowest energy efficiency in the oil sector. This is most pronounced when looking at the issue of burning of associated petroleum gas on the site of production, also known as APG flaring (see Chapter 5).

Russia's third major energy player is Rosatom, a state corporation that functions in the nuclear energy business in addition to producing nuclear weapons. According to Russian legislation, Rosatom, unlike Gazprom and Rosneft, has no obligation to produce an economic surplus. The nuclear giant is thus better resourced and positioned to promote energy and other policy objectives set by the state domestically and internationally. In Russia, nuclear power is prioritized in relation to renewable energy and coal, but not compared to gas, and internationally Rosatom is able to compete and increase Russian influence through highly attractive nuclear power plant and uranium provision offers (see Chapter 4; Tynkkynen 2016c).

Naturally, a central actor is the Russian society at large. The authoritarian nature of the Putin regime means we cannot really talk about Russian civil society per se having a significant effect on policy formation or chosen policies – at least not in the way civil society actors in liberal democracies affect political life, for example, via representative (local, national elections) and more direct democracy (civic initiatives, lobbying and protesting, NGO activism). However, despite the fact that the political and economic elite of Russia enjoys far greater freedom than their counterparts in liberal democracies with regard to implementing energy policies based on their incumbent interests, there remains a need to justify the decisions and actions of the elite to the Russian people via practical and discursive means. This is shown in detail in the following chapters.

THE VISION FOR A GREEN AND RESILIENT RUSSIA: CLIMATE CHANGES GEOGRAPHY, GEOGRAPHY CHANGES POLITY

As outlined above, I intend to push the discourse on the entanglement of energy and power further by adopting a spatially conscious take on energy and power. By means of this theoretical and methodological choice, I argue that we can know more about Russia – a country, I claim,

that can turn into a global vector for positive and sustainable development. Therefore, I want to use this book to engage in critical discussion about Russia's choices. I argue that Russia is suffering from a multitude of societal problems due to the intertwining of political power and fossil energy. Fossil energy, oil and gas, is not a competitive advantage for Russia on the global stage, and thus not a blessing for the Russian leadership and its people. My view of the current state of affairs concerning Russia, resources and energy is critical, but far from hopeless or nihilistic.

I will use empirical studies to not only show why the existing hydrocarbon-based system is a barrier to development in Russia and beyond, but also that Russia and the Russian people can choose differently and prosper. Hence, the book ends with a realistic vision of a future where the consequences of climate change and the economies that will flourish due to it, which seem so insignificant to many Russians and the Putin regime at the moment, will function like a game changer. I argue that despite the historical inertia of resource-led development and the authoritarian rule encouraged by it, Russia is not a prisoner of its own geography. More precisely, geography and resources are Russia's assets – as they are anywhere else – but the challenge is to lean not on the most tempting and disastrous option, as is the case today with oil and gas, but on those riches that enable a resilient and sustainable Russia and a healthier planet. Unfortunately, this change will partly come about because of global environmental change and especially the adverse social and economic effects this change has on Russia. However, this 'stick' effect will be accompanied by a 'carrot' effect, and this is where Russia's potential as a 'Green Giant' or an Ecological Great Power plays a pivotal role.

Russia is also an energy giant in terms of renewable energy, and here Russia can play an important role in transforming its own energy system and drastically reduce its own emissions – Russia is currently the fourth largest emitter of GHG (Korppoo et al. 2015) – while also providing the means for others, namely China and Europe, to enable the switch from fossil-based energy systems to those relying on renewables. This systemic transition and political transformation has good potential to materialize, because it is well-suited to the socio-cultural and political self-understanding of Russians. Thus, I argue that *Empire* or seeing Russia as a Great Power which is a view shared by many in Russia, is an asset that can be used for the common good of Russians and humanity (see N. Tynkkynen 2010). In other words, this new role will suit the Russians very well, as it appeals to the national identity: the idea of a Great Power with a special global, even messianic, task has always been

a central element in Russian political thought (e.g. Kivinen 2002). This means that Russia, along with other great powers, can be a key player in fostering the transition to a climate-neutral world. As climate change risk becomes reality and also because of its nature, Russia can enable positive change by promoting a new kind of energy policy. Russia can subsequently become a strong player, one that is resilient and sustainable both internally and externally. However, this requires that Russia and Russians re-evaluate their geography and the strengths it provides, which in turn entails profound changes in political priorities within the country. Encouraged but also pushed and forced by global environmental and economic changes, Russia is capable of drifting onto a positive development path where energy and natural resources continue to play a role. However, the profoundly different spatialities and materialities, geographies and infrastructures of renewable energies can help to guide this monolithically-ruled country onto the path of decentralization, regionalization and federalization. Here, the whole territory of Russia becomes an asset, as opposed to the minuscule points on the peripheral Siberian tundra where oil and gas are extracted today.

At the moment, a chronic dependence on fossil energy, hydrocarbons and a characteristic tendency to centralize and strengthen the hierarchy make Russia weak in terms of domestic and economic policy and subsequently an unpredictable and dangerous player in terms of foreign policy. The country dodges potential criticism of the chosen hydrocarbon culture and its economic rationale by raising nationalistic sentiments among Russians by waging war and carrying out mafia-inspired manoeuvres internationally. This social contract – the people are given bits of the wealth created via hydrocarbons while political citizenship is denied – rests on the assumption that the fear of a foreign threat, either cultural (liberal values), economic (decarbonization) or geopolitical (military cooperation), unites Russians under the guise of hydrocarbon culture and Fortress Russia. The blueprint and potential for a new energy-political system and mentality – a nation and an economy that enables rather than discourages the global change to a sustainable future – is founded on the idea that Russia's geography and its central assets as well as cultural and political thought act as our guiding light.

2. Russia's energy via a spatial prism: energy flows in a mycelium of power

In this chapter I look at Russia's energy as a relational space. I scrutinize flows of hydrocarbons, coal, and different renewable energy sources across geographical space – not in the absolute terms of tonnes and cubic metres, but based on their 'ability' and usability to form economic, political and societal ties and power-vested practices. Thus, in this chapter I lay out the conceptual toolkit this book builds on – in other words, this chapter brings together energy spatialities, materialities and power. I also introduce the concepts of *hydrocarbon culture* and *energy superpower*, which are central to understanding how fossil energy and political power are intertwined in Russia.

THE PROBLEMATIC SPATIALITIES OF HYDROCARBONS

Geographers have argued that the non-territorial and point-like nature of hydrocarbon production is a major cause of several shortcomings in the social and environmental responsibility prevailing in energy producer states (Watts 2004a, 2004b). Oil and gas are produced in specific locations, points in a geographical space, and then transported to consumers via narrow strips called corridors. Although modern societies are 'soaked' in oil and gas, and we have become chronically dependent on them, after all hydrocarbons 'touch' the Earth very little at the production end of the commodity chain. Of course, consumption and (mal)practices in the hydrocarbon industries ensure that oil and gas cover the whole planet in the form of soot, sulphur, nitrogen, volatile organic compounds and carbon dioxide emissions. The very fact that hydrocarbons 'touch' the ground so selectively and, especially in the Russian case, are located in the peripheries away from communities and society at large is a factor producing negative path dependencies. Bridge (2010, pp. 527–8; 2011, pp. 317–19) argues that, in essence, there are several

ways in which the materiality of oil (and gas) produces crisis situations within the normal functions of the industry, as listed in bullet points below. Here the materiality of hydrocarbons refers to those concrete material artefacts, such as oil development infrastructure and gas transit and distribution pipelines, as well as less tangible but still material forms of substance like oil and gas deposit geology, air pollution and greenhouse gas emissions.

- The discrepancy between hydrocarbon resource geology and the colossus structure of the oil industry produces a landscape of leapfrog development as small fields are neglected. This has led to a focus on mega deposits located in more extreme environments and depths – with the related dire environmental and social costs.

Russia's hydrocarbon companies, Gazprom and Rosneft in particular, are among the biggest in the world. For example, these two parastatal companies have been granted a monopoly in oil and gas exploration and extraction in the peripheral offshore Arctic and in some East Siberian fields. These two major greenfield energy provinces are even more detached, if possible, from Russian society than the brownfields of today. In the Russian case, this leapfrog development – the large volumes of unearthed oil and gas that remain in less opulent deposits in the brownfield energy provinces of Volga-Urals and Western Siberia – is thus tied to the structure of the industry, as suggested by global theory. As a result, the hydrocarbon energy geographies strengthen the fatal connection between authoritarian rule powered by peripheral resources, and uncontrolled by society.

This reasoning on the spatial effects of the hydrocarbon commodity chain is partly based on the arguments expressed in theoretical discussions of the resource curse, or paradox of plenty. The perspective emphasized here refers to those spatial effects that are related to internalizing non-renewable resources as infinite. That means that this distinctive resource curse mentality (Tynkkynen 2007; Watts 2004b) functions as a catalyst for exacerbating the territorial effects. This mentality produces a combination of discourses and practices to uphold a distinctive political setting that dwarfs all sectors of the local economy except those based on hydrocarbons. In the Russian case, the social cost is the further encouragement of environmentally unsustainable and politically unaccountable practices.

- A 'systemic leakage' of carbon along the hydrocarbon commodity chain produces environmental and social problems ranging from

upstream developments to downstream use and from the local to global level, for example, from human health problems caused by ambient air to global climate change.

The most problematic and seemingly endemic adverse material dimension of hydrocarbons is probably the social and environmental effects of the 'systemic leakage' of carbon. Russia is a prime case embodying a wide range of emissions within and throughout its hydrocarbon commodity chains. Russia is not the biggest polluter of the climate, as its greenhouse gas emissions, some 2000 million tonnes of CO_2 equivalent (emissions + 2644 Mt CO_2 e/y, carbon sink (forests etc.) – 634 CO_2 e/y) put it fourth among polluters after China, the United States and India (Climate Action Tracker 2018). However, Russia does unfortunately well on this list with regard to all other 'records'. Russia has the most oil pipeline accidents, an estimated 15 000 to 20 000 per year. When combined with leakages in oil production and refining, this represents between 1.5 and 5 million tons of oil – up to 1 per cent of production – released into the environment (for example, Thompson 2017; Vasilyeva 2014). Russia's hydrocarbon industries are flaring – burning without using the energy content – the associated petroleum gas, somewhere between 10 and 20 bcm per year. The vast range of estimates concerning these emissions tells a grim story: the hydrocarbon-dependent regime of Putin is unable to exert environmental control over the polluting industries. Methane emissions in oil and gas production, and also during gas transportation, continue to be a black box: there is no reliable and transparent data or ongoing research regarding these emissions. The sheer size – 40 000 km of pipelines inside Russia – of the gas transportation system is a sign that we need credible knowledge about emissions along the hydrocarbon chains.

Furthermore, the costs of pollution along the hydrocarbon commodity chain are predominantly borne by those who do not enjoy the wealth and power produced by the commodity trade (Bridge 2011, pp. 318–19). In other words, the flow of hydrocarbons through societies produces a cumbersome conflict in which the economic prosperity and growing affluence of one group produces externalities, such as environmental and health problems affecting people and communities in a less privileged socio-economic situation. Campbell (2003, pp. 439–40) argues that the inability to address this conflict from local to global contexts is the most important barrier to sustainable development and also poses a severe security threat.

Chapter 5 looks at the effects of leapfrog development and the systemic leakage of carbon through the Russian Arctic context, and

Chapter 6 is devoted to the narrative being built by the hydrocarbon-dependent regime in an attempt to justify why the global carbon problem is something Russia and Russians should not worry about.

- The molecular logic of hydrocarbon production produces societal power from the ability to control oil and gas wells, not from administering the territory. Hence, the 'geography of holes' promotes the logic of violence and possession, making it difficult to embrace justice and democracy.

This spatial dimension of a hydrocarbon-dominated Russia is the key to understanding the resource-driven push towards more authoritarian rule. Russia has always been economically dependent on resources of the periphery, so it is no surprise that this spatial drift towards resources has also been called internal colonialization (Etkind 2011). The resources have been and continue to be detached from Russia proper, the densely populated European and Southern Siberian areas, just as the resources of Africa and Asia were detached from the European colonial centres. In Eurasia, they were separated by swamps, rivers and forests rather than oceans as was the case with European colonial pursuit. During tsarist times and the Soviet era, when extractive industries focused initially on commodities such as fur and timber and later on ores, coal and precious stones, the regional geographies of extraction were less dominated by point-source production and employed proportionally more people than is the case today in the oil- and gas-dominated economy of Putin's Russia. Large workforces and resource geographies were more closely linked to local communities, which meant that governance and the logic of power were different. For example, the democratizing and decentralizing factor in the late-tsarist period was grain – a territorially and subsequently non-point-source produced resource that was in high demand both at home and abroad. The spatial extent of the resource, grain, which was the most valuable export commodity of pre-revolutionary Russia, dictated that the production, harvest and transportation of it was intertwined with the society and its local communities, villages, towns and cities. The Empire did try to resist the decentralizing force of agriculture by serfdom, but it was the self-governing local body of *obshina* or *mir* in the grain-producing areas of Russia that started the decentralizing and democratizing process from the bottom up soon after serfdom was abolished (for example, Dalmatovskii monastyr' 2016). The hydrocarbon-dominated economies and geographies of today have no such force

pushing for the decentralization of economic and political decision-making, and thus no potential for the emergence of a real federal governance structure.

- Flows of hydrocarbons from upstream production areas to consumers produce a 'horizontal choke-point geography', as securing high-value and energy-intensive hydrocarbon transport corridors, such as pipelines, generates significant opportunities for control.

The fact that oil, and especially gas, is delivered to consumers within Russia and abroad via controllable corridors that are wide-ranging but small in number is a feature that allows energy to be used as a political tool in domestic and transnational realms alike. The potential for political leverage via energy flows and infrastructures would not be so strong without state control of the pipelines. However, both oil and gas pipelines in Russia are controlled by the state-owned companies Transneft and Gazprom, respectively. This provides extensive opportunities to exert power via energy flows within Russia by utilizing both soft, alluring and hard, coercive, means.

Both the vertical and horizontal dimensions of hydrocarbon flows promote an understanding of geographical space as controllable flows of resources, not as a territory of communities. Using Castells' (1999) concepts of the spaces of flows and places, this implies that the hydrocarbon commodity chain accentuates the space of resource flows over the space of personal and communal locations. For example, just like oil and gas pipelines, highways and airports are seen more as *spaces of flows* with attached rules, while residential areas are pictured as *spaces of places* resisting the rules associated with spaces of flows. Interestingly, as we shall see in this book, state-dominated oil and gas companies in Russia attempt to construct a new kind of sense of belonging to place and community by using the materiality of hydrocarbons as the basis for this cultural and political construction. I argue that this construction aims to build a *hydrocarbon culture*. All in all, control of crucial energy flows is, in a world highly dependent and intertwined with these flows, a tool any empire would desire. However, this power – as it conflicts with the global normative must of decarbonization – comes at a cost: low resilience of the regime due to unsustainability and the narrow base of the chosen economic policy.

Chapter 3 examines the real-life effects of hydrocarbon geographies of horizontal 'choke-points' and vertical 'holes', for example, how energy is used as a tool in maintaining Russia as a unitary state. In the transnational context, energy as a geopolitical tool is as much a discursive as

a practical issue, and the narrative of energy superpower is unfolded in the following, whereas Chapter 4, illustrated by Finnish–Russian energy trade and diplomacy, analyses the practical issues of energy as a foreign policy tool.

HYDROCARBON CULTURE IN THE MAKING

Putin's Russia is highly dependent on fossil fuels and other non-renewable natural resources. Since Putin's re-election in 2012, we have seen a more conservative, authoritarian and assertive Russia (Gel'man and Appel 2015), with an economic policy that increasingly relies on the fossil energy sector. These developments also explain the change of tone on climate change and strengthening link between fossil energy and Russian identity. Thus, changes in political emphasis go hand-in-hand with the need to define Russia as a 'hydrocarbon superpower' (Bouzarovski and Bassin 2011). An energy superpower is a country that is able to influence the political choices of other countries through energy exports, by producing dependencies via energy infrastructures and economic benefits generated by the energy trade. The means are thus both coercive and alluring, hard and soft. Discussion of whether Russia is an energy superpower culminates in the question of how Russia has used energy as leverage in foreign policy with regard to the main customers for Russian energy, chiefly Russia's Eastern European neighbours and the EU.

The main claim in my book is that energy wealth and power has been turned into a tool for identity construction in Russia – a hydrocarbon culture in the making. Thus, the economic and political dependence on fossil energy is profound in nature, also encompassing the spheres of culture and identity. This concept makes it easier to understand not only why fossil energy is an identity issue, but also why energy is utilized as leverage in domestic and foreign contexts, and why responsible climate policies are not an option in Putin's Russia. However, it must be remembered that the political and economic elite of Russia is probably very aware of the economic problems related to hydrocarbon dependence and the narrow base of Russia's economy. The people perceive that this dependence – exporting raw materials and importing goods – means Russia is easily seen as a developing nation, which does not fit in well with the great power frame that is the very heart of the Russian national identity. However, as Rutland (2015) deftly shows, most Russians simultaneously perceive the country as an energy superpower: the weakness of

a one-sided economy is turned into a strength. As a result, the above-mentioned identity construction tool that depends on energy and power has to be used consistently if Putin's regime wants to strengthen Russia's superpower status on the basis of hydrocarbons.

I use the concept of hydrocarbon culture, but similar notions have been developed by other scholars interested in the intertwining of energy, power and culture in Russia. Ilya Kalinin (2014), Douglas Rogers (2012, 2015) and Peter Rutland (2015) have inspired others to engage in similar research with versatile empirical approaches. My own take on the hydrocarbon culture in Russia relies on my research dealing with the materialities of hydrocarbons (gas), and how they feed into the national identity of Russians as citizens of an energy superpower. This power – projected via international gas pipelines and a military vocabulary – forms the core of the ability to do harm in the domestic arena as well: gas energy, infrastructure and the gas industry are defined and viewed in a manner that underscores the submissive role of individuals and communities. The specific ways of thinking and strategic technologies of rule are brought together to build a specific governmentality of a hydrocarbon culture.

The governmental mentality of hydrocarbon culture reflects many conservative objectives of the state and the regime, but by far the most important of these is conservative economic policy relying on the extraction of natural resources and fossil energy. Hydrocarbon culture can thus be seen as a tool to prevent popular criticism of economic policies that resemble those of developing states, and the chosen economic system – one that is increasingly dependent on the hydrocarbon sector and in which Russia's role in the global trade is merely that of a raw material provider, an 'energy-producing appendage' of the West. As Rutland (2015) argues, despite the fact that the majority of Russians consider their country an energy superpower, most simultaneously oppose the wealth enjoyed by the elite and created by the energy trade while many Russians live in factual energy poverty. Therefore, one motivation to come up with discourses and practices that valorize hydrocarbons is the need to change this impression and fortify the position of Putin's regime. This hydrocarbon culture in the making not only fortifies economic and industrial policies and prevents their modernization, it also advocates authoritarian, non-democratic rule and the regime's Great Power ambitions throughout Russia. Thus, despite the fact that weaving energy and natural resources into the social fabric of the society might have its positive sides, for example, in the form of eradicating energy poverty in the countryside via the national gas

programme, the implications of the practices I have observed in contemporary Russia do give rise to more worrying thoughts. For example, the amalgamation of the needs and rationalities of the fossil energy sector and the domestic and foreign policy interests of the current regime provide grounds to argue that fossil energy, energy infrastructures and the versatile 'epiphytes' attached to it have allowed the state to construct and maintain black and white, nationalistic identities. These normalizing identities make it possible to curtail modernization of Russia's economy, suppress political opposition in Russia, and build an illusion that everything and everyone in the international arena opposes Russia.

Hydrocarbon culture is also the antithesis of a sustainable Russia. Due to domestic and international factors, the need to follow international environmental objectives has diminished and Russia's image as a responsible energy producer is of less concern than before. This leaves room for the temptation of downplaying climate policy objectives and promoting identities based on hydrocarbons and fossil energy. In fact, the climate-denial discourse (see Chapter 6) and hydrocarbon culture being promoted are only two sides of the same coin: in a nation that sees itself intertwined with the semiotics, materialities and wealth creation of fossil energy (e.g. Kalinin 2014; Tynkkynen 2016a), the impetus to be at the forefront of climate politics is a very unlikely choice. Moreover, the emerging energy culture of a fossil giant is attempting to monopolize and distort the environmental agenda, which is in practice transforming it into a social taboo. We see examples of this on the regional level, where state energy giants are inhibiting the development of more sustainable energy and environmental policies and in the nationwide propagation of climate denial narrative in the state-controlled media. In addition, the heightened confrontation between Russia and the West, including economic sanctions that target the energy sector, emphasizes the Russian need to distinguish itself in all possible ways from Western-backed agendas. Thus, as climate change is elementarily linked to the economic base of contemporary Russia and the political power of the ruling regime, in other words fossil energy, it is no surprise that this geopolitical situation makes it appealing to define the issue via sovereignty and national identity.

In summary, it is unlikely that Russia will show leadership in global climate politics and be at the forefront of efforts to cut emissions. If Russia leads or behaves as a compliant student in global climate policies, it is because of Putin's regime's foreign policy interests (for example, to subordinate China), not because there is strong civic opposition among Russians towards Putin's economic, environmental and foreign policies. Therefore, in the near future, another important issue to follow in this

field is the way environmental awareness and civic environmental activism is handled by Putin's regime and its fossil energy entourage. An interesting case to follow is 'The Year of the Environment 2017', and similar environmental agendas of the Russian state. More specifically, how do state organizations, such as the Russian Geographical Society, try to use the framework of such projects to channel and control civic sentiments and empowerment in the realm of the environment and nature? Judging by the choice of the projects promoted and financed under the guise of the Year of the Environment 2017, it seems that the focus is very local: the majority of projects promote household waste and waste water management, and also aim to curtail industrial pollution. Despite the fact that there is a category of projects called 'The Arctic and Climate', none of the projects addresses climate mitigation per se. This shows how the regime prioritizes environmental change that is visible to Russians (waste, air pollution) while ignoring the global environmental change that will have much more severe impacts on Russians and Russia. Once again, this seems to remain in the realm of a taboo for the regime.

THE (POTENTIALLY) GRATUITOUS SPATIALITIES OF RENEWABLES

In terms of renewable energy, the research by Zimmerer (2011) and Bailis and Baka (2011) suggests that the spatial effects of this activity are predominantly positive. As bioenergy is among the most spatially extensive renewables, and thus has potentially wide positive societal and political effects, it stands out as a good example to unfold these effects. Despite the fact that the energy return on investment – the EROI ratio – of most bioenergy carriers is not that good, the CO_2 emissions caused by harvesting and refining are predominantly low (Font de Mora et al. 2012). This implies that the 'systemic leakage of carbon', at least in a global perspective, does not take place in the bioenergy commodity chain, as the carbon released into the atmosphere is recycled in the form of new growth. However, the production of bioenergy causes different environmental effects that can diminish biodiversity in the area of production (Afionis and Stringer 2012, p. 116) and increase air pollution at the consumption end of the chain (Haluza et al. 2012). For this simple reason, the environmental effects of the production and use of wood-based bioenergy are relative to the harvesting techniques and re-cultivation practices prevailing in the area of origin, in addition to burning technology solutions. The same applies to the notion of the leapfrog development that the hydrocarbon industry has been accused of

– bioenergy can be produced in both ways: by overharvesting and by sustainable practices aiming for a sustained yield. The same applies to other renewables, such as solar and wind power: the climate effect of renewables is dependent on the overall sustainability of production and commodity chains. For example, metal extraction requires a lot of energy and other natural resources are needed to construct wind and solar power infrastructures, even though the production itself is carbon neutral.

The resource flows and territorial logic associated with wood-based bioenergy are considered to enhance security in production areas and, in the long run, between the energy supplier and buyer, since wood harvesting, thinning and re-cultivation affect large spaces and a multitude of communities. As a result, bioenergy production employs far more people in the area of origin than hydrocarbon developments. This is seen as promoting stability and security, and since large-scale changes in the living environment and the effects on local economies politicize resource use issues, they lay the foundation for political activity and for people to engage in decision-making. This is the argument that the EU has endorsed in the EU–Russia energy dialogue (European Commission 2011b), claiming that imports of bioenergy from Russia increase stability and security between the partners via these positive territorial effects. The same applies to other renewables, but with a slightly different logic stemming from the fact that renewable energy commodities have differentiated spatial characteristics along the commodity chain: up-, mid- and downstream. For example, 'prosumers' can produce solar power on rooftops, yet providing output in kilowatts as opposed to centralized solar power plants with capacities measured in tens of megawatts. Their spatial constellations are naturally very different, and thus also their potential to intertwine with the society and produce (positive) political and institutional effects. The same applies to wind power: mega-sized offshore wind parks owned and operated by transnationals naturally have a very different connection to communities in comparison to windmills run by co-operatives in the densely populated countryside.

In general, however, the transition away from centralized fossil energy systems towards more decentralized renewables will entail major societal changes in the future. Scholten (2019) lists six major geopolitical implications of the transition to renewables on a global scale. First, geographically more dispersed energy production based on renewables weakens monopolies and oligopolies and strengthens competitive markets via an increase in the number of actors. This means that monolithic and gigantic hydrocarbon industries will be replaced by agile, small and medium-sized renewables businesses.

Second, the transition to renewables will decentralize energy production: large-scale power plants will be mostly replaced by household, enterprise and community level energy production infrastructures. This decentralization via renewables will promote democratization on the local and regional level, and also sow the seeds for potential separatism. The latter is surely viewed as a real threat in Putin's Russia, where centralized fossil energy is currently used as the 'glue' to maintain the centre's control in the periphery, Moscow's reign over the provinces.

Third, dependence on critical minerals (rare earth metals) within the renewables business, notably solar power, changes energy geopolitics. For example, China is the indisputable leader in producing rare earth metals with over 100 billion tonnes per year, whereas Russia stands in third place, only producing 3 billion tonnes (Kay 2018a). However, when deposits of these much-needed minerals are examined by country, China is again the leader with 44 trillion (million million) tonnes, but Russia's reserves of 18 trillion tonnes are nearly half of the level of China's resources (Kay 2018b). As the reserves of these metals are concentrated in only a few countries, they expose these countries to a similar risk of the resource curse as hydrocarbons are inducing today. However, the impact on democratization and fostering stronger official institutions is very different, as the energy production infrastructures of solar photovoltaic production are far more decentralized.

Fourth, a world dominated by renewables is an electric world. Energy systems will be based to a large extent on electricity, as transport is switching from hydrocarbons (gasoline, diesel, kerosene, etc.) to electricity, and coal and eventually gas as a commodity in electricity production will be replaced by solar, wind, hydro and geothermal energy. This entails the regionalization of energy relations – we are seeing a partial retreat from and shrinkage of global networks to make room for regional networks and grids. As Scholten (2019) argues, regionalization will be fostered by fear of dependence that will probably lead to little interconnection between grid communities. However, the economic and energy security incentives provided by supra-regional grids will probably push national and regional electricity grids to form larger entities. The target of larger grid communities also produces interdependencies that have a 'pacifying' effect on all actors. For example, the benefit of connecting the electricity grids of the EU, Russia, Central Asian countries, China and India – the major producing and consuming areas of the whole Eurasian space – is that the super-grid would act as a storage facility. This would be especially important when hydropower and new energy storage media are harnessed as adjusting power sources to benefit the whole grid, thus making it possible to balance supply and demand in an economically

viable way. Therefore, the inherent problem of natural fluctuation in solar and wind power production would be buffered due to the super-grid's ability to sequence production and consumption over a territory of 12 time zones. From the geothermal Iceland to the solar-powered North Africa and Middle East (NAME) region, and from the European Atlantic coast over the Alps, the Urals and the Himalayas all the way to the Pacific – a west–east zone with high potential for both wind and solar power – the super-grid will connect people, businesses and nations.

Fifth, increasing the share of renewables will change the nature and volume of energy trade: instead of transporting commodities globally, electricity that is produced in a decentralized and highly localized manner will be transported regionally. Sixth and finally, this will cause creative destruction in global energy markets. It is clear that today's (fossil) energy importers are leading this process and exporters are lagging behind. The crucial question is: are the exporters, like Russia, that are highly dependent on sales of fossil energy, capable of reinvesting the affluence they create with fossil energy in renewables?

FROM BIOPOLITICAL TO ENERGOPOLITICAL GOVERNMENTALITY

Governmentality, as initially articulated by Michel Foucault in the 1970s, is a collective way of thinking about different modes of governing, and especially a government's relationship to the governed (Dean 1999; Foucault 1991). Scholars have used the concept of governmentality to study far more than state-defined systems of government, applying it also to non-governmental actors, such as companies and civil society organizations (Rivera Vicencio 2014; Rooker 2014). Governmentalities can be understood by simultaneously studying the practices that amalgamate actions and collective modes of thinking about government prevailing in a particular location, institution, or state. Thus, governmental practices consist of both words and deeds, regardless of whether or not they are conscious or intentional. In any given context, certain actors are better positioned than others to promote their rhetorical and material visions of government, which give rise to dominant discourses that come to represent certain truths, or, as Foucault (2008, p. 35) terms them, "regimes of veridiction". A question posed by the governmentality literature, therefore, is how both the conscious and unconscious 'truth' construed by dominant discourses is produced as part of governmental practice (Mills 1997, pp. 2–8). The analytics of government are defined by three central dimensions: power, truth and identity (Dean 1999, p. 18),

and producing these requires expertise, imagination and tactical skills (Foucault 1991, p. 87).

Foucault's dynamic understanding of power and its explicit interest in discourses and practices, and the focus on strategic thinking and action, or governmentality, of those in positions of power, is well-suited as a companion for studying the entanglement of the social and the natural/material within the realm of energy. According to Moss, Becker and Gailing (2016), the Foucauldian dispositive, a context where governmentality functions and can be analysed, includes the agency of inanimate objects and artefacts, but it does so via the discursive: materiality becomes interesting only through the discourse, that is, after being given meaning within the social. Foucault's original dispositive referred to a "heterogeneous ensemble" that brings together discourses, regulations and "architectural forms" (Foucault 1980). Thus, although the material and spatial dimension within the whole Foucauldian power-analytics field may not be central, there is a firm body of theorizing on that front, as well (Crampton and Elden 2007).

In this book, I consider Russia's energy policies, for example, the all-Russian gas programme executed by Gazprom, Russia's energy diplomacy in the transnational context and knowledge production practices related to climate change, as a manifestation of the two interrelated aspects of discourse. The first is the action, as exemplified in the national gas programme *Gazifikatsiya Rossii* and the statal agenda of the 'Year of the Environment 2017', which are designed to tell the story of supposed popular approval of the social responsibility strategy of the state and its champions. Second, the discourse concerns the collective 'mentality' prevailing in energy companies and the energy sector, which are closely tied to the actions and thinking of President Putin's regime. In liberal societies, governing operates primarily through biopolitical tactics because disciplinary power contradicts its core principles of individual liberty. In a system defined by biopower, the population living in the territory of the state is subjugated to techniques that have the goal of optimizing its health, welfare and life (Dean 1999, p. 20). Therefore, biopolitical governmentality has to be seen as an inseparable part of the logic of the actions of neoliberal states, including Russia. A significant body of literature now exists on Soviet and post-Soviet governmentalities (e.g. Kharkhordin 1999; Matza 2009; Prozorov 2014). However, these studies are confined in one pivotal manner: they do not look explicitly at the material and spatial in their analysis.

Stephen Collier's (2011) *Post-Soviet Social*, in contrast, takes an explicitly material approach. He argues that post-Soviet Russia is a prime example of a country where, stemming from the Soviet-era objectives

and norms, the objectives of both the social welfare state and classical liberalism have come together to form modern biopolitical practices. He concurs with most analysts of post-Soviet power that governmentalities in today's Russia are neoliberal, but with a depoliticizing twist: saddling individuals with responsibilities is thought to benefit the state economy, but not to liberalize and democratize state governance. Accordingly, as Coleman and Agnew (2007, p. 332) suggest, in today's Russia we are not witnessing a leap from the goals of the modern into the aims, logic and action of the postmodern; rather, we are seeing the mutual inclusion and adaptation of these two goals. But this raises the question of precisely how these transformations are taking place. Through which networks and agencies are governmentalities being reworked in post-Soviet Russia? Given the prominence of Russia's energy economy, scholars have considered energy companies and the 'energy elite' as one of the most important objects of analysis when answering this question.

Scholars in the field of energy studies have introduced the concept of 'energopower': their traditional inquiries into material cultures are united with critical social science scholarship on power. Boyer (2014, pp. 22–3) defines energopower as "a genealogy of modern power that rethinks political power through the twin analytics of electricity and fuel". Energopower is "a discourse … that searches out signals of the energo-material transferences and transformations incorporated in all other sociopolitical phenomena". To search for energopower and energopolitics, then, is to search for the contingent and changing links between the governance of life and the energy materialities with which it is always intertwined. Rogers (2012, 2014), for example, examines how Russian energy companies utilize the materiality of oil and gas to build local and national allegiances, deploying their power to produce truth and identity. All modern biopolitical technologies are ultimately 'wired' into energy systems in one way or another. Energopower is an analytical tool that can help people understand how power and the materialities of energy are intertwined: it is all about how the governmental concern over energy supplies is related to both the biopolitical aims of guaranteeing the (bio)security of the population, as well as the exertion of control over populations and the production of economic accumulation by keeping energy flowing in grids and pipelines.

The concept of energopower is particularly useful, for example, when studying Gazprom's Gazifikatsiya programme (see Chapter 3), as it explicitly reminds us of the binary nature of contemporary energy systems: they both enable and constrain. Modern energy systems and their extensions (such as communal infrastructure) are a means of

delivering amenities and of controlling the population. Taking a specifically geographic approach – I have attempted to elaborate the Foucauldian power analysis in the realm of energy via the concept of geo-governmentality – I am interested in the kind of truth and identities that Gazprom is constructing with its Gazifikatsiya programme as it expands to peripheral Russia. In this perspective, the goal is to better understand what kind of practical power, discursive truths, and cultural-political identities are constructed in and around energy flows and entangled materialities, and how these forms of political power condition our understanding of energy as a societal phenomenon. For example, my study of the Russian national gas programme describes how gas-based geo-governmentality is being created via powerful discourses (Tynkkynen 2016a). Following the logic of Margo Huxley (2007), I ask how specific resources and spatialities, and the materialities involved, act as agents as part of the discursive-practical use of power or of governmentality. The 'geo' in this approach is the deliberate use of the geographical characteristics of gas when building and maintaining the desired governmentality. The rationalities and practices of this hydrocarbon-culture governmentality function in and combine several scales: the subject is tied to territories and the nation through hydrocarbons, individuals are made responsible for the (bio)security of the population, and even the global is harnessed in legitimizing the heavy reliance on hydrocarbons.

The geo-governmentality approach can also challenge where the boundaries of energy materialities are. It is important to include not only energy infrastructure but also its 'epiphytes' – "ancillary apparatuses and infrastructures, such as sports halls" – which "potentially serve as conduits of disciplinary power" (Tynkkynen 2016b, p. 78). Therefore, this view challenges the clear-cut understanding of energy materiality reserved only for those linked to extraction, refining, transport and consumption of energy. In other words, I argue that social infrastructure built and maintained by energy companies or state ministries can be understood as a materiality of energy, especially when elementarily linked to power-vested discourses utilizing material dimensions of the energy sector as a tool in constructing and maintaining these discourses.

The cases in this book remind us of the different ways the material and the discursive constitute each other: energy materialities are not dictating the political, nor is the discursive unaffected by the agency of the material. Thus, a certain infrastructural form or physical and economic tie does not dictate the discourses – or policies and use of power. Likewise, discourses on energy materialities can reframe how we understand energy materiality. When looking at materiality-inspired energy discourses, we are also able to see how such materialities are utilized by

those in positions of power. The important feature is that these energy constellations are maintained in the ways in which the material and the discursive constitute each other.

3. Energy as domestic power: the case of *Gazifikatsiya Rossii*

This chapter is based on my interest in major Russian fossil energy companies as an instrument for promoting a wide plethora of state-led objectives, encompassing societal phenomena from economy to politics and from culture to identity. I focus on how hydrocarbon energies, specifically gas, as it is so central within Russia, are intertwined with societal and political power – and how the materialities and spatialities of hydrocarbons are utilized in constructing and maintaining power in the Russian domestic context.

STATE PRIORITIES IN GAZPROM'S CORPORATE GOVERNMENTALITY STRATEGIES

Gazprom is the successor of the Soviet Ministry of Gas Industry, and it has been an open joint-stock company since 2005, with the Russian state owning the majority of shares (50 per cent plus one stock). Modern-day Gazprom has more than 450 000 employees and, in addition to the energy sector, it is active in finance and media (Gazprom 2015e). Although it is technically a commercial enterprise, given its strong relationship with the Russian government, Gazprom can be defined as a 'parastatal company' (versus a completely state-controlled corporation, such as the nuclear giant Rosatom). As a parastatal company, Gazprom is subject to the authority and decisions of the Russian state and President Putin's entourage – far more than its corporate legal status would suggest. All major strategic choices, operations abroad, large infrastructure decisions and national programmes, such as the Gazifikatsiya programme and other corporate social responsibility operations, are made with the blessing of Putin and his peers. This is not to suggest that decision-making in the company is entirely politically motivated: its executives exhibit clear evidence that a business rationale is the main motivation for operational decisions taken by the company (Kivinen 2012). Moreover, Gazprom is a vast company with dozens of regional subsidiaries – each with differing objectives and political voices – operating in the Russian provinces and

internationally (Gazprom 2015b). Overall, however, when analysing the corporate governmentality practices of Gazprom, we are dealing with a parastatal company that is steered by the country's elite and therefore enjoys privileges in the Russian economic and political context that are unseen by any other company.

Gazprom's position in the Russian domestic energy sector is therefore exceptional. However, in the 2010s, Gazprom lost its monopoly, legally speaking, over gas exports and control of the domestic gas pipeline system. Other gas producers, such as the private gas firm Novatek as well as oil companies, now have the right to feed gas into the national system and to export it. Despite the fact that more competition is now tolerated, Gazprom's monopolistic practices prevail, which enables it to diminish competitors' chances to increase their share in regional energy markets (Tynkkynen 2014). Since the Russian energy scene cannot be further dominated by Gazprom, the company's decision-makers perceive a need to engage in branding or 'imago-promotion' activities, such as social responsibility programmes and infrastructure construction, in order to safeguard its position – both in the market and in the minds of Russian citizens. Perceiving the latter to be of increasing importance, Gazprom engages in a wide range of corporate social responsibility activities. Sponsoring sports, for example, has been one of the central means of enacting this agenda (Gazprom 2015a). In welfare societies, which the Soviet Union and its successor Russia purport to be, local and regional governments have traditionally been delegated the responsibility of developing communal infrastructures, including public sport and health facilities. Thus, in assuming responsibility for developing such facilities, Gazprom has been granted – and has itself taken on responsibilities – that are traditionally considered the tasks of the government. In the following, I will delve into how the *Gazifikatsiya Rossii* promotional video is understood as a specific energy- and geography-related governmentality and as a form of energopower within the hydrocarbon culture in the making in Putin's Russia.

GAS'S PATRIOTIC, SACRAL AND GENDERED PATH FROM SOIL TO SOUL

The aim of the video, as stated in the insert, is to show how the gas used in Russian kitchens is produced, refined and transported to end consumers. The story starts in the countryside of the Ivanovo region by claiming that "few of us think how the gas consumed in our stoves is produced" and what kind of journey that gas takes before arriving at

people's homes. In a National Geographic documentary style, the video then follows the host, a young female reporter, as she visits sites along the path taken by the gas. When comparing the style chosen and the ethos promoted by the post-Soviet film scene, I see that the narrative of *Gazifikatsiya Rossii* is clinging to the popular patriotic genre, but not unequivocally dominating the scene at the time the video was produced, as described by Norris (2012). However, the nature of the video is very far from the nationalistic-patriotic pathos of many post-Soviet movies produced during the Putin era, and looks very professional in comparison to the many quasi-scientific documentaries abundant on Russian television during the previous decade. Moreover, the strategic nature of the promo video is visible also in the fact that it is free from the miniature fault lines that we see in Russian state television (cf. Hutchings and Tolz 2012).

The host interviews and talks to various people, including: healthy and physically-fit gas producers at production sites in the Yamal Peninsula during harsh winter conditions; engineers in clinically-clean compressor stations; suave and well-off directors at Gazprom's Moscow headquarters; well-equipped welders and excavators constructing artery and distribution pipelines; male heads of municipalities; and ordinary mothers in the picturesque Russian countryside, who are happy to receive gas. This advertising video ends by returning to the sites of gas delivery and consumption in the Ivanovo and Kaluga regions on a warm and sunny summer day.

I argue that the Kaluga and Ivanovo regions are chosen not by chance as end points in the video. They are the 'peripheral' regions closest to Moscow. As I learned, for example, from discussions on Russian social media, one focal point of criticism towards the state and Putin's regime is the fact that it has not been able to provide social amenities to Russians on an equal basis outside big cities (e.g. Bezperspektivnye … 2014; Selo #Fedorovka 200 km ot Moskvy … 2016). Thus, the need to counter the impression that 200 kilometres from Moscow there is no gas and Russia is merely an 'energy-producing appendage' of the West fits in well with the choice of regions in this video (cf. Rutland 2015, p. 75). The choice is further justified because it helps tame public dissatisfaction towards the ruling elite and the chosen economic system that is increasingly dependent on the hydrocarbon sector (Gustafson 2012, p. 493). As Peter Rutland (2015, pp. 75–6) argues, despite the fact that the majority of Russians consider their country an energy superpower, most simultaneously oppose the wealth enjoyed by the elite and created by the energy trade, even as many Russians live in factual energy poverty. Therefore, one

motivation to produce the video is the need to change this impression and fortify the position of Putin's regime.

The most obvious aim of the *Gazifikatsiya* promotional video is to convince the audience that gas is a reliable and truly Russian source of energy, while also showing that the extraction and delivery of gas to settlements and finally to consumers is a far from easy task. From the beginning of the video, the difficulties that must be overcome and the sacrifice that has to be made, both at a national and individual level, construct guilt that is placed on the (Russian) audience. An almost hallowed message is put forward throughout the video: Russians should not overlook the importance of gas for their society, nor should they overlook the difficulties that must be overcome to deliver gas from the extreme Northern environment to the Russian heartland. The words *trudno* (difficult) and *tyazhelo* (hard) are repeated throughout the video when gas exploration, production, and pipeline construction, both artery and distribution, are shown and discussed.

The journey to highlight the path of gas from the gas deposits to the consumers starts in the kitchen of a typical Russian single-family home in the countryside of the Ivanovo region, where tea water is boiling on a gas stove. The philosophical conclusion is that gas links Russians to the motherland and its geography: gas travels from "uninhabited" territories (Yamal) to the Russian ethnic and cultural heartland. Thus, gas as a commodity and the gas pipelines that transport it are a lifeline for Russians. The video uses both Soviet modernization and traditional orthodox history to persuade the spectator. The constructed narrative builds on the idea that the gas flows from the Russian soil and from the natural environment already tamed by Soviet society and its modernization efforts, as the work of Soviet geologist-explorers is underlined. Likewise, the final destination of the gas, a traditional Russian village with orthodox chapels forming the settlement's skyline and wooden houses painted in Russian blue, is located close to the core of Russia, the old *Rus'*.

Throughout the video, a distinctive normalization takes place: individuals and local and regional authorities who support the development of gas infrastructure are presented as true Russians through visual, sound and vocal hints. People and communities who oppose this development are presented as abnormal. The video makes clear that people and communities who refuse to request or accept gas as a source of energy are responsible for keeping Russia in a pre-modern condition, with a poor national economy and harsh everyday living standards for the people. A wide nationalistic-geographical imagery spectrum is utilized as gas travels and, along its path, links the geology, economy, culture, and even

theology of Russia. Religious phrases are not utilized, but through chosen images and sceneries the narrative argues that Russian gas is flowing from the Russian soil to the Russian soul.

The literature focusing on the societal effects of hydrocarbons underlines the specific materialities and spatialities of these energy resources, coupled with the dominance of this sector in the national economy especially in Russia, and it promotes an understanding of geographical space as the controllable flow of resources, not as a territory of communities (e.g. Bridge 2009, 2010, 2011; Watts 2004a, 2004b). Referring to concepts used by Manuel Castells (1999), hydrocarbon commodity chains have agency and accentuate *spaces of* (controllable) *flows* over *spaces of* (lived) *places*. This understanding of geographical space seems to have been taken into account, or at least there are hints that the producers of the *Gazifikatsiya* video are aware of it. The identity of the individual gas consumers, or the settlements attached to the gas distribution system, are constructed using a distinctive 'sense of place' that derives its power from the material characteristics of the gas itself, as well as from the ability of the gas infrastructure to connect people, settlements and the nation. The gas flows from the Russian soil to the Russian soul by producing a sense of Russian place. That place, however, is ultimately placeless as the multiple localities of the gas nation are represented as identical by images, maps and discourses. This placeless image of Russia fits in well with one of the main objectives of President Putin's regime – to view Russian territory as culturally and economically homogeneous in order to suppress regional identities and avoid separatist sentiments (cf. Laruelle 2014a, pp. 7–9; Warhola and Lehning 2007, p. 934).

This ethno-culturally coloured plea to the audience is accentuated by choices about how to define gender roles. All the experts and directors interviewed in the video that have something to do with gas production, transport, pressurizing and control are male. The only females in the video are the female reporter, who is escorted to a male-dominated world of gas, thus producing a kind of father–daughter relationship; the doctor who takes care of the health and well-being of the gas workers in the harsh Arctic environment; the mothers interviewed as gas has reached their village and homes; and the young girls who have a special role in the village festivities when the gas is lit for the first time. Thus, gas relies on and fortifies conservative Russian values. The suffering of men caused by a harsh and isolated life at remote production platforms and pipeline construction sites is compensated for by the fact that men are in control and occupy positions of power. Women are controlled and fall under the patronage of men, the company, and the state, but have some power in their role as healers, consumers, and producers of new generations of

Russians. These gendered roles date partly from Soviet practices and culture. Women are viewed also as highly educated professionals, but simultaneously as mothers and 'beauty queens', whereas men are presented either as executive bosses or as heroic and masculine industrial workers. They also clearly go hand-in-hand, however, with the contemporary conservative turn in Russian society and politics. According to Makarychev (2013, p. 247) the Russian leadership has argued that Russia is "the bastion of the conservative world". It is no surprise that parastatal Gazprom and the gas industry are viewed as guarantors of this Russian mix of neo-conservative and traditional patriarchal values. Clearly, gas is a strongly gendered substance and helps to build and maintain a specific form of geo-governmentality.

The constructed narrative clearly plays with national geographic categories. My analysis of the video reveals the construction blocks of Gazprom's geo-governmentality. Gas as a resource – its spatialities and the materialities (gas geology, gas networks, hubs, arteries, distribution lines and connectedness) along with direct (warmth and energy security) and indirect considerations (modernization, economic growth, promise of patronage and traditional values) and the 'work' of gas – comes across in the governmentality of a powerful Russian enterprise. In a similar manner as Watts (2004b, pp. 53–4) describes in his study on Nigeria, I find how the formation of governmentality is constructed on the different meanings assigned to hydrocarbon resources. The question I pose follows the logic of Huxley (2007, p. 194; see also Whatmore 2003, pp. 26, 33). That is, as she urges us to ask *anew* in the geographical context at hand, how do specific resources or spaces act as *agents* as part of the discursive-practical use of power, or of governmentality? This 'agency' of space and the materialities it holds link the geo-governmentality approach to Latour and his actor-network theory to the wider discussions in science-technology studies about the role of the material and the technological in human life, culture and politics.

The video shows how the different dimensions of governmentality and geography come together. Similarly, Legg (2005, pp. 147–9) furthers Dean's power–truth–identity nexus described above, and operationalizes geographically informed governmentality analytics by naming five "dimensions to regimes of government": specific ways of thinking, understanding reality, constructing subjectivities (and refuting others), strategic technologies of rule, and the values of a specific government. The thinking, understanding of reality and values at Gazprom are linked to those constructed subjectivities that are visible in the video: the strategic technology of rule. Moreover, these different dimensions of governmentality were approached by studying one programme of rule

that, as Legg (2005, pp. 145–6) has pointed out, can function on several scales: as a single subject, as a territory, as a nation, as a population, and globally. In these dimensions and scales of governmentality, geography (space, territories, the environment, resources, technologies and infrastructure) does play a role, and I am able to unfold these links and roles by studying Gazprom's gas distribution programme as presented in the promotional video. Thus, I understand the *Gazifikatsiya* video here both as a representation of a specific programme of rule (the Gazifikatsiya programme) and as research material enabling us to look at the thinking, rationalities, values and actions of a 'government' – a parastatal energy company – vested with significant power in the Russian political context. As described above, the power-vested discourses and practices linked to Gazifikatsiya utilize the whole repertoire of Legg's scales – tying the personal to the national and the global territories – to amalgamate geography with the practised governmentality.

BIOPOLITICAL OBJECTIVES TIED TO GAS

The message put forward in the video is aimed not only at specific subjectification, but also at producing new responsibilities that have traditionally been considered the duty of the state. The duty of every Russian is to take part in the national enterprise to construct a nationwide gas system. Thus, a national-level objective is turned into a personal task. Russians, from mothers to the heads of municipalities, are persuaded to take a central biopolitical problem posed at the level of the Russian state – the provision of energy and heating for the population – as their *personal* problem. The video implies that if we (Russians) do not think positively about gas and 'invite' it into our village, we betray our countrymen and stand in the way of others' well-being. Indoor temperatures are explicitly mentioned as a problem, and gas is a solution to it. Moreover, low indoor temperature is problematized by linking it to the health of children, Russia's future generations. Unsurprisingly for a gas commercial, sources of energy that could be promising in some regions, such as bioenergy and/or coal, are presented as the source of the problems gas is trying to solve. Therefore, these local and regional energy sources are demonized due to the negative societal effects they allegedly produce.

This narrative plays very cunningly on the topic of scarcity. In the Russian context, the question of 'scarcity' of gas is not only related to basic needs, but it also has a dimension related to national identity. This notion of gas scarcity is intertwined with similar national ideals and

expectations. The Russian national identity is increasingly constructed in a manner that links Russia's hydrocarbon abundance to Russia's societal modernization and the Great Power aspirations that this energy abundance both enables and legitimizes (Bouzarovski and Bassin 2011, pp. 784, 787–8). The core appeal of Gazifikatsiya rests in its ability to do away with several dimensions of scarcity, which is especially appealing to those generations of Russians who have experienced the shortage economy of the 1980s (Kornai 1980). The video is trying to convince the audience that by connecting to the national gas distribution network, energy security is no longer an issue and Moscow has noticed your home, community and region and the federal centre will look after you. This resonates well with Collier's (2011, pp. 212–14) argument that indoor temperature is a central biopolitical (domestic security) problem posed for the Russian state and governing regime. This, again, can partly be explained by the persistent Soviet legacy – there is a shared understanding among Russians that heat and even power should be provided by the state free of charge or, at least, inexpensively (Collier 2011, p. 239).

The narrative found in the video combines patronage and (bio)security in such a manner that it resonates well with the concept of energopower (Boyer 2014, pp. 321–8; Rogers 2014, p. 436). Thus, governmental concern over energy supplies is associated with both the biopolitical aims of guaranteeing the (bio)security of the population as well as the exertion of control over populations and the production of economic accumulation by keeping energy flowing in grids and pipelines. Energopower can serve as an analytical tool that helps people understand how power and the materialities of energy are intertwined. The energopower approach explicitly reminds us of the binary nature of contemporary energy systems in their ability to do both 'good' and 'bad'; that is, energy systems are a means of delivering amenities and controlling the population. In the *Gazifikatsiya* video, this binary connotation is immanent – Gazprom delivers, along with its pipelines, (bio)security for individuals and communities, and also the feeling that the state is able to control from afar.

GAS (INDUSTRY) AS A GUARANTOR OF RUSSIA'S MODERNIZATION

One central argument in the video is that the gas industry is modernizing Russia. Gazprom is viewed not only as a guarantor of Russia's technological and economic modernization, but also as a social guarantor.

The technology utilized in the gas industry is referred to as *kosmicheskaya tekhnologiya* (space technology), which has been developed in Russia due to the extremely demanding environmental conditions in which the gas industry is forced to operate and the high standard of science and engineering that has been developed to overcome this natural limitation. Again, the *geo* is part of the modernization narrative and functions as the cornerstone of governmentality. Furthermore, the way in which the gas industry is viewed socially clearly bridges the gap between professions and 'classes'. This is not a new idea, as during the Soviet Union period different industrial branches developed distinct identities; for example, gas workers identified themselves as *gazoviki* and oilmen as *neftyaniki*, regardless of rank. Hence, when in the video the directors of Gazprom claim to "know the pipeline welders by name", this feeling of togetherness is utilized to produce an understanding of the gas industry as a safeguard of the national social contract, basically arguing that Russia's current societal modernization obtains its essence from Soviet egalitarian discourse.

The implicit message of this picture of the gas industry's role in economic modernization hints that a prominent objective of Dmitrii Medvedev's presidency, economic diversification *away* from the dominance of the energy sector, has been abandoned (Gustafson 2012, pp. 490–492). The video argues that the multibillion rouble investment into Russia's gas industry has turned this branch into "the locomotive of Russia's economy". For Gazprom as a commercial company, this kind of reasoning is understandable. Still, Gazprom has to be viewed as also reflecting the state's rationalities: diversification is no longer pursued with the same vigour as before, which concurs with Gustafson's argument that in the eyes of Vladimir Putin and Igor Sechin, the hydrocarbon sector is and will remain the undisputed locomotive of the Russian economy (Gustafson 2012, p. 493).

Despite the single possible usage of carbon-based fossil energy, the modernization of Russia via gas is defined as something with no end in sight. This argument is supported in the video by references to the reserves of gas as *ogromnye zapasy* (enormous reserves) and *samye krupnye mestorozhdeniya na planete* (the planet's largest deposits), as well as by repeating numbers (*trillion cubic metres* and *for decades to come*), thus giving the impression that modernization based on gas will continue for an unlimited period. This speech derives its core from, once again, Soviet or even tsarist-era discourse: natural resources are an unlimited cornucopia for the nation (Fryer 2000). Here again, geographical imageries and scales – endless, globally vital recourses – form the basis of this modernization narrative and governmentality.

The gas industry is presented as a modernizing agent in peripheral Russia, both upstream and downstream. Gas infrastructure not only provides warmth and well-being for peripheral communities where gas is delivered, but brings 'civilization' to the extreme North, as well. The gas production infrastructure enables the societal and economic development of the "uninhabited" northern production territories. A significant share of the video is devoted to describing how transport infrastructure (roads, airports) built for the gas industry promotes economic opportunities in these regions. In addition, 'civilization' is transplanted to the Yamal North as gas workers are taken care of in a scientific and precise way, including a daily physical examination (by the female doctors), while the workers' diet and working hours are adjusted for the requirements of a northern environment. Gazprom and Gazifikatsiya are viewed as central actors promoting regional development – modernization and civilization – involving both the peripheries of production and centres of consumption. The viewer is assured that by buying into this gas strategy, one promotes these objectives on a national scale. Gas and the Gazifikatsiya governmentality thus tie the individual to both Russia's physical and economic geography.

PIPELINE AS CONTROL TOOL AND MODERN WARFARE

The Gazprom video argues that local and regional authorities are not fulfilling their obligations in constructing gas infrastructure in the settlements. According to the Gazifikatsiya programme, the obligation of Gazprom is to deliver gas "to the municipality's border" while the local authorities' task is to build a local gas distribution network. Gazprom is working to encourage local populations to pressure district and region leaders to prioritize working with Gazprom on Gazifikatsiya projects. The obligation to take part in and promote national biopolitical goals by focusing, for example, on indoor temperature and children's health has another dimension to it: Russians are not only gently enticed (discursively) to take part in this national endeavour but also urged to succumb to the patronage of the parastatal company. The promise to deliver patronage and the claim to submit to it is exemplified by the way the arrival of gas to a peripheral locality is organized and shown in the video. First, Russians are made to believe that gas infrastructure extends everywhere, as even the most remote settlements are the focus of attention for the state and the company. Second, the video tries to assure

all Russians that gas will arrive and link them with state-run infrastructure. The fact that the state 'arrives' together with the gas is exemplified in the video by the arrival of federal authorities and Gazprom officials at the villagers' house to cook food on gas stoves and to light up a *fakel* (flare) located in the village square. The message is that through a gas connection, villagers are connected to the company and the state, coming under their patronage and also under their control. What I see at play here, when viewed from the geo-governmentality and energopower perspectives, is a combination of both identity construction and disciplinary power made possible via the materialities of energy.

The geo-governmentality and energopower of Russian gas that I aim to unfold here dovetail well with theoretical contributions in the disciplines of political geography and ecology regarding the materialities of energy. I refer here to the work of Bakker and Bridge (2006; also Bridge 2009; Bridge 2010, pp. 527–8; Bridge 2011, pp. 316–20; Watts 2004a, pp. 200–202; Watts 2004b, pp. 75–6). The main contribution of this work has been the taxonomy of effects that the hydrocarbon sector has had on societal development via its spatialities and materialities. For example, the proposition that hydrocarbon industries produce a specific *choke-point geography* – in other words, the agency of narrow oil and gas transport corridors (such as pipelines) to promote by their physical character coercive rule and militarization in the affected societies along the route – is directly linked to the societal effects produced by gas distribution pipelines.

Gazprom claims that it distributes prosperity to the Russian regions via gas pipelines, but when approached critically it also produces the means to strengthen its monopoly position in the Russian domestic gas market, as well as fortify its position in the eyes of the political elite, namely, Putin's regime, as the guarantor of central state power in the Russian regions. Naturally, the ability to control regions is not openly stated in Gazprom's strategies, rhetoric, or the *Gazifikatsiya* promo video, although the vast social programmes tied to it bear witness to the fact that the entire gas programme is a national endeavour linked to regional development and federal unity aims, especially in the coal industry-dominated Russian Far East (Stolica na Onego 2012). This is not merely the commercial campaign of a company, as underscored by visual and discursive hints in the video.

Gas and its infrastructure – the geography of gas and the materialities it encompasses – are viewed as a tool for control on an international scale as well. Here, the narrative builds on the above-mentioned energy superpower discourse that has been intensively constructed in the Russian domestic arena during the 2000s. The topic of whether Russia is an

energy superpower was hotly debated especially after the 2006 and 2009 gas disputes between Ukraine, Russia and the EU, but the issue was revived during the 2014 Ukrainian crisis. The way in which official Russia has talked about its energy as leverage is noteworthy: the assertive position of the early 2000s that Russia uses energy as a geopolitical resource, clearly stated in the Energy Strategy of Russia from 2003, was softened after 2008–9, when Russia articulated its energy policy aims towards the West. However, at the same time, the construction of the energy superpower discourse has intensified (especially during the 2014 crisis) with the Russian domestic audience, as clearly shown by Grib (2009). An energy superpower identity is built on tying together the subject nation and the energy rich nation. The video bases its argument on this discourse, as gas and gas infrastructure are defined as Russia's modern warfare. For example, military and geopolitical vocabulary and visions are used when discussing the gas infrastructure. Yamal gas resources are defined as "strategic" and the steel in the gas pipelines is referred to as having a "similar thickness to tanks". Moreover, when the personnel controlling the flow of gas in Gazprom's system are interviewed, a control screen focusing on Ukraine and Europe is shown in the background. The message is clear: Moscow and Gazprom's headquarters are defined as the centre of domestic and trans-boundary power. The director of the control room states that "any pipeline connection or compressor station can be controlled from here [while viewing the pipeline map of Europe] and we can intervene at any point" (*v liuboi moment my mozhem vmeshatsya*). This evokes the idea that Russia has the power to control others through gas, and individual Russian consumers have a duty and a privilege to be part of building this geopolitical power.

MUTED ISSUES: WHAT IS NOT SHOWN OR DISCUSSED?

Central to the use of power via discourses and practices are the issues and phenomena not discussed. Choosing to be silent about a topic deserving of mention is a power-vested tactic. Two important areas for the hydrocarbon businesses worldwide that are ignored in the video include the social inequalities and environmental problems produced along the commodity chain (Bridge 2011, pp. 318–20; Watts 2004a, p. 202; Watts 2004b, p. 59). For example, the indigenous people living in the gas producing region of Yamal receive no mention. Moreover, no ethnic groups other than Russians are shown in the video at all. The

production region is presented like any other Russian region or territory, giving no hint about the ethnic diversity found there. Despite the fact that the Yamal is inhabited by the northern native Nenets, Hanti, Komi, and Selkup people – accounting for some 10 per cent of the population of the region – the video explains on two occasions that "no people live in this extreme environment". One explanation for this silence is the need to define gas culturally and ethnically as purely Russian, as argued earlier. The other reason could be the fact that by commenting on the ethnic history of the region, Gazprom and the state would be forced to comment on the societal effects of the hydrocarbon industries on the local communities, which would focus attention on issues such as land rights, welfare provision, and the economic equality of native people. Therefore, in the Gazifikatsiya governmentality, the *geo* is utilized also in a reverse manner as decisive geographical issues are excluded from the narrative.

Likewise, it is striking how the environmental question of gas production and transport is almost completely ignored in the video. Thus, nothing is said about the environmental consequences of gas production, locally or globally, except for the vague notion that gas is a *goluboe toplivo* ('baby-blue fuel'), hinting that gas is pure. There is no mention of the environmental consequences of gas transportation, which places a significant burden on the environment. The inefficiency of gas compressor stations is one reason why Gazprom is Gazprom's biggest client (Sutela 2012). Furthermore, the video does not comment on the energy inefficiency caused by a *de facto* pipeline monopoly of Gazprom. One central reason why oil companies have not been able to meet the associated petroleum gas utilization levels is because Gazprom blocks oil companies from feeding gas into the national pipeline system because it wants to avoid competition (e.g. Hulbak Røland 2010, p. 37).

Interestingly, another Gazprom promotional video intended for the international audience emphasizes that their operations in Vietnam, for example, are conducted according to the highest international environmental standards and follow the procedure of environmental impact assessments (Gazprom International 2012). Thus, being aware of this criticism of the upstream end, a question arises about whether companies such as Gazprom are trying to construct an image of a *socially* responsible player, both in their domestic upstream and downstream operations, while ignoring the environmental question that is internationally central for the hydrocarbon businesses. However, as stated earlier, this responsibility is ethnically discriminative because the indigenous people of the North are ignored in the video. The Russian private oil company Lukoil as well as the parastatal Gazprom have been criticized for neglecting their social and environmental responsibilities at the upstream end of the

commodity chain (Greenpeace 2016). Yet they have both started to construct a self-image of a socially responsible company by using the material dimensions of energy as one medium in this construction (Rogers 2012, pp. 288–9; Rogers 2014, pp. 437–43).

My analysis reveals that the geo-governmentality practised by Gazifikatsiya derives its power from geographical knowledge and Soviet and post-Soviet imageries, and from the ability to do 'good' and 'bad'. The materialities of gas and gas infrastructures are used for both purposes. This bipartite energopower, a specific form of geo-governmentality, is invested with meaning by the existent materialities of hydrocarbons; the pipelines, for example, embody energy security and connectedness to the nation and its resource geography. The physical manifestation of Gazifikatsiya profoundly affects the construction of the social. Notions of Russia as a Territorial Superpower, Energy Superpower, and Ecological Great Power are all based on the centrality of this materiality. At the same time, this construction lumps together the material-specific and nationalistic image of energy with universal (neoliberal) binding goals, such as economic growth and modernization, and also with particular Russian values, including conservative gender roles. The materialities of gas thus feed into the national identity of Russians as citizens of an energy superpower. This power – projected via international gas pipelines and a military vocabulary – forms the core of the ability to do harm in the domestic arena as well: gas energy, infrastructure, and the gas industry are defined and viewed in a manner that underscores the submissive role of individuals and communities.

The production of truths, identity and power in this geo-governmentality take place via Foucault's *dispositif*, which includes institutional, physical and administrative mechanisms and knowledge structures. Several discourses, rooted in both the Soviet and post-Soviet nationalistic modernization ethos, are combined with the spatial and material characteristics of the gas industry to form a compelling narrative where institutional and administrative mechanisms – the Gazifikatsiya programme of a parastatal energy company – provide the frame. Furthermore, the five dimensions of the regimes of government defined by Legg (2005, pp. 147–9) are unfolded in my analysis: specific ways of thinking, the understanding of reality, the construction of certain subjectivities and refutation of others, strategic technologies of rule, and the values of a specific government. Moreover, the rationalities and practices of Gazifikatsiya geo-governmentality function in and combine several scales: *the subject* is tied to *territories* and *the nation* through gas, the subject is made responsible for the (bio)security of *the population*, and even *the global* is harnessed when legitimizing the heavy reliance on gas.

Gazprom's *Gazifikatsiya Rossii* promotional video shows how the leadership of the company wants gas (as a substance and source of energy), the gas industry, and the Gazifikatsiya programme to be seen by the Russian people. I argue that this desire is also partly shared by the leadership of the country. The overt aim of the video is to show how many positive things gas can provide for Russians but, as I have stated above, there are subtle hints in the advertisement that gas has the ability to do harm as well.

The way Western observers understand harm is naturally influenced by the liberal and democratic understanding of what constitutes a negative societal development. Moreover, it can be argued that this Western, or at least European, understanding of energy as a societal force or actor is also biased. The fact that European consumers have become alienated from carbon energy – from the facts about how their mundane gas and gasoline are produced, where it comes from, the social and environmental consequences it causes, and how it actually keeps our mobile societies and *democracies* running – can be seen as a troubling issue. The Russian hydrocarbon culture takes a completely different approach to what energy means culturally, socially and economically. The Russian way of constructing an energy culture can also be seen as a more rational way of thinking about the energy dependence of society and the individual than the prevailing Western approach, which is more prone to dilute and push aside the fact that modern nations are deeply rooted in and dependent on fossil energy. Thus, hydrocarbon-culture construction efforts such as the *Gazifikatsiya* promotional video can serve as a sobering reminder for Western societies of what ultimately keeps our societies and economies running (Mitchell 2011).

Contrary to the Western understanding, the Russian people may choose to join the gas infrastructure and voluntarily remain under the patronage of the national monopoly and the federal centre. This positive understanding of patronage certainly has its roots in Soviet history (Collier 2011, pp. 238–9). According to this view, Gazifikatsiya simply mirrors some of the *needs* of the Russian population. In dialogue with this need, fostered by the present-day Soviet nostalgia among Russians, I will now take a more focused look at the hydrocarbon-culture governmentality by examining how Gazprom's programmes in the field of sports and youth reach beyond what is traditionally considered energy materiality, and how these materialities are utilized by those in power.

SPORT, 'GREATPOWERNESS', AND GAZPROM

When approaching sport, the critical social sciences start with the assumption that it is as political as any other realm of international relations and cooperation (e.g. Sugden and Tomlinson 2002). Sport is political in at least three senses. First, doing sports and exercising is tied to the health of an individual as well as the population. Constructing sports facilities to promote sports and the health-oriented lifestyle it entails is therefore an essential social policy question in modern societies. Second, a healthy population links sport to soft-power issues, such as the national economy (*individual as a worker*), and to security and hard-power topics, such as military potential (*individual as a soldier*). This promotion of the ideal citizen as an able-bodied worker-soldier is related to the third way in which sport is political: it is about competition and, internationally, the pursuit of victory over other nations. Success in sport is not only seen as important for the self-esteem of an individual, but it can also function as one of the building blocks of national or ethnic identity. Faring well in global competition has long been understood as crucial to promoting a positive national image in the eyes of the international community (e.g. Koch 2013; Smith and Porter 2004).

Sport was an essential part of the Cold War rivalry between the capitalist and socialist world, led by the United States and the Soviet Union. In the Soviet Union, it was utilized to persuade global audiences that the socialist economic and societal model was better than capitalism. Significant investments were therefore made in sports training and coaching, and also in sport infrastructures and facilities of all kinds (e.g. Edelman 1993; Peppard and Riordan 1993). Indeed, many Russians today are nostalgic for the perceived success of the Soviet state in socio-political and cultural realms, including sports (Lee 2011; Mankoff 2009). In the context of the recent surge in Russia's Great Power ambitions, Russians continue to emphasize sports success in global arenas as one supposedly objective indicator of '*derzhava*' or 'Greatpowerness' (Jokisipilä 2011). For example, organizing and doing well at the 2014 Sochi Olympic Games was widely framed by the media and the state as important for the self-esteem of ordinary Russians, which Putin's regime strategically leveraged as a tool to promote national pride (Persson and Petersson 2014).

In Sochi, as well as in nearly all Russian regions, major state-owned or dominated corporations have been obliged and are prepared to sponsor sport infrastructure construction and the communal infrastructures needed to operate these premises (e.g. Müller 2011; Trubina 2014). Gazprom and

the state-dominated oil company Rosneft were accorded the widest responsibilities in this field. The Sochi games thus illustrated a wider triangle uniting Russian sports, energy and Great Power status – with accumulated energy wealth not only being invested in the military apparatus to expand Russia's 'Greatpowerness' (Baev 2008), but also poured into sports and the related infrastructure.

Gazprom's extensive social responsibility programmes, namely 'Gazprom – for Children' (Gazprom 2015d) and 'Sponsoring Sports' (Gazprom 2015h), are part of the company's general strategy and operations. The largest share of Gazprom's sport sponsorship goes directly to ice hockey and soccer clubs and associations. For example, from 2008 to 2014, the Director-General of Gazprom Export, Alexander Medvedev, was the President of the Russia's Continental Hockey League (KHL), which is only economically viable due to generous funding from the national energy giants Gazprom and Rosneft. Seen by some observers as a 'soft' geopolitical tool of President Putin's Great Power agenda, the KHL has expanded beyond the borders of Russia to purchase and include teams from regional neighbours, including Serbia, Slovakia, Latvia, Finland and Kazakhstan (Jokisipilä 2011). In ice hockey, the link between the state and the energy sector is the strongest, yet Gazprom is also a major sponsor of European soccer. Internationally, Gazprom's sport sponsorship is primarily justified on the economic grounds of promoting visibility in its main market area, but the soft power aims of the Russian state also play a role.

Domestically, sponsorship of and investments in sports are overrepresented in both the upstream (energy producing) and downstream regions (those with little or no gas coverage) of the gas commodity chain. The highly visible and spatially extensive social responsibility projects in the sphere of sports are thus treated as one of Gazprom's tools for promoting the national gas programme in these key areas. Sport is an ideal means to do so, as it has so many positive connotations for Russians, both individually and on a broader socio-cultural level. By amalgamating the gas programme with sports-related social responsibility, Gazprom can cultivate an image of 'doing good' for society, while simultaneously promoting the less benign objectives of the Russian state and the present regime in biopolitical and energopower terms – namely, emphasizing the importance of a physically and mentally healthy population that suits the needs of the Russian economy and military. The pact of energy and sports advances a conservatively defined communality (communitarianism) via sports halls and clubs, and fosters a national identity based on the idea of Russia as a Great Power. For example, as part of Gazprom's 'Sponsoring Sports' programme, and in addition to more than a thousand

sports infrastructure projects carried out since the mid-2000s in the form of ice hockey halls, tennis courts, sports halls, and various athletics fields, the company promotes a Russia-wide programme of physical training and sports called 'Ready for Work and Military Defence' (*Gotov k trudu i oborone*), which is led by the Ministry of Sports (Gazprom 2015f; Ministerstvo Sporta RF 2015). Gazprom sponsors this national sport and military preparedness programme, and has also started to require its employees to take the battery of physical tests, including short and long distance running, swimming, skiing, pull-ups and long jump, as well as (artificial) grenade throwing and shooting with a rifle.

Another example accentuating the biopolitical objectives (for example, that physically and mentally fit bodies serve economic but also military and other patriotic ends) is visible in the social responsibility programme 'Gazprom – for Children'. This programme is dominated by local-level sports sponsorship and infrastructure construction projects carried out by Gazprom and its regional subsidiaries, but it also includes a patriotic song contest called 'Flare of Hope' (*Fakel Nadezhdy*) (Gazprom 2015g). If the sports projects aim at physically fit patriotic citizens, this project aims specifically at producing a mentally strong and unified youth that shares the government's patriotic goals to benefit the country economically and militarily. A quote from the head of the Culture and Arts Department of the City of Orenburg on Gazprom's website advertising the song contest makes the connection clear: "I am sure these children will grow up to be good, wise people who will make this country richer and more powerful. Thank you, Gazprom, for your loyalty towards traditions!" (Gazprom 2015c). Here, traditions can be understood as a reference to traditions of the Russian state – with its emphasis on Great Power status, loyalty to authoritarian rule and its leader, and the obsequious citizen as a patriotic ideal.

CASE: RUSSIAN GAS AND SPORTS FIELDS DISPLACING LOCAL RENEWABLES IN KARELIA

Gazprom's numerous projects and programmes are firmly tied to the countrywide gas programme *Gazifikatsiya Rossii*. On the grounds of enhancing energy security, promoting economic growth, regional investment, and environmental protection, Gazprom and the Russian government assert the importance of extending the country's gas distribution network to its peripheries. The Republic of Karelia, which borders on Finland and the EU, is one such peripheral region. Exemplifying the

themes discussed so far, the remainder of this chapter focuses on a case study of Gazprom's projects in Karelia.

The Gazifikatsiya programme has been running since the mid-2000s, but the most intensive phase started in 2010–11 (Gazprom 2012), including the republic of Karelia. One specific feature of Gazifikatsiya is that all gas pipeline projects and gas-powered plants built by Gazprom have a social infrastructure component. In the case of Karelia, this has been significant: in its Ladoga district, a deal was struck in 2012 to invest six billion roubles in gas infrastructure, while at the same time earmarking two billion roubles for social infrastructure (Peterburgregiongaz 2012). These figures may be staggering, but Gazprom, along with other major Russian enterprises, is in fact legally obliged by the government to carry out certain philanthropic activities. As Gazprom cannot evade these obligations, its executives prioritize acts of charity that can maximize gains for both the company and its backers in the state. As discussed above, Gazprom-branded sports halls and athletics fields have topped the list of preferred projects.

In Karelia, settlements predominantly import their electricity from outside the region and heat supplies have traditionally come from oil or coal, even though the region is rich in wood resources and has a long history of local forestry. As a whole, the Republic of Karelia imports 70 per cent of its energy, indicating that the forest industry, in supplying the remaining 30 per cent, is responsible for a significant share of the region's local energy. In fact, Karelia made several plans and agreements from 2001 to 2003 to decrease energy import dependency by constructing new power plants running on woodchips and peat (Pravitelstvo RK 2001). But by 2004–5, Gazprom started negotiations to expand its gas distribution pipelines in Karelia and to construct gas-burning heat plants. This resulted in an agreement between Gazprom and the government of the Republic of Karelia in 2006 on 'Gasification of the Republic', with Gazprom launching pipeline and heat plant construction in 2007 amounting to 490 million roubles through 2010.

In 2011, Gazprom invested an additional 180 million roubles in the Karelian heat and power sector (Peterburgregiongaz 2012). All these investments laid the foundation for the 2012 Ladoga deal mentioned above, in which Gazprom would undertake the gasification of the Northern Ladoga territories of Karelia at the cost of six billion roubles for gas infrastructure (pipelines and power and heat plants), plus two billion roubles for social infrastructure – predominantly indexed for constructing sport facilities (Stolica na Onego 2012). However, the gas investment programme was not sold to Karelian politicians and authorities simply on the basis of economic and energy security arguments, but

with promises of social infrastructure construction in the form of several sports halls and fields. Such projects offered links to 'positive' national objectives, making gas look more appealing than local energy sources and energy self-sufficiency. In the Ladoga region, these social sports projects consumed one quarter of all money invested in Karelia as a whole. By prioritizing these sport facilities over other potential social infrastructure projects, Gazprom's initiatives have helped to further entrench the nationalist valorization of sports as united with Great Power aspirations, while also advancing the state's biopolitical and energopolitical objectives.

While these national biopolitical objectives are certainly pivotal for Gazprom's programmes to gain acceptance and support inside Putin's regime, the local practices evolving in and around such programmes are implicated in a more nuanced and multifaceted set of power relations. During the 1990s, before the era of state corporations' social responsibility programmes and sport facility sponsorship in the Russian regions, Karelia's municipal and regional leaders preferred visible infrastructure construction and renewal projects, such as paving of streets, building pedestrian streets and shorelines, and statues and fountains, over invisible, yet more vital renewal projects, such as enhancement of drinking water safety by investing in obsolete water treatment plants and the deteriorating drinking water and sewage pipeline systems (Tynkkynen 2001). Sports facilities have increasingly become one such visible project preferred by regional leadership.

As highly visible sites in urban centres impacting and 'traversing' the everyday life of many people, Gazprom-sponsored sport facilities play a multidimensional role in allowing localities to reassert power and control within national hierarchies. For example, one strategy for local and regional politicians in Karelia to remain in positions of power involves promoting the objectives set by the nation's corporate champions, like Gazprom, so that central officials in the Kremlin see them as reliable and submissive technocrats. However, sports halls and athletic fields that structure urban space are also a way to legitimize chosen policies in the eyes of the local inhabitants, and to show people that the local elite is aligned with the national power and its supra-local objectives. Furthermore, sport infrastructure construction is a highly profitable business with large possibilities to divert money to the regional leadership's entourage, and is thus a means to build and fortify allegiances and local centres of power. Indeed, across Russia and the post-Soviet space, state-sponsored sport facility construction business is not only lucrative; it also enables corruption better than other businesses (Müller 2011; Trubina 2014). Therefore, this 'potential' for lubricating local power

machines is possibly one central motivation for local and regional politicians and authorities to promote social responsibility programmes set by the centre that include building sport infrastructure.

As seen in the Karelia case, Gazprom's decision to emphasize sports facilities that are highly visible 'commercial' objects, raises the question of whether these projects are appropriately categorized as social charity. This in turn raises the related question of whether such projects are more closely related to the company's marketing campaign – aimed at highlighting the company as a socially responsible actor and 'whitewashing' its image – than engaging in philanthropic activities that would promote the well-being of the populace in a more substantive fashion, such as by developing social housing, hospitals, schools, etc. By claiming to be socially responsible via the provision of sport facilities, the state giant signals in a markedly neoliberal biopolitical way that 'social responsibility' entails promoting fit citizens who might benefit the society, its economy, and military might, in other words, its Great Power ambitions through self-help and exercise. The state and the company cooperate to provide a setting that enhances communitarianism via local sport institutions, but the individual and communities are ultimately made responsible for accomplishing the biopolitical objectives set by the state.

Without doubt, Gazprom's Gazifikatsiya campaign produces positive impacts as it expands to new areas, increasing the reliability of energy deliveries in comparison to peripheral settlements being dependent on imported oil and coal. At the same time, connecting new areas to centrally-governed pipelines makes these territories and regional actors much more dependent on Gazprom and the state. As scholars have pointed out, pipes matter (Bridge 2009, 2011; Collier 2011) – especially in the post-Soviet context. Not only do gas pipelines construct dependencies and interdependencies between Russia and its consumers (mainly in Europe), but they are also key to forming and sustaining structures of power inside Russia. Gazprom-funded sports infrastructure thus acts like an extension of gas infrastructure, an 'epiphyte' both luring and compelling towns and settlements to join the nation-building project, *Gazifikatsiya Rossii*. It is here that the national energy, cultural, and military 'Great Power' narratives converge.

SPORT, ENERGOPOWER AND CORPORATE GOVERNMENTALITY

Discursive (biopolitical) and coercive (anatomopolitical) governmentality come together in the energopower practised by Gazprom and the Russian

state. The amalgamation of energy and sports makes it possible to practise discursive and coercive power cunningly, as the 'presence' of the state is made concrete through both gas pipelines and visible and spatially extensive sport facilities. Gazprom's all-Russian gas programme and its practices on the local level, as exemplified via the Karelia case study, may be a form of corporate whitewashing, but it also advances the Great Power ambitions of Putin's regime in the name of social 'responsibility'. Parastatal Gazprom has managed to construct a truth in which it has cast sports-related investments as a form of 'responsible' social provisioning and infrastructure development. However, genuine philanthropy in the form of investments in basic social infrastructure and communal amenities such as schools and hospitals, or pure drinking water and non-toxic sewage, or assistance of disabled groups and poverty relief, does not take place.

Thus, the position of major energy corporations in post-socialist Russia as formulators of what is worth knowing and what is the truth, is exceptionally strong. This is partly due to the fact that Russian people demand and expect patronage from the state and its corporations, as they used to do during the Soviet era. For the most part, the population, local and regional stakeholders find themselves agreeing with the hegemonic discourse that the state defines what is good for the people and the regions. However, as a Foucauldian theoretical approach suggests, power produces counter-power that both opposes more hegemonic claims to truth and also adapts to its objectives by changing it slightly and adding contextual nuances and peculiarities to it (e.g. Tynkkynen 2009a). In the Russian regions, therefore, we find that the national patriotic agenda is utilized locally not just to maintain power, but also to challenge it – and Russians actively demand concessions from the state. For example, in the Perm region bordering to the Urals, where Gazifikatsiya has been carried out far longer than in Karelia, the municipalities, the local power and heat providers, as well as private households have come to expect inexpensive delivery of gas as a civil right. And as Gazprom has steadily raised gas prices, the communal companies and households have refused to pay. In the Perm region alone, the municipalities had in 2013 accrued a debt to Gazprom of approximately two billion roubles. Gazprom may thus 'deliver' state power along with gas pipelines and its sporty 'epiphytes' as it enters new regions like Karelia, but at the same time it is aware of the oppositional potential of communities to both counter and redeploy the hegemonic discourse of state patronage.

However, Gazprom's sports-orientated social programme ultimately aims to responsibilize individuals to ensure the well-being of both self and nation, its economy and military might. Its unique form of corporate

governmentality can thus be defined as a matrimony of the energy superpower ideal and military Great Power identity that are constructed with the help of sports metaphors, values and infrastructures. Sport is utilized to steer energy policies on the local and regional level, as was clearly shown in the Karelian case when the gas programme pushed local bioenergy and energy self-sufficiency goals off the regional agenda. The compelling nationalist narratives manifested in the triangle uniting Russian sport, energy and Great Power status are therefore just as important as the mundane energy security objectives used to persuade Karelian leadership and communities to join *Gazifikatsiya Rossii*.

4. Energy as international power: the case of Russian–Finnish energy trade

In this chapter, I will focus on energy power in action in the trans-border context. Geopolitical power sought by the Russian hydrocarbon culture relies on a similar discipline–reward apparatus as that used domestically by the oil- and gas-inspired geo-governmentality of Putin's Russia. Then again, in the international setting we witness a much wider repertoire of strategies combining these alluring and coercive means. Russian–Finnish energy trade is an interesting case of energy power, because it leans on the soft approach and builds on goodwill. Although it is well-veiled and spoken of and performed indirectly, the coercive is still present even in this highly 'neutral' political atmosphere. Both strategies are an elementary part of the practices and discourses of the Russian hydrocarbon culture, yet one might think that the 'nuclear diplomacy' that has recently dominated the Russian–Finnish energy scene is a departure from hydrocarbons. I will demonstrate that the opposite is true.

ENERGY AS 'BUSINESS ONLY' AND 'A WEAPON'

Since the mid-2000s, when oil prices rose steadily, President Putin consolidated his grip on power and a growing share of Russian oil production fell into the hands of the state, some scholars have begun to argue that Russia is emerging as an 'energy superpower' (Goldman 2008, pp. 7–10, 206–7; Rutland 2015; Smith Stegen 2011, p. 6506), especially in relation to the main buyers of its energy: the EU countries. 'Energy superpower' refers to a Great Power status that is gained not by traditional military means, but through a dominant position in global energy production and trade that enables the country to use its energy wealth as leverage for political and geopolitical aims. The argument claiming that Russia is moving towards this logic stems especially from three episodes in EU–Russia energy relations: in 2006, 2009 and 2014 Russia reduced its deliveries of gas in pipelines running through Ukraine,

which affected EU countries at the end of the pipeline. In addition, it evokes fears that the Russian energy giant Gazprom has started to acquire shares of national gas distribution companies in the territory of the EU and the former socialist states (Closson 2014). Europe could fall victim to the Russian spider web, where energy supply, transnational pipelines and distribution networks are governed by one country. As a matter of fact, as soon as Russia gained WTO membership the European Commission (2012) started to investigate whether Gazprom might be hindering competition in European gas markets. Basically, the issue here was the entanglement of Gazprom and the Russian state, and it demonstrates that the fear of Russia using energy as a political tool is real in Europe. Court rulings have recently compelled Gazprom to change its monopolistic pricing strategy and partly abandon ownerships it had in European gas distribution businesses. Despite these changes, there are fears that Russia is able to exert significant geopolitical and geoeconomic power in Europe via major gas pipeline infrastructures, such as Nord Stream I and II (Vihma and Wigell 2016).

Assessments regarding the importance of energy resources as part of security policy have varied according to changes in the relations between Russia and the European Union. After the break-up of the Soviet Union, energy and transport infrastructure was seen as an important element for promoting economic integration and interdependency (Aalto and Forsberg 2016). The situation changed at the turn of the millennium. The high market price of oil fuelled economic growth in Russia. The policy changes that accompanied reforms in the energy sector diverted state income to strategic projects designated by the Putin entourage. This included, for example, the construction of new oil export ports in the Gulf of Finland. The main idea was expressed in the Energy Strategy (Ministry of Energy RF 2003), according to which energy resources and control of energy flows are one kind of "geopolitical tool".

The Russian leadership as well as the parastatal energy companies have argued, as have many European politicians and scholars (Kivinen 2012; Perovic 2009, p. 11), that Russia is only pursuing stable market relations and economic prosperity via energy exports and downstream businesses – energy is only business and driven by economic interests. For example, Rutland (2008, p. 209; see also Judge et al. 2016) argues that Russia's ability to influence foreign states via energy relations has been exaggerated. The main argument is that Russia would not jeopardize its energy relations with the EU, its biggest customer, by using energy as a leverage for political goals. This notion stems from the belief that Russia is *more* dependent on rents derived from the EU energy markets

than EU member states are on Russian energy. On paper, when comparing EU imports (a third of which come from Russia) to Russian exports (two-thirds going to the EU), this is surely the case. In my view, this idea is also based on an outdated understanding of energy power. It looks at energy security via the loop of a hard energy weapon, failing to see the logic and effectiveness of the soft one. Moreover, I argue that this mainly European understanding of the interdependence within Russia–EU energy relations rests on false assumptions. Namely, interdependence can arise when parties are equal in size and power – and many think that the EU is equal to Russia in energy political terms. What this approach fails to take into account is the fact that the EU as an institution has *no* leverage via energy trade vis-à-vis Russia, as the EU does not buy a single barrel of oil, cubic metre of gas, tonne of coal or uranium from Russia. Russia has also used its leverage within the energy field and refused to negotiate energy trade issues with the EU. It is a fact that energy trade takes place between gigantic Russian state-owned companies and Europe's mostly privately-owned energy companies, which are influential within individual EU member states but not throughout the EU. Thus, I argue that what we are witnessing in energy security terms in Europe is an institutional delusion that prevents us from seeing the power of geoeconomics of energy. As a result, the soft energy weapon is used, thus making it possible for Putin's Russia to influence the EU's foreign policies. A concrete example of this divide and rule strategy is the fact that the EU still lacks a common voice in energy policy. This is despite recent efforts, driven by the war in Ukraine and Russia's aggressive behaviour, to revive the original consensus potential of common energy policy via the EU Energy Union, as was the case with the predecessor of the EU, the European Coal and Steel Community of post-war Europe.

The Russian domestic discourse on 'energy superpower' has grown stronger ever since its onset (cf. Grib 2009, p. 7). Since the early 2000s, when energy exports greatly increased Russian revenues, the Russian government has been building its national identity on a foundation of energy prosperity and military strength. Energy money has trickled down to enhance the population's well-being and, to an even greater extent, has been channelled to the military. This has made Putin's government popular. Energy prosperity has allowed Russia to emphasize its special status and helped detach it from the framework of European mutual dependence and the institutional integration promoted by the EU. The potential and actual attempts to increase Russia's political bargaining power through energy in relation to European countries are viewed as plausible, and even inevitable. In the frame of an 'energy superpower', Russia has a dominant position in comparison to its European partners,

and the country has presented itself as a 'benefactor' in relation to its neighbours, such as Ukraine. From Russia's perspective, the country has supported the economies of Ukraine and other former Soviet states for years in the form of affordable energy prices. Especially during the first years of the Ukrainian war, in 2014 and 2015, the Russian identity became even more closely linked to energy and Russian state-controlled media was saturated with the story that the West and particularly Ukraine are so chronically dependent on Russian hydrocarbons and uranium that they have been brought to their knees before the all-mighty Energy Superpower Russia. Putin's government and the Russian people have interpreted Europe's tepid response to the occupation of the Crimea as a sign of European weakness. This is seen as evidence that Russia is an energy superpower in both speeches and actions.

Today's Russia, with no significant international debt on its shoulders and an accumulated energy wealth as its muscle, has the financial potential to act as an energy superpower, and use soft means to influence European energy and thus also foreign policies. This potential is verified by historical practices: Russia has used uncertainties and irregularities related to price negotiations as well as pivotal infrastructures in the energy sector to link decision-makers more closely to the Kremlin's sphere of influence or direct control (see Balmaceda 2013). Russia's ability to use energy as leverage is judged not only by the potential to carry out such manoeuvres, but by the effects of this enterprise. In this respect, the analysis made by Smith Stegen (2011; Table 4.1) on Russia's ability to use the energy weapon, in other words aiming for and gaining political concessions by using energy supply as leverage on energy-dependent countries, goes a step further than previous studies. Her main argument is that although Russia's energy superpower status has previously been evaluated from the viewpoint of the state's ability to control energy resources and transit routes as well as the fact that the state must try to use energy resources to further its political objectives, the effects of this enterprise have been neglected. She proposes that we focus our analyses on the reactions of energy-dependent governments to the threats, price hikes or cut-offs orchestrated by Russian actors. In the case of oil and gas trade between Russia and the EU, Russia's potential to behave as an energy superpower not only exists, but has been played out. Smith Stegen (2011, pp. 6509–10) shows that in the field of gas trade the effect has been more pronounced than in oil, despite the fact that attempts to use the energy weapon have been made in both energy fields during the new Russian era after 1991.

Table 4.1 Energy weapon framework (Smith Stegen, 2011)

Energy resources in country
1. State consolidation of resources
2. State control over transit routes
3. Implementation of threats, price hikes, disruptions
4. Target state acquiescence and concessions
Energy resources as political leverage

The model strives to expand the analysis to any case in which an energy export country attempts to use the resources and flows that it controls to influence the political behaviour of a country purchasing energy. However, the metaphor of the 'energy weapon' concept is misleading. This is because Russia has not used tough means of influence in the context of Western Europe. For example, if Russia's energy strategy vis-à-vis Ukraine can be defined as a *hard energy weapon* ('squeezing flow'), in Finland – as in most EU countries – Russia's foreign energy strategy resembles a *soft energy weapon* ('lubricating flow'). However, the analytical model applies just as well to contexts in which an explicit 'stick' is not evident. These cases show how influence is built in a positive manner, which is a far cry from a weapon. Russia has skilfully used this tactic in Western Europe and the EU (see Högselius 2013). From the Finnish perspective, this is also a key method of exerting influence via energy. The question is not whether Russia can use the 'hard' energy weapon, because this is a possibility that cannot be ruled out. However, as there have been no problems in energy trade and flows, Russia has preferred more covert measures like pricing and contracts.

The attractiveness of the energy sector as a channel of influence is the sum of many things. The energy sector plays a key role with regard to security of supply for modern societies. The importance of the sector as a channel of influence can be attributed to the fact that this is a matter of dependency relationships built over decades and to the central role that the Russian government plays in the Russian energy sector. In Europe, energy dependency has been seen as a symmetric alignment in which both the EU and Russia are dependent on the continuation of trade relations (Goldthau and Sitter 2015). As I argue above, this does not apply to the situation with individual countries or companies, which can be subject to occasional or systemic use of the 'energy weapon'. In the following I will use Smith Stegen's model to assess Russian energy trade with Finland. The analysis focuses on factors contributing to and/or

undermining a positive interdependency created via energy trade between Russia and Finland.

RUSSIA'S ENERGY AS POLITICAL LEVERAGE IN FINLAND

In Finland, 45 per cent of the energy consumed is of Russian origin while 71 per cent of imported energy comes from Russia. Although renewable energy accounts for one-third of the energy palette and self-sufficiency is high on a European scale, nearly all of Finland's fossil and nuclear fuel comes from Russia (see Table 4.2). Thus, the energy relationship between Finland and Russia can be described as asymmetric. With the exception of electricity, Finland accounts for a small percentage of Russia's energy exports while imported Russian energy, excluding electricity, represents a large share of total imports in Finland. The dependency of Finland's energy sector on Russian hydrocarbons, nuclear power technology and nuclear fuel exports creates a possibility for leverage.

Table 4.2 Finland's dependency on Russia by energy form (Statistics Finland 2017)

Energy form	Imports from Russia as share of total imports	Amount	Share of Russian exports by energy form
Coal	88%	2.5 mill. t.	3%
Oil	89%	11 mill. t.	4%
Refined products	80%	3 mill. t.	n.a.
Natural gas	100%	2.4 bcm	2.5%
Uranium	71%	38 t.	n.a.
Biomass	70%	127,000 t.	n.a.
Electricity	7%	5TWh	80%

Finland is aware of its energy dependency on Russia, but considers it manageable. At the root of this thinking is a worldview based on liberal values, democracy and free trade that together enable positive interdependency and cooperation. However, increased global competition for economic and natural resources presents challenges to previous policy assumptions. Currently, economy and trade are even more susceptible to the pursuit of other (foreign) policy objectives (Goldthau and

Sitter 2015; Wigell and Vihma 2016); influence produced through trade is based on the dependency relationships created through commodity flows, economic benefits and political 'goodwill' – and the threat of its absence.

Consequently, security of supply thinking based on a 'turn off the taps' scenario has become an inadequate frame. Instead, the analysis of energy security should consider how energy trade practices, flows and policies have affected Finland's energy policy and understanding of energy security. Accordingly, the set of measures available to influence the energy policy of the target country vary across individual sectors (oil, gas, uranium/nuclear power, coal, bioenergy), but more importantly, they go beyond a single sector. In other words, the build-up of energy leverage – influence on the target country's energy policy – is one element of the asymmetric measures aimed at furthering Russia's national security interests. Thus, the Russian energy sector is seen as an integral part of the state's strategic resources rather than an autonomous actor (e.g. Ministry of Energy RF 2009, 2017; Strategiya 2015). Therefore, the Russian leadership looks at its trade partners with a strategic geoeconomic perspective: trade policy is executed with comprehensive state interests in mind. This entails that even if Gazprom strikes a gas trade deal or Rosneft contracts oil with the Finnish state majority-owned companies Gasum and Neste respectively, we cannot know precisely how choices made within these sectors reflect and influence decisions in, for example, the nuclear business. It may well be that Russia wants the outside world to think that all its decisions are centrally made and governed, despite the fact that in reality we can easily find scattered interests and decision-making within the Russian energy sector (e.g. Kivinen 2012). However, when looking at economically and symbolically important projects for the Putin regime, like the Rosatom–Fennovoima nuclear deal, it is more likely that the actions of Russia are closer to the ambitions stated in central strategic documents and also in line with Russia's foreign and security policy thinking: foreign relations are built and maintained via comprehensive strategic action. This aspect is not always understood in the energy policy discussion in Finland, and elsewhere in Western Europe, where the major energy companies operate on the basis of market logic as opposed to the logic of state security interests.

It can be even argued that the responsibility for defining Finland's energy security has been partly turned over to the corporate world. Finland's significant energy dependency on Russia has been justified by the economic profitability of this trade for both parties, without paying attention to what is expected from Finland in return for low prices and favourable provisions. However, the state of Finland is, through

many different links, tied to these long-term, economic dependencies. Examples of these include Neste Ltd, a state majority-owned company and an important international hub for Russian oil and gas flows, and Fortum Ltd, via complex Finnish and Russian nuclear power and gas industry cross-ownerships and partial ownership in the Nord Stream II project. This puts pressure on ownership steering in companies where the state is the majority owner. Controlling these overall impacts would require a systematic approach and sensitivity towards geoeconomic issues, yet thus far Finland has not developed such a strategic approach to energy.

The above discussion of Finland's energy security serves as an introduction to the analysis below, which examines the processes of energy trade between Finland and Russia via political-economic influence and dependencies. Table 4.3 presents the factors that appear to be key for each energy sector from the perspective of our analysis (see Sipilä et al. 2017), which is based on detailed and concrete cases related to energy companies and actors. The table concludes with an important summary of the significance and logic of Finland's overall dependence, which is the foundation on which Finnish–Russian energy cooperation and the mainstream Finnish understanding of energy security has developed.

The Finnish energy security discussion often refers to the fact that all energy flows imported from Russia could be replaced. In truth, they could be replaced in a crisis situation but only *hypothetically* in normal conditions. In a business-as-usual situation, factors that maintain dependency limit the choices. Russia is well aware of this. Thus, Finland's manoeuvrability is in many ways more limited than in a decentralized energy procurement scenario, where the market is not dominated by a single energy supplier. Russia could compensate for this trade – and the subsequent loss of revenues from Finland – but for Finland it would be very expensive. Under normal conditions, it is impossible to imagine a situation in which Finland or the entire EU region could simultaneously purchase its oil, gas, coal, uranium and electricity from somewhere else. The price would inevitably rise and company profits would decrease. It is extremely difficult to prove what this would really mean in terms of freedom of choice regarding decisions on economic, energy, environmental and foreign policy made by Finland or the EU; what decisions have been made or not made because of these dependencies.

Table 4.3 Russia's methods of influencing Finland via energy trade

	Phase 1 'Russia's state ownerships'	Phase 2 'Russia's control of flows'	Phase 3 'Russia's measures'	Phase 4 'Finland's reactions'
Gas	Controlled by the Russian state via Gazprom ownership	Export controlled by Gazprom	Low pricing used to maintain customer relationships and 'goodwill'	Share of gas reduced in the energy palette and new gas infrastructure aims at decentralization, but Neste's flows remain unchanged, difficult to replace
Oil	Russian state owns 2/3 of oil production	State-owned Transneft exports 85% of oil	Oil exports to Finland have remained high mainly for geoeconomic reasons	Oil imports from Russia are high (80–90%) due to price, refining and infrastructure inertia, which have prevented decentralization
Nuclear power	State-owned Rosatom owns the entire chain	Rosatom controls the chain	Share of Russian uranium is high due to pricing and power plant customer relationships; the plant and electricity are provided for Fennovoima at a low price	Despite obvious foreign and security policy links, nuclear cooperation and trade is defined using economic concepts; a major crisis in EU–Russia relations did not change Finland's stand on Russian nuclear power
Bioenergy	Russia's bioenergy sector is in private hands; a large number of actors	Bioenergy and wood exports under state control, but also many private actors	Bioenergy trade indirectly politicized (export policy), but decoupled from direct Russian state interests	Reactions directly related to bioenergy cannot be identified; potentially a lack of desire to increase imports due to Finland's own forest sector interests
Joint impact of overall dependence	The majority of Russian actors in Russia–Finland energy trade are state-owned	The majority of flows in Russia–Finland energy trade are controlled by the Russian state	Pricing, good terms and minimizing politicization ensure continuity in the energy trade, which is important for relations between Finland and Russia	Finland has the need to define its energy cooperation with Russia using economic concepts and underline its importance to good relations, in which case a 70% import dependency level is not seen as a problem but as a sign of trust

Assessing the political consequences of this form of dependency is not popular in the EU; energy-security thinking is dominated by the security of supply, thus a fear of the 'hard energy weapon' (cf. Szulecki et al. 2016). However difficult it is to ponder the possible political ramifications of economic dependence, it needs to be done for the sake of future *symmetric* interdependency between the EU and Russia. For example, one essential question involves determining how the Fennovoima–Rosatom nuclear power plant (NPP) project influenced Finland's position concerning the focus of EU sanctions set after Russia waged a proxy war in Ukraine; nuclear 'carrot projects' provided by Rosatom – two of which are under construction in the EU space, in Finland and Hungary (Aalto et al. 2017) – could have affected the focus of sanctions set for Russia. Specifically, it is odd that the Russian nuclear sector, which produces uranium, power plants and electricity as well as nuclear weapons and is thus linked organically to Russia's violence in Ukraine, fully escaped Western sanctions even though oil and gas production was targeted. In light of this, the fact that Finland's dependency on Russian energy has grown – imports from Russia increased from 65 per cent in 2015 to 71 per cent in 2016 – since the Ukrainian war is a very interesting development. Regardless of whether this was dictated by the energy economy or not, it can be interpreted as a sign of trust in foreign policy: while other Western countries 'politicize' energy trade, Finland is a 'rational' actor that does not mix the economy with security policy.

Ensuring the continuity of energy trade is, as such, already an important part of maintaining good relations with Russia, but the economic advantages formed via trade further strengthen this link. In a static world not threatened by climate change, this would not be an energy policy problem. For Finland (and the rest of the EU countries) which is pursuing an energy transition towards a decarbonized society, it may be difficult to break these dependencies because the current flows of non-renewable energy produce major economic benefits for the country and its state-owned companies. Thus, it is the international effects and path dependencies of hydrocarbon culture in Putin's Russia that hinder not only the energy transition within Russia, but also in the societies dependent on Russian energy, hydrocarbons and nuclear power. Energy produced via atomic fission is therefore simply one 'branch' of the Russian hydrocarbon culture, as nuclear power makes it possible to preserve the present political and economic strategy that is *not* aiming at decarbonization or decentralization. Vice versa, a significant share of wealth created by selling oil and gas on the international market is directed to the Russian nuclear sector (cf. Josephson 2019), to *both* of them. The possibility for Rosatom to offer NPPs, the 'peaceful atom', to

Finland and other countries at a low price is by and large made possible by hydrocarbon profits; calculations reflecting the sources of Russia's state revenues show that half of all funding for Rosatom's branch responsible for production of nuclear weapons – the 'bellicose atom' – is in fact covered by oil and gas sales.

CHERISHED NUCLEAR TRADE BREEDS PATH DEPENDENCIES: AN ANTITHESIS FOR DECARBONIZATION

Nuclear power has a special meaning for Russia, and from the Russian viewpoint nuclear cooperation is a top priority in terms of Finnish and Russian relations (see President of Russia 2017). Natural gas plays a key role in building an energy superpower, but the fact that Russian oil, coal and uranium are so essential to the European energy supply also contributes to this identity. In Russia, the progress of Rosatom's project in Finland in this particular political situation is presented as a victory that makes it possible to combine traditional power policy with the idea of an energy superpower. Moreover, it promotes the Putin government's target of normalizing the Ukrainian situation and creating a new frozen conflict on its borders. Finland is being given the opportunity to assume a multidimensional role in this process. As a country with strict control over its nuclear power, Finland is an important reference for Rosatom in terms of promoting Russia's soft power image on a global scale. The project also gives Finland a special position in Russian policy in exchange for overlooking Russia's actions in Ukraine. This may be one reason why some Finns want to see the Rosatom project become reality: Finland accepts a project that supports Russia's Great Power ambitions and move to a 'new normal' that simultaneously maintains Finland's traditional special status in the eyes of Russia.

Hanhikivi 1, the Fennovoima NPP that is being constructed by Rosatom and its subsidiaries but still waiting for a building permit by Finnish authorities, is primarily being financed by the National Wellbeing Fund of Russia. The cost estimate for the project is highly competitive in comparison to other nuclear power plant suppliers. The state-owned Rosatom, the legal aim of which is to promote the interests of Russia, is not obliged to produce profit and can also offer Finland a significantly less expensive nuclear power plant. The nuclear sector is fully controlled by the state corporation Rosatom, which handles practically everything related to nuclear issues: nuclear policy, running of NPPs, transport and

reuse of nuclear fuel, radiation safety as well as the nuclear weapon complex (Dobrev 2016). Rosatom was recently granted sole responsibility for the services and logistics on the Arctic Northeastern Sea Route, a central part of this being the ice breaker fleet that runs on nuclear fuel. For this reason, the nuclear sector represents Russia's strategic interests in the field of geoeconomic and geopolitical leverage in its most refined manner. This leverage may well explain why it was not possible for sanctions set by the West to focus on the Russian nuclear sector (cf. Pajunen 2014).

In terms of nuclear technology Russia is very much self-sufficient, and Rosatom has managed to increase its nuclear power portfolio by 60 per cent between 2011 and 2017. With a 17 per cent market share, it is now one of the biggest companies supplying uranium (Dobrev 2016; Rosatom 2017). This upscaling has its economic rationale to be sure, but constructing, owning and providing fuel for NPPs makes it possible to promote geopolitical and geoeconomic objectives by sealing the Russian presence for 60 or more years. Hence, nuclear power institutionalizes political power with a long-standing infrastructure (Oxenstierna 2014). However, the political leverage is far greater in those cases where Rosatom delivers uranium to NPPs constructed, owned and run by the corporation. In the case of Finnish *Hanhikivi 1*, Rosatom has a contract to deliver uranium to the plant for the first ten years, but it is very likely that the Russian nuclear giant will continue to provide the uranium after this time frame. This is explained by the fact that Rosatom has a mastery of the technical and chemical requirements of the uranium pellets, as they are designed and fine-tuned for Rosatom's own nuclear plants. Another important factor is that Rosatom, as a state corporation with no obligation to produce profits, can provide the uranium at prices below the market rate. This makes it possible to maintain long-term control over resource flows as well as produce political leverage that radiates beyond the nuclear sector, despite the fact that on paper the uranium trade is based on (free) market considerations. Hence, although Fennovoima can buy its uranium from elsewhere after the ten-year uranium delivery contract expires, fuel economics will discourage such moves.

The progress of the Fennovoima–Rosatom–Fortum negotiations from 2014 onwards provides a good example of the special nature of nuclear power and underlines the strong foreign policy links in Russian–Finnish nuclear power cooperation: the decision-making processes included flexibility concerning the promised time limits, the government was closely involved in the processes alongside a private company (Fennovoima) and the state majority-owned company Fortum was encouraged, if not compelled, to become a shareholder. Nuclear power cooperation and the

Fennovoima–Rosatom project are officially (see Ministry for Foreign Affairs Finland 2016) an important part of promoting good relations between Finland and Russia as long as the project progresses without problems. The government and several political parties have presented the dimensions of the Rosatom project as being no more than an economic, environmental and energy policy matter. Thus, a foreign or security policy assessment was considered unnecessary. However, the problems faced by the project reflect on relations between the countries and, for example, the opportunities for Finnish companies, such as Fortum, to operate in Russia.

Nuclear energy cooperation does not only have important ramifications for and, to a certain extent, to frame Finland's foreign policy considerations vis-à-vis Russia; it also potentially hinders a rapid energy transformation in Finland. *Hanhikivi 2*, yet another new NPP project that is already on Russia's trade policy agenda, would limit growth in the share of renewable energy in Finland because a large and inflexible amount of nuclear energy in the electricity system makes it difficult to increase the share of variable renewable – primarily wind and solar – energy (see Kopsakangas-Savolainen and Svento 2012).

When Finland obtains its energy and energy production infrastructure from Russia at a very low price, it is worth considering what else has been factored into it – in addition to market price calculations. Taking into consideration other objectives that are not directly related to energy, one of Russia's most central objectives is that it would like Finland and Sweden to remain militarily non-aligned countries. Against this background, it is worth asking the question of what would happen to the pricing of oil (such as, transports) and especially energy flows and technology in the gas and nuclear power sectors if Finland chose differently by, for example, joining NATO?

THE FENNOVOIMA–ROSATOM DEAL IS SATURATED WITH ENERGY POWER

In autumn 2015, Finland's government accepted the NPP proposal prepared by the Finnish–Russian power company Fennovoima (which translates as 'Finnish Power'). The government decided to go ahead with the Rosatom 1200 MW project right after Russia had occupied the Crimean Peninsula and launched a proxy war in Eastern Ukraine. The Fennovoima NPP was originally supposed to be financed and built by a German–Finnish consortium, but the German energy company E.ON withdrew from the project in October 2012. This consortium sought to

build a larger 1600–1700 MW NPP in Pyhäjoki, located in Northern Finland, using either Areva's French or Toshiba's Japanese technology. The Finnish energy company Voimaosakeyhtiö SF – with investments from Finnish heavy industries, retail companies and municipal power and heat enterprises – held a 66 per cent share and the German E.ON covered 34 per cent.

In 2013, Rosatom proposed not only to build the new Finnish nuclear plant, but also to cover the required investment costs, amounting to one-third of approximately 8 billion euros for the entire project. The French company Areva was (and still is in 2019) building the notorious *Olkiluoto 3* NPP in southern Finland and, after experiencing severe problems in quality assurance leading to delays and cost overruns, was not included in the new Fennovoima bid. Toshiba submitted a full application, but the Finnish side accepted Rosatom's application. The Fennovoima management was certainly less interested in Toshiba's technology after the Fukushima accident, and attracted by Rosatom's generous offer to partially finance and build the NPP in addition to providing support and uranium fuel.

After Russia became involved in the war in Ukraine, the likelihood of the Fennovoima project becoming politicized increased significantly. In February 2014, at the same time as Russia occupied the Crimea, the Finnish government signed a nuclear cooperation agreement with its eastern neighbour. The fact that the head of Rosatom, Sergei Kirienko, acted as Russia's signatory revealed the true nature of the corporation: Rosatom is practically the 'Ministry of Nuclear Energy and Weapons of the Russian Federation'. This deal reinforced Rosatom's position vis-à-vis other international nuclear companies, such as Rosatom's competitor in the Fennovoima project, Toshiba, which were trying to compete in the Finnish energy market.

The *Hanhikivi 1* NPP process became even more interesting from the foreign policy and political energy-power perspectives when the Finnish government set a 60 per cent threshold for domestic financing – in order to be accepted, at least 60 per cent of Fennovoima ownership should be in the hands of Finnish or other EU actors. This decision came following increased public discussion concerning whether Finland should let Rosatom build and own the *Hanhikivi 1* NPP in a situation where Russia is flouting international agreements and law. This issue became even more acute after several domestic investors withdrew from the project, possibly fearing image losses when investing in a Russia-backed project, meaning that the foreign ownership share might exceed 50 per cent. Rosatom had expressed willingness to finance more than the 34 per cent initially agreed upon.

In late 2014, the Finnish state majority-owned energy company Fortum, which produces heat and power in the Nordic and Russian markets, announced that it could invest 15 per cent in the Fennovoima NPP. This would guarantee the necessary level of domestic ownership. Fortum's bid was conditional, and included transferring the hydropower assets of Gazprom in the regional energy company TGK-1 in Northwest Russia to Fortum. The negotiations on Russian hydropower assets continued between Fortum, Gazprom and Rosatom from late 2014 until summer 2015, but were not successful for Fortum.

The hydro assets were clearly, both economically and strategically (geopolitically and geoeconomically), too important for Gazprom and Putin's regime to be used as a trade-off in the Fennovoima–Rosatom deal. In June 2015, contrary to the desires and expectations of Fortum and the Finnish government, Gazprom did not hand over the hydro assets, but instead introduced a Croatian company as a new domestic investor. It was soon revealed that the Croatian Migrit Energija was owned by two sons of Russian oligarchs with newly acquired Croatian citizenship. Thus, this 'Croatian' miniature enterprise of two persons, with a liquidity of a few million euros, was supposed to invest 150 million euros in the Fennovoima project. It was clear that this was a Russian shell company, especially since Sberbank Rossii was to be the creditor for this Croatian company. This gambit by Rosatom and Putin's regime politicized the project even further. The Finnish government had promised the Finnish Parliament that the necessary domestic ownership shares would be acquired by June 2015. But as no domestic (European) investors were found before the deadline, the Russian party tried to further the project with the help of this Croatian puppet (Nikkanen 2015).

This manoeuvre gave the Russian side an opportunity to keep the process alive while testing the Finnish side. The deadline set by the government to gather the necessary domestic investors was superficially met, but it was clear that the Finnish government would refuse to accept the Croatian company as domestic. Moreover, this bid further diminished Fortum's chances to succeed in their hydropower trade-off. Parties in Moscow were well aware – for example, via the former head of Rosatom and the Russian Ambassador to Finland Alexander Rumyantsev – that the Finnish conservative government was keen on pushing the Fennovoima NPP through. In early autumn 2015, Fortum finally announced that it would step in as an investor (covering 6.6 per cent), and therefore guarantee the required domestic euros for the plant. To everyone's surprise, the investment commitment was made without Fortum getting its hands on Northwest Russian hydropower. This outcome caused suspicion that the Finnish government had pressured Fortum – an

independent listed company – to make the asymmetric move following ministerial level negotiations in Moscow. The CEO of Fortum announced that "[t]aking part in this project was not the objective of Fortum Ltd, but our (financial) commitment makes it possible for the Fennovoima project to proceed following the schedule set by the Finnish Government" (Fortum 2015). This reflects perfectly the pressure exerted by the Finnish government on a state majority-owned, but still independent stock company during and after the negotiations in Moscow regarding the nuclear deal.

This chronology demonstrates that major energy deals, not least nuclear, have foreign policy ramifications and are saturated with energy power. However, Russia is a party to the war in Ukraine and Finland has, along with other EU member states, imposed economic sanctions on Russia that specifically target the energy sector. In light of this, the assurances that the Fennovoima NPP has nothing to do with foreign and security policy made by Finnish and Russian actors who want to see the project materialize are, to say the least, odd.

Politicians who support the Rosatom NPP have accused its critics of being biased and unpatriotic, which in itself demonstrates that foreign policy plays a strong role in the project. Former Prime Minister Alexander Stubb has talked about the demonization of Russia. Critics of the project have been accused of Russophobia (Eduskunta 2014). This is surely political rhetoric, but one cannot help but wonder at the power of energy when projects like this make the Prime Minister argue that criticizing a corporation owned by a country at war is considered equivalent to criticizing the entire country and its citizens. The same members of Parliament that voted for sanctions targeting the Russian energy sector seem to have no problem with Finland's commitment to a project that is of great symbolic and actual importance to Putin's regime. This illustrates how sensitive the topic is for Finland. What makes the discussion so interesting and also problematic are the assurances that energy policy, especially regarding nuclear power, can be separated from foreign policy. Finnish energy policy is presented as being immune to the power that is exercised globally through energy.

CAN NUCLEAR POWER PROMOTE INTERDEPENDENCE AND PEACE?

A key argument in favour of the Rosatom project is the implicit assumption that nuclear power promotes cooperation between Russia and Finland, Russia and the EU, and that this cooperation promotes peaceful

relations between the parties in the long run. Basically, this idea leans on the legacy of *Ost-Politik* initiated and carried out by Social Democrats in West Germany from the 1960s onwards (e.g. Högselius 2013). It assumes that all economic activity, regardless of the traded commodity or sector it concerns, is beneficial for both parties: it produces affluence, but it also builds mutual trust and goodwill in particular. Implicitly, the trade is supposed to *tame* the more authoritarian party, and commit all those involved to transparency, stronger institutions and, ultimately, to democracy. Although this idea has not been directly expressed as such in the Finnish debate on Russian nuclear power, it is included in, for example, a statement made by Jouni Backman, a former Social Democratic MP and Parliamentary Group chair at the time, who in 2014 said "we have cooperated with Russia on nuclear power for decades, and one crisis (the war in Ukraine) is not going to change that" (Helsingin Sanomat 2014). This call for pragmatism can be based on one of two assumptions. Either all economic cooperation with bellicose authoritarian governments promotes peace and democracy or, despite supporting ethically problematic development, trade and politics should not be mixed. The first of these is idealistic and the latter is cynical. Backman's further argument supports the cynical interpretation: "We've never had any problems." In other words, ethical issues do not matter as long as energy is available on a reliable basis.

Regardless of their real reasons, Backman and the Centre Party's Mauri Pekkarinen, an MP at the time (Helsingin Sanomat 2014), encouraged Finland to overlook the occupation of the Crimea and Eastern Ukraine in the same way many Western European countries turned a blind eye to the occupation of Czechoslovakia in the 1960s. In the spirit of the *Ost-Politik*, in the aftermath of the Prague Spring of 1968 and the consequent Soviet occupation, a number of Western European countries – Finland, Italy and West Germany at the forefront – struck several oil and gas deals with the Soviets. Now Finland is basically repeating this behaviour in the Fennovoima deal, as is Germany by pushing forward the Nord Stream II gas pipeline project.

In the light of this appeasement strategy chosen by some EU countries, it is interesting to unfold the argumentation and justifications made concerning why nuclear power is an area of energy supply that should be left outside the scope of power politics. For example, in radio interviews (Pajunen 2014), both National Coalition Party MP Sinuhe Wallinheimo and the former Minister of Defence Carl Haglund, representing the liberal Swedish People's Party, suggested that a nuclear power project with Russian backing is not a security policy issue. Former ice hockey goalkeeper Wallinheimo does not "believe that Russia will pressure

Finland" and states that for this reason, the nuclear power business should be separated from politics in a pragmatic sense. He does, however, see Russia's KHL ice hockey league as part of "old geopolitical thinking" that links former bordering states to the Russian sphere of influence and "burnishes Russia's political image". Ice hockey is geopolitical, but nuclear power is not in this rhetoric.

On the other hand, the former Minister of Defence Haglund stated that construction and operation of an NPP is not related to security policy. However, declining to use a Russian supplier would be an open insult to Russia. Operation is regulated by the Nuclear Energy Act and is based solely on society's need for energy. The fact that a minimum level (60 per cent) of domestic ownership was set as an additional condition for the Fennovoima project makes this selective disregard for security policy an odd choice. If there was no foreign policy risk associated with the ownership and operation of NPPs – and the production and selling of nuclear electricity was simply business – no such ownership limitations would have been set for the project in the first place. Thus, nuclear energy policy must also be part of foreign and security policy considerations, and failing to do so furthers the greatest desire of Putin's regime: Europe should separate the economy from politics now that Russia has achieved its military targets, thus creating yet another frozen conflict on its borders. It also inevitably paints a picture of Finland as a country that, regardless of the political situation, enjoys a historical special status granted to it by Russia and – in this case – a reasonably priced NPP guaranteed by the Russian state.

What if Finland and the EU (the West) wanted to use energy policy to promote interdependency and peace? In that case, cooperation should focus on completely different areas than Russian hydrocarbons or nuclear power – the latter of which is linked to the manufacturing of weapons of mass destruction, both organizationally and via its fuel chain. Furthermore, uranium mining and nuclear power generation promote a centralized energy infrastructure, which allows power to be exerted in the energy sector and throughout society by a significantly smaller group than is possible in a decentralized energy system. Therefore, the nuclear cooperation with Putin's Russia is equivalent to promoting the centralized energy power of a hydrocarbon culture, along with propping up the most violent component of Russia's Great Power aspirations: nuclear weapons.

Furthering nuclear power is a perfect fit for Putin's authoritarian government, because secretive activities – we are unlikely to see certified uranium commodity chains in Russia that present the social and environmental effects of activities in a transparent way – within the sector make it easier to keep control in the hands of the country's leadership. The

impact of nuclear energy on production and consumption is opposite to that of solar electricity, wind power or bioenergy. Renewables are typically produced and consumed over a broad area: a larger part of the population, many organizations and small and medium-sized companies are all involved in energy production and transport. Therefore, a transition away from non-renewable oil, gas, coal and uranium towards renewable energy promotes economic diversification – all along the commodity chain, which means in both Russia and Finland. A diversified economy promotes transparency and an equal playing field for all entrepreneurs, small, medium-sized and large. This subsequently promotes stronger institutions and democracy and is the antithesis of Putin's hydrocarbon culture, a topic I will return to in the concluding chapter. Like the oil and gas sector, uranium is based on specific points of production and narrow corridors of transport – which are vertical and horizontal *choke-point geographies* in the same way as hydrocarbons. They employ only a small share of the workforce in Russia, even though energy exports account for more than half of Russia's budget. Finland could more effectively promote a sustainable and resilient Russia by means of trade built around renewable energy than by importing nuclear energy or hydrocarbons.

WILL 'FINNISH POWER' DECREASE FINLAND'S (ENERGY) DEPENDENCY ON RUSSIA?

One of the reasons used to justify the Fennovoima project has been reducing Finland's dependence on electricity imported from Russia – electricity from Russia covers a little less than 10 per cent of Finland's needs. After Rosatom was selected as the supplier and part-owner, supporters of the project changed their tune. In his energy policy report to Parliament (Eduskunta 2014), former Prime Minister Stubb claimed that "contrary to intuition, the project will decrease our dependence on Russian energy". According to that statement, the project would no longer reduce Finland's dependence on imported electricity, but would now reduce its dependence on Russian energy.

However, nuclear electricity will not replace Russian gas because a significant amount of gas consumption occurs in industrial processes, first and foremost in oil refining by Neste Ltd, and co-production of electricity and heat that is mainly supplied to the Helsinki Capital Area. On the other hand, if we assume that Rosatom's plant would completely replace the electricity that now comes to Finland from Russia, the dependency would actually decrease in terms of electricity. The new

NPP's capacity of 1200 megawatts is three times what has been imported (400 MW) from Russia to Finland. However, Rosatom's one-third ownership share allows it to sell 400 megawatts of the electricity production to whomever it wants: in the electricity markets of the Nordic countries, the Nordpool, or to Russia and Estonia (via Estlink).

Electricity trade became bilateral in 2015, which means that in the future Rosatom can sell its own share to Russia if it so desires, leaving the situation unchanged with regard to electricity supply. Furthermore, cross-border electricity trade is completely controlled by another Russian state-owned company called Inter RAO. Although Finns do not have the power to decide how much electricity crosses the border, the national grid operator Fingrid has argued that operations that do not observe market logic – such as selling electricity to Russia when the price is higher in Finland – are easily detected. However, it is easy to recall the electricity import situation in 2011 and 2012; after citing economic reasons, Inter RAO reduced electricity imports during peak winter hours, thus managing to manipulate the price of electricity in Finland. In response to the threat of such market distortion situations, former Prime Minister Stubb tried to reassure people by stating that nuclear power produced by Rosatom also accounts for approximately half of Ukraine's electricity and has remained outside the scope of military actions. This is despite the fact that Ukraine's chronic dependence on Russian energy in 2013–16 was based on the joint impact of nuclear power and gas, and that Russia has used this as a means of exerting pressure for decades. There is no need to use nuclear power to influence Ukraine. But such a possibility does exist, which makes gas an even more effective method of applying pressure. Ukraine has recently decreased its dependence on both Russian gas and uranium.

It is a fact that Russia is using energy to promote its geopolitical interests; energy is a central component in Russia's foreign policy. Within the frame of the Great Power desires of the Putin regime, it is fully *rational* for Russia to use energy as a source of political power in the international context. In addition to a nuclear deterrent, Russia has very few means other than hydrocarbons and nuclear power to exert influence internationally. Russia's energy-related power strategies vary in different contexts: what is effective in Ukraine and Moldova, for example, cannot be copied in Finland or Germany. Therefore, Finland is part of Russia's energy diplomacy even though Finland has never had any problems with energy deliveries from Russia. However, Finland's dependence on hydrocarbons and uranium from Russia (70 per cent of imported energy comes from Russia) does emphasize the risks of electricity production. The fact that the possibility for manipulation of the electricity market even exists

is enough. The insistence by some Finnish political and economic actors that the Russian nuclear power deal has nothing to do with foreign and security policies is therefore worrying, as the measures taken by both the Finnish and Russian actors clearly demonstrate that the nuclear business in particular is highly political. Although nuclear power produces very little of the greenhouse gases that are warming the planet, the fact that the nuclear strategy of Putin's regime is firmly based on the hydrocarbon culture, its power networks and rents is the antithesis of the decarbonization and decentralization needed to bring about a resilient and peaceful, and thus respected and trusted Russia.

5. The national taboo of hydrocarbon culture: changing the Arctic environment

In this chapter, I want to examine how the Russian hydrocarbon culture manifests itself in the Arctic. Specifically, I ask what role does the Russian North, a central geopolitical direction of Putin's Russia, play in safeguarding the future of the regime and its chosen economic and political trajectory. Moreover, I use the spatialities of energy, including the pivotal *leakage of carbon*, to show how the Russian hydrocarbon culture contributes to environmental problems ranging from the local to the global, and in fact functions as a 'geological force' that is transforming the Arctic environment to serve the needs of this very culture. However, in doing so the culture relies on three Arctic paradoxes: local, national and global. The hydrocarbon culture is unable to address these paradoxes, and instead they are implicitly defined as societal taboos. The inability to address these problems is a central obstacle on the path towards a resilient and sustainable Russia.

PATH DEPENDENCY AND NATION-BUILDING IN AN 'EXCEPTIONAL' ARCTIC CONTEXT

The Arctic arouses many associations and emotions. Discovery, human bravery, exploration and scientific progress are connected to the 'adventure' Arctic. The Cold War, submarine chases, closed military compounds and regional environmental problems, such as the fall-out caused by nuclear tests, are attributes of the 'battlefield' Arctic. Inter-governmental cooperation to build understanding across the North Pole, and the international environmental movements and Northern indigenous people that emphasize the urgency to act regarding global climate change fall into the semantic field of the 'global' Arctic. Over the course of the twentieth century, the political image of the Arctic has undergone a metamorphosis, and it seems like we are witnessing a new turn in Arctic contestation.

During the last decade, the Arctic cooperation agenda that emphasizes the grassroots level, such as cooperation between inter-governmental institutions, non-governmental organizations and Northern indigenous people, has witnessed a revival of so-called 'hard' issues. There are high hopes that environmental change will open up new resources for extraction and, in the wake of economic ambitions, geopolitics is once again assuming a more pivotal role in defining the Arctic. The global 'Arctic paradox', which describes the situation when the changing climate enables the exploitation of new Northern energy resources and further intensifies climate change (Heininen 2018) seems to be ignored as the world fixes an intense gaze on the Arctic mineral riches (Gritsenko 2018). The global Arctic paradox is in fact an ethical problem, since the greenhouse gases released from hydrocarbon extraction and use have a particularly strong impact in the Arctic. In addition, the uncertainties related to the rapidly melting sea ice and thawing permafrost are being covered up, while the economic prospects of Arctic industrialization are exaggerated (Gritsenko and Tynkkynen 2018; Palosaari and Tynkkynen 2015; see Chapter 6). These global tendencies seem to be particularly true in Russia, where the Arctic is actively being turned from an 'uninhabitable' periphery (see the section on the definition of sustainability below) into a geopolitically central area interwoven with nation-building and Great Power political identity construction in a novel way.

A few years ago, Marlene Laruelle (2012) proposed that the three central discourses linked to geopolitical, national identity and state construction in Putin's Russia are Eurasia, Cosmos and the Arctic. For those following Russian politics, Eurasian-ness and the geopolitical fervour linked to it are familiar via the demagogues that have occupied podiums in Russia and beyond after the break-up caused by the Ukrainian war: Russia is a rising Eurasian Empire that is separate from the decadent and thus declining Europe. Cosmos refers to both the Cold War-era space race that draws on deepening Soviet nostalgia among Russians and the importance of spirituality that has grown hand-in-hand with the political power of the Russian Orthodox Church. Finally, Arctic objectives and ideals are also discussed with history, since this discourse is constructed by referring and appealing to achievements of the Soviet state in the High North: the state-building geopolitical discourse of Putin's Russia is thus partly dependent on the selective utilization of history from the tsarist and Soviet eras (for example, Tynkkynen 2016a). This discourse naturally aims at and looks into the future, where achievements in the Arctic will pave the way for the strengthening of national economic power.

The geopolitical discourse on the Arctic that began in Russia during the last decade is, nevertheless, a consequence of several global, regional and national phenomena and processes. One of the most important drivers is the climate change that is advancing at an accelerated pace in the region. The vision of an ice-free Arctic Ocean as well as the estimates of rich hydrocarbon deposits located on the Russian Arctic continental shelf have been pivotal in pushing economic activity in the region. The expectations that the loss of sea ice will transform the Northeast Passage into a key route linking Europe and Asia, forming an interface between the geopolitical discourses of Eurasia and the Arctic, highlight how the economic and political needs of the governing regime are intertwined (Medvedev 2018). Domestic and foreign policy needs that are partly symbolic and partly compulsive force Putin's Russia to be an increasingly military presence in the Arctic and emphasize its sovereignty in the region, for example, via territorial claims (Baev 2018). In addition, the emphasis on hydrocarbon sector development, chosen both for economic and power-related reasons, is compelling Russia to expand its Arctic activity. However, this is not a choice in the original meaning of the word, but rather a path dependency caused by hydrocarbon culture and its spatial logic: it creates favourable conditions for oil and gas to the detriment of other sectors of the national economy, and also accentuates large-scale, state-led projects with the help of authoritarian rule. This path dependency is not limited to the sphere of Russian economics and politics; in the spirit of building the hydrocarbon culture, it also encompasses the society and culture (Tynkkynen 2016a, 2016b).

For the time being, many Arctic mega-projects have been put 'on hold' due to the relatively low price of oil. The large-scale plans to turn the Russian Arctic into a patchwork of offshore oil rigs and gas pipelines, as envisioned in the Energy Strategy of the Russian Federation in 2009, have not materialized, despite the fact that Russia tried to influence the price of oil by striking a deal with OPEC to cut oil production in late 2016. The two energy complexes envisioned before the oil price drop in 2014 and subsequently carried out – the Prirazlomnaya oil field at the Kara Sea and the Yamal LNG production and transport facilities on the Yamal Peninsula – may prove to be risky investments both for the Russian state and private investors. International companies participating in Arctic energy projects are very scarce at the moment, primarily because of low oil prices but also due to sanctions imposed by Western countries on Russia after it began its aggression in Ukraine (e.g. Aalto 2016). The sanctions specifically target Russia's future hydrocarbon developments in the Arctic. Given the importance of the Arctic for Putin's vision of the Russian future, it cannot be anticipated that the

large-scale plans to exploit the Arctic, now firmly locked in the drawers of the governing regime, would be scrapped. However, without energy technologies of Western origin – which are now subject to sanctions – Russia's Arctic energy conquest is not going to be easy, if it is even possible at all (Aalto 2016). Hence, the importance of Arctic cooperation is underlined in Russian foreign policy discourse, which claims that the Arctic forum is actually an arena of like-minded actors and thus insulated against conflicts elsewhere – in Ukraine, Syria and beyond. At the same time, however, the domestic discourse and rhetoric targeting the Russian people have defined the Arctic as a territory where Russia's interests are at odds with those of others, especially Western actors, whose aim is to plunder Russia's natural riches (Gritsenko and Tynkkynen 2018; see discussion below). Therefore, framing of the Arctic as an 'exceptional' context – one in which all actors emphasize the rule of law and play by the international norms – fits in well with the alternative-less trajectory of a Russian political elite that is compulsively clinging to hydrocarbons.

For some Western and Asian actors, it may be appealing to nurture this exceptionalism in the hope of quick economic returns, even to the point of naivety. Arctic cooperation in the field of energy, environment and culture is a good candidate to become a source for advancement that leads to détente between Russia and the West. This should be nurtured, while still keeping in mind the political and environmental risks that potentially accompany such a choice. At this moment, therefore, it is worth asking explicitly: what objectives are being promoted in the name of 'Arctic exceptionalism'? Does the global community want to foster a Russia that nestles in and around hydrocarbons, strengthening the hydrocarbon culture and dooming it to a deeper resource dependency that further erodes its democratic institutions and maintains a centralized and unpredictable rule? Or is it able to see Russia and its northern expanses as a context where local livelihoods are a central component in a flourishing and sustainable economy, and mitigation of and adaptation to climate change is taken seriously, including a bold investment programme targeting the vast potential in renewable natural resources and energy?

PARADOXES OF AN ARCTIC-CENTRED HYDROCARBON CULTURE RUSSIA

Russia's great power ambitions coalesce in the Arctic through a combination of traditional sovereignty staking out a 'new' territory, economic rents captured from the region's natural resources and sea routes, and

strengthening of the global energy superpower image. Despite all this Russian blustering Lebensraum thinking (e.g. Laruelle 2012), the Arctic policy of the future will also be defined by cooperation. However, the present trajectory poses several paradoxical risks to Russia as it reaches towards its Arctic.

The Russian Arctic paradox is of a less profound nature than the ethical problem raised by the global Arctic paradox – climate change melts the ice and further accelerates the exploitation of Arctic hydrocarbons – as this national paradox is linked to the fluctuating global price of oil and potentially changing ideas about Russia as a Great Power. The Russian Arctic paradox is caused by the need for Russia to be visibly present in the Arctic and along the Northern Sea Route in order to enhance its Great Power status, as well as the fact that Russia has, in an economic, political and even cultural sense, become chronically dependent on hydrocarbons (for example, Gustafson 2012; see Chapter 3). These factors push the Russian state to promote and finance non-viable oil projects in the Arctic for the time being, and to do everything in its power to influence the price of oil via its energy diplomacy and foreign policy in the global arena in order to make Arctic oil projects profitable and increase budget revenues. At the grassroots level, in contrast, we see the local Arctic paradox: hydrocarbon-based workers' towns are well maintained and even indigenous communities are 'subsidized', or compensated for the economic losses produced by the industries, but the long-term economic and sociocultural strategies that reach beyond the time frame of hydrocarbon industries are missing (for example, Henry et al. 2016). This local Arctic paradox mirrors the general paradox facing Russian society: how to prosper after oil? Unlike the global Arctic paradox, the local Arctic paradox in the Russian High North is easier to act on, for example, via corporate social responsibility practices that we monitored (Tynkkynen et al. 2018) in the Yamal Peninsula. However, as long as this activity is labelled as 'charity' – as it predominantly is by major actors in the High North: Gazprom, Rosneft and Novatek – we are unable to resolve this paradox on a strategic level. In this respect, internationally agreed supply chain and commodity certificates could play a decisive role (see the concluding chapter). After all, it is us in the EU, Japan and China who are the primary consumers of Russia's energy resources, and it is in our interest to increase responsibilities along the energy supply chain.

By approaching Russia's Arctic paradoxes from different disciplinary traditions, in addition to the above-mentioned spatial approach, we are able to draw a more nuanced picture of the factors and path dependencies behind these paradoxes. First, seen from the perspective of political

economy, the agenda and decisions concerning industrialization of the Russian Arctic seem legitimate, at least in the short term. Arctic hydrocarbons are pivotal in the quest to maintain high levels of oil and gas production, and the related rents. The resource rents are central to Putin's popularity; along with boosting military capabilities and the domestic security structures, these rents have been utilized for the benefit of Russian citizens in social transfer schemes and via the economic trickle-down effect. The link between energy rents and the regime's popularity seems to be holding for now, despite the fact that during the Putin era that began in 2000, the affluence of the Russian nation – the energy-linked capital – has accumulated in fewer and fewer hands than ever before, while a significant share of the population persistently remains below the poverty line (Shorrocks et al. 2016). Control over these rents is also vital to the self-preservation of the governing regime, as the political and economic elite – first and foremost the oligarchy – is kept loyal through 'carrots' and 'sticks' derived from energy flows and rents. Thus, the entanglement of economic interests and those of the political elites and the resulting absolute priority of the natural resource sector is a key reason why Putin's Russia cannot avoid leapfrogging to the Arctic 'big fish' with its major virgin and greenfield deposits of oil and gas (for example, V.-P. Tynkkynen 2010; Tynkkynen 2014; also see Bridge 2011). As a result, the spatialities and materialities of hydrocarbons, such as leapfrog development, vertical and horizontal choke-point geographies and the excessive leakage of carbon that has grave effects on the environment from the local to global scales, play a pivotal role in defining not only Arctic futures, but also the future of a Russia that is clinging to a hydrocarbon culture.

Second, from the perspective of politics of identity and culture, Russia's Arctic paradoxes do not seem as lapidary as the political economy of the Russian Arctic would entail. However, the way in which the governing regime constructs identities and promotes certain cultural forms does pose challenges for sustainable Arctic development. The manner in which Russian political discourse on the Arctic is constructed, and the way in which the Arctic is intertwined with nation-building efforts (Medvedev 2018), is very much related to how Russian territory and its resources in general have been operationalized by the regime as parts of national identity and culture. I refer here to the efforts by the governing regime and its central actors, such as Gazprom, Rosneft and Lukoil, to use the spatialities and materialities (infrastructures, flows and connectedness) of energy to construct a specific form of identity that views the nation's deep dependence on natural resources, especially fossil energy, as a strength that enhances Russia's role as a Great Power (see

Chapter 3). Trying to sell this hydrocarbon culture and Energy Superpower identity to the Russian people (e.g. Bouzarovski and Bassin 2011; Rutland 2015) is thus fundamentally linked to selling the Arctic as a central geopolitical direction for the development of the Russian state and its sovereignty, as demonstrated by Laruelle (2012).

This identity coil amalgamating the Arctic and its resources is therefore also a pivotal factor influencing, if not determining, the way economies, cultures and the environment are treated at the level of policies and underlying politics. In order to understand why the question 'What comes after hydrocarbons?' has been seriously pondered in Russia – from Vladivostok to Moscow – so little, we must be aware of the cultural and identity dimensions of the issue. Among other things, constructed identities of hydrocarbon culture, coupled with meta-level processes in the sphere of political economy, explain why indigenous communities are kept in line and their livelihoods maintained through 'artificial respiration' taking place via subsidies provided by the hydrocarbon industries in compensation for pollution and loss of habitat. The practice of 'milking the oil men', which means distributing crumbs of wealth in the form of consumer goods and some social services instead of long-term strategic planning to enhance the Northern (indigenous) economies and cultures, has evolved because the regional and local administrations in the Russian Arctic are also part of a game that puts the hydrocarbon industry in the driver's seat and sets the direction (Henry et al. 2016).

Third, when examining the political ecology in the Russian Arctic, the problematic directions set by the political economy in Putin's Russia and the cultural and identity practices tied to it become even more evident. Russia's hydrocarbon industries pollute the air, waters and soil in the sub-Arctic and Arctic regions, first and foremost, to the detriment of Arctic ecosystems and the health of local populations. Since Russia's oil industry has been renationalized – following the privatization of Russia's oil industry in the 1990s, the state has acquired control of two-thirds of oil production – the state is to blame for the insufficient environmental policies in this field (Shapovalova 2017; Shvarts et al. 2016). An estimated 1–2 per cent of Russia's oil production, or 5–10 million tons of crude oil, is released into the environment during extraction and transport and 500 000 tons of hydrocarbons enter the Arctic Ocean via rivers (Hese and Schmullius 2009). The yearly number of spills from failing oil pipelines ranges between 15 000 and 20 000, but the exact number is unknown due to lack of transparency in the business and the state's lax attitude concerning environmental consequences (e.g. Vasilyeva 2014). Therefore, official figures concerning oil spills are not available and the

numbers provided by energy companies are for the most part unreliable (Shvarts et al. 2016).

Moreover, approximately 15–20 billion cubic metres (bcm) of associated petroleum gas (APG), which is equivalent to 3 per cent of Russia's annual gas production and 10 per cent of the volume that EU countries import from Russia, is burnt in flares at Russia's oil production rigs. The increased level of APG utilization that has fortunately occurred since 2008 is the unintended result of the electricity sector reform carried out in Russia since 2008. Oil companies have been producing electricity from APG in mini-power plants and thus avoiding both capacity and retail electricity market payments, which has made them more energy efficient (Vasilyeva et al. 2015). However, even after this drastic reduction in APG flaring from over 50 to just 15–20 bcm, Russia is still by far the biggest polluter and accounts for from one-fifth to one-quarter of all APG flared globally even though it only accounts for 13 per cent of the world's oil production (Elvidge et al. 2018). Russia's APG flaring is exceptionally detrimental to the Arctic environment in two ways: gas flaring accounts for about 1 per cent of global energy-related GHG emissions (IEA 2018a) – meaning that 0.25 per cent comes from Russian flared APG – and the black carbon (BC), also known as soot, emitted during flaring accounts for half of all BC settling on and melting Arctic ice and snow. Recent research (see Shapovalova 2017; Stohl et al. 2013) suggests that BC is responsible for roughly one-third to one-half of all climate forcing in the region, thus contributing significantly to the double-pace warming the Arctic has experienced compared to lower latitudes. The root causes for the global Arctic paradox are global GHG emissions, to which all nations and economies contribute. However, the climate warming impacts of BC emissions from the Russian hydrocarbon industry account for a significant share of the overall climate impacts of Russia's emissions, and even a pivotal share of the warming in the Arctic. To put it bluntly, the Russian hydrocarbon industry, backed by the political economy of Putin's hydrocarbon culture, is speeding up warming of the Arctic and its subsequent exploitation. This is where a significant share of its future wealth is located, and it is as if the Russian hydrocarbon culture had turned into a 'geological force' transforming and forcing the Arctic natural ecosystem to serve the needs of the chosen culture. Oil and gas extraction is literally melting the ice to uncover yet another virgin deposit of Arctic oil and gas.

When the above-mentioned factors are taken into consideration, the way in which Arctic environmental change and global warming have been framed by the Russian elite for the general public comes as no surprise. There is consensus that Russia has not been at the forefront of

global climate governance, but it has not openly tried to forestall international climate agreements either. Russia was part of the Kyoto Protocol and signed the 2015 Paris Agreement, although ratified it only in late 2019. However, the way that climate change in general, especially in relation to the Arctic, has been communicated by the state and its media tells a story of increased scepticism and outright denial of anthropogenic climate change and its negative impacts on Russia and especially its Arctic expanses (Palosaari and Tynkkynen 2015; Poberezhskaya 2015; see Chapter 6). I argue that a political economy tied to hydrocarbons and the identity construction needs of the governing regime concerning the Arctic and its energy resources leads to a regime-favouring and self-preservation narrative in which hydrocarbons and their societal effects are viewed in an exorbitantly positive light. In this narrative, the negative economic, social and environmental effects of deep socio-cultural dependence on hydrocarbons turns into a social taboo, as does climate change and its negative impacts on Russia and its Arctic expanses.

RUSSIA'S DOMESTIC AND INTERNATIONAL POLICY STORIES ON THE ARCTIC

Next, I will examine in greater detail how Putin's Russia has defined the Arctic to the domestic and foreign audiences. I argue that, as with the issues of energy as a geopolitical tool (see Chapter 4) and the causes of and need for action due to climate change (see Chapter 6), the story told about the Arctic is schizophrenic: the Russian people hear a message about how Russia the Fortress is threatened by forces from outside, whereas the narrative uttered by official Russia at foreign arenas and forums pictures Russia as an ideal law-abiding citizen of the global community aiming for mutual benefit via economic and political cooperation. Every country tries to define itself as a do-gooder on the international scene: all nations and states have a tendency to communicate in a different manner internally than with the outside world. However, the Russian double-speech (cf. Gessen 2017) is flagrantly beyond comparison among industrialized nations, and on par with highly authoritarian governments like China. I argue that this double-speech is a product of the hydrocarbon culture: in order to avoid jeopardizing its legitimacy, the Putin regime has no option other than to securitize environmental issues and exaggerate security threats to the Russian people.

The analysis of domestic and foreign discourses is based on our (Gritsenko and Tynkkynen 2018) work concerning how the Arctic is defined in *Rossiiskaya Gazeta* (RG; domestic audience) and in official Ministry of Foreign Affairs (MoFA) communications between 2011 and 2015. On the surface, the key terms in internal and external communication alike reflect the agenda set by the official Arctic strategies of Russia: advancing international cooperation and harvesting the economic potential of energy and shipping. Moreover, both policy stories are in agreement about the basic assumptions that the Arctic has huge commercial potential for Russia; and Russia needs partners to unlock this commercial potential. However, while the point of departure on a meta-level is shared, the policy problems and solutions are defined quite differently. The internal story told by the state media includes a broad range of issues from socio-economic development and culture to security and the natural environment, whereas the MoFA narrative fed to foreign audiences focuses mainly on the international level and covers almost exclusively political and diplomatic issues.

Until 2014, the internal story was mainly concerned with unlocking the economic potential of the Arctic, but during and after that year the tone changed drastically: the Arctic was securitized to the Russian people. This included a claim that the Arctic may become a stepping-stone for other powers to influence and weaken Russia; and according to the Putin regime the remedy was to ensure a safer and more secure Arctic by building up Russian military capabilities in the region and beyond. At the same time as the domestic story became obsessed with territorial sovereignty and security, the story told on the international fora repeated the previous message, along with some nuances depicting the new security constellation between Russia and the West. Namely, the Arctic was now – more than ever – considered an exceptional area where conflicts elsewhere do not change the setting. This included reassurances that Russia is a 'good international citizen', and that Russia underlines the primacy of international law in the Arctic. At the same time, however, it was emphasized that economic sanctions set by the West are an obstacle to furthering bilateral cooperation. And here is the twist: the Arctic is pivotal for the continuation of hydrocarbon culture in Putin's Russia, and Russia is trying to build an image of itself as a law-abiding player while simultaneously trying to use Arctic resources – oil, gas and transport (from sea and aviation routes to telecommunication cables) – as leverage to get other powers to invest in Russia's Arctic hydrocarbon-propelled futures. This is in the hope that these economically attractive deals will persuade others to drop the sanctions against Russia.

As our analysis shows, there are two clearly separated policy stories. We argue that the dualism in communication is first and foremost a sign that the Arctic is pivotal for the Russian government and the Putin regime. Each narrative not only serves a specific audience, but also presents us with a different set of policy problems and solutions relevant in a given setting. This finding further underlines the idea that there is not one, but at least two Arctic*s*: one is a region within a sovereign state, the other is a region within a globalized world (Heininen 2018). The relationship between the two facets of Russian Arctic policy can be grasped by studying the relationship between the policy narratives.

Russia as a 'Great Arctic Power' is a powerful narrative for 'domestic use' that serves the goals of identity-building and justifies increased activity in the Arctic zone. Raising domestic awareness of the economic potential in the Arctic aims at strengthening political support among the domestic publics. Demonstrating how this potential can ensure the country's economic prosperity helps to justify public investment in expensive Arctic infrastructure projects. At the same time, this storyline has implications for international cooperation on Arctic-related issues. In order to meet the ambitious goals set by the Putin regime, the country needs to rely on cooperation with foreign partners to ensure access to the technology and capital needed for extensive Arctic exploration. Russia's image as a 'good citizen' in the world community who plays by the rules is a precondition for successful cooperation with other countries that will enable Russia to reap the benefits of the Arctic resource base, while sustaining the fossil fuel-based economy chosen by the regime (Gustafson 2012). This requires not only cooperative rhetoric in international fora, but a coherent set of international policy actions that strive to ensure multilateralism and regional cooperation in the Arctic. The policy stories built around the problems of Arctic industrial development and maintaining international stability support each other, particularly through cooperation.

We observe a different relationship between the two communication styles when it comes to the arguments that favour Arctic energy development. Russia's geopolitical leverage via energy, in other words, the energy superpower position (see Chapter 2), is an argument that supports Arctic energy development in the domestic story, while internationally energy trade is emphasized purely as a source of economic benefit. Again, the dualist communication strategy used in relation to the Arctic is not exceptional. For example, Russia's international discourse on climate change primarily pictures it as a serious threat, whereas domestically climate change is more and more defined via denial (Poberezhskaya 2015; see Chapter 6). Our study shows that in the case of Russia this

contradiction between the two stories also exists regarding the Arctic. Moreover, the internal communication is more vulnerable to changes in the international political situation, as exemplified by the time frames before and after the Ukrainian crisis.

Finally, an interesting difference between the external and internal communication can be found in the sphere of the environment. While the domestic policy narrative is understandably broader than external communication, the fact that the natural environment is discussed three times more often in the RG newspaper than in the MoFA documents may appear counterintuitive, as the environment is usually considered an ideal candidate for international cooperation. On the one hand, this demonstrates that environmental issues are important for the Putin regime – at least rhetorically – when it discusses the Arctic and its exploration. This emphasis can be explained as a central legitimizing component in the otherwise economic-utilitarist discourse: by promising to clean up the environmental consequences of past Arctic exploitation and protect Arctic nature during the new rush, the regime is 'buying hearts' to support its Arctic nation-building effort. The relative lack of attention to international environmental cooperation in the Arctic in the MoFA documents can be attributed to the overall diplomatic orientation, which focuses on procedures (such as international cooperation via international organizations and bilateral instruments) and international law. In the absence of an Arctic environmental convention and the overall downplaying of climate change on the Russian Arctic policy agenda – climate change is treated as a source of opportunities and recognition of the local impacts of climate change is limited – relative ignorance regarding the environment in the external communication is understandable.

The environment, however, is used in the domestic story to legitimize the chosen policies of hydrocarbon culture: the environment is one of many tools used to move ahead with exploitation of Arctic hydrocarbons. The agenda of 'The Year of the Environment 2017' (Ministry of Natural Resources 2017) in Russia is telling: the Arctic environment is discussed only in terms of solving the problems of littering and pollution caused by economic and military activities of the Soviet state in the High North, as well as providing the energy companies and authorities with means to tackle future spills from the extraction of oil and gas in the Arctic. Importantly, none of the projects addressed climate mitigation. This indicates that environmental change that is visible for Russians, such as urban waste issues and local air pollution, also catches the attention of the regime, but the global environmental change that will cause much more severe effects for Russians and Russia does not. Environmental change in the Russian Arctic, partly caused by the actions of the

hydrocarbon culture, remains in the realm of a taboo for the regime, whereas the environment is defined to serve the needs of the culture. Therefore, this story cannot include protecting the Arctic environment through climate mitigation, as that would challenge the rationality of the whole Arctic enterprise of Putin's Russia. Next, I will explain how the environment and sustainability are defined in the specific case of the Arctic gas business. This helps us to better understand the way in which the environment is operationalized for the cause of hydrocarbon culture.

RUSSIA'S ARCTIC NATURAL GAS AND THE DEFINITION OF SUSTAINABILITY

Sustainability as a corporate governance objective entered the Russian energy sector in the early 2000s. Major state-owned companies publish corporate social responsibility and sustainability reports. Instead of looking at these documents, I am interested in how sustainability is defined in advertisements directed towards the general public at home and abroad. I argue that the narrative found in these advertisements better reflects how the companies and audience that these commercials are intended for understand sustainability. Thus, advertisements are a productive site for analytically unmasking how Russian energy, political elites, and beliefs about commerce and responsibilities can be brought together.

When comparing how social and environmental sustainability is defined in two commercials produced by the Russian gas giant Gazprom, I see two distinct sustainabilities at play: an ethno-racist narrative intended for the domestic audience and a mainstream sustainability narrative targeting the international audience. Here, the same dualist take is visible as that unfolded above in the analysis of domestic media and government statements. My first example is a 30-minute documentary-style video advertisement called *Gazifikatsiya Rossii* that tells the 'story of gas' (see Chapter 3), how it is produced in the Arctic periphery, transported through Russian lands and delivered to consumers in the Russian ethnic heartland. The narrative is appealing: gas is the substance that ties Russian space and ethnically Russian people together. Furthermore, amalgamating energy and people in this way promotes a Great Power identity based on natural resources and energy, an energy superpower identity that has been constructed during Putin's reign. The comparative ten-minute video is directed for the international audience and shows how Gazprom is committed to global social and environmental standards in its operations in Uzbekistan, Tajikistan and Vietnam

(Gazprom International 2012). Here, the narrative abides by the scientific understanding of sustainability, and portrays Gazprom as an international company that is fully compatible with international social and environmental norms.

This brings up the question of whether Russian energy companies are trying to construct an image of a *socially* responsible player in an ethnically selective way in their domestic operations, while bypassing the environmental question that is central for the branch. I argue that Gazprom has tailored these commercials in a way that reflects what the audience anticipates, but also how the company and the political elite behind the company want to define their responsibilities. Thus, we see two distinct sustainabilities in Gazprom's videos: an ethno-racist narrative intended for the domestic audience that confines social responsibility to ethnic Russians and a mainstream sustainability narrative aiming at a balance between economic, social and environmental objectives while still pleasing the international audience. As I compare the narratives in these videos to the discussion on sustainability in Russia (Koch and Tynkkynen 2019; V.-P. Tynkkynen 2010), the lack of references to the need to reconcile social and environmental needs via democratic grassroots level empowerment is understandable. Thus, the challenge posed by environmental sustainability is viewed merely as a top-down management problem that is low on the political agenda. However, a new observation is that social sustainability is more central, but defined in a very narrow and ethnically discriminatory way. Moreover, the centrality of social responsibility in Russia's energy developments is, in my view, linked to both the official egalitarian discourse of the Soviet era as well as to the pressure experienced by hydrocarbon businesses as they operate in culturally fragile environments worldwide – from the indigenous lands of the Russian and Canadian Arctic to the Ecuadorian Amazon and the Nigerian Delta.

In light of the Arctic paradoxes facing Putin's Russia that were outlined above, we are very likely to see a balance between emphasizing 'hard' and 'soft' topics and approaches in Russia's Arctic policies: they are used in tandem for the benefit of the hydrocarbon culture, which is itself dependent on Arctic resources. However, as the High North is so central for Putin's Russia, there is a window of opportunity in the Arctic allowing the promotion of more socially and environmentally responsible policies and practices. Therefore, it is more likely that Russia will be more susceptible towards ambitious environmental policies within Arctic cooperation, as the Arctic needs to be kept 'exceptional' for the simple reason that the success of the Putin regime is tied to the fossil energy

futures of that region. The problem in engaging with Putin's hydrocarbon culture in the Arctic is the difficulty of promoting practices that push Russia away from that culture and discouraging actions that are adding fuel to the fire for a regime that thrives on hydrocarbons. Thus, the practices and discourses of Russian hydrocarbon culture – the deeds and words of Putin's geo-governmentality (see Chapters 2 and 3) – maintain its power via the materialities and spatialities of energy, including the environmental dimension, in a very selective way. This environmental 'cherry-picking' needs to be confronted. The whole spectrum of the environmental effects of Russian energy, impacting first and foremost on the fragile Arctic, need to be unfolded and politicized (see concluding chapter), and turned into a tool that discourages investments in (Arctic) hydrocarbons and enhances a transition towards a carbon-neutral Russia.

6. The global taboo of hydrocarbon culture: "There is no climate change"

With Nina Tynkkynen

This chapter[1] looks at how the Russian hydrocarbon culture positions itself regarding the question of global climate change. In this chapter, I argue that the Putin regime's increasing dependence on hydrocarbons makes a serious climate mitigation policy an impossibility. The inability to address the negative consequences of the chosen fossil fuel-based economic policy, and the social contract to which this economy is tied, pushes the regime to build a narrative that turns a problem into a social taboo. The switch towards a climate denialist narrative is documented in the following, but a more important question remains unanswered: which individuals, companies and institutional players in the Russian society are the masterminds behind a clearly changed discourse on the changing climate? Or is this just an outcome, the 'collateral damage', of a social contract related to the hydrocarbon culture espoused by the Russian people and the elite alike? In either case, the recorded discursive change shows that the Putin regime is a step further away from becoming an Ecological Great Power, a possibility that is discussed in the concluding chapter. Now, Russia's global Messianic role as a conservative and authoritarian Energy Superpower and hydrocarbon culture is the anti-thesis of a resilient and sustainable Russia.

[1] Published previously as Veli-Pekka Tynkkynen and Nina Tynkkynen (2018). 'Climate denial revisited: (re)contextualizing Russian public discourse on climate change during Putin 2.0', *Europe-Asia Studies*, 70(7), 1103–20.

In 2005, the Russian Academy of Sciences signed, together with major international academic institutions, a joint statement endorsing the consensus that climate change is caused by anthropogenic greenhouse gas (GHG) emissions, and that climate change mitigation and adaptation measures are needed on a global level (National Academies of Sciences, Engineering, Medicine 2005). For Russian academia, it took a relatively long time to reach this majority consensus. Joining the consensus was linked to Russia's pivotal position[2] in climate negotiations that eventually led to the ratification of the Kyoto Protocol in 2004 (Wilson Rowe 2012, pp. 712–13). Five years later, in 2009, Russia adopted a policy document entitled 'Climate Doctrine' (*Klimaticheskaya Doktrina Rossiiskoi Federatsii*; see President of Russia 2009), which, due to its declarative and non-binding character, has been criticized by the Russian greens in particular as a soft power effort (Kokorin and Korppoo 2013). Yet, by adopting the Doctrine, the Russian leadership recognized that climate change is a human-generated problem requiring policy measures. To amplify this message, then President Dmitri Medvedev stated in 2010 that climate change was a serious threat to Russia (Laruelle 2014b, p. 85).

In Russia, a strong public discourse of climate change denial emerged as the same time as academic and political consensus on climate change was finally reached (Henry and MacIntosh Sundstrom 2012, p. 1302; Kokorin and Korppoo 2013, p. 6; Korppoo et al. 2015, pp. 28–9). Even evidential events, including the forest and bog wildfires during the drought of 2010, indicating the intensification of climate change and its negative impact on Russia, did not significantly change public discourse or convince the national media to endorse climate change as a scientific fact (Laruelle 2014b, p. 82). On the contrary, climate change denial voices seem to have strengthened since Putin's new term as president, starting in 2012. Presumably, Putin's new term and the related political changes give voice to actors and opinion-makers in Russian society who emphasize sovereignty rather than international cooperation and Russia's (short-term) economic interests rather than international image.

According to a poll, after a heatwave that led to extensive forest, farmland and bog fires in Central European Russia in 2010, the proportion of Russians worried about climate change increased from a pre-2010 figure of 46 per cent to 55 per cent. By 2013, the figure in Moscow had

[2] Russia's ratification of the Kyoto Protocol was decisive for the enforcement of the Protocol, because without Russia the requirement that GHG emissions of the Protocol members have to cover at least 55 per cent of the GHG emissions of all industrialized countries for the Protocol to enter into force, could not have been met.

risen to 70 per cent.[3] Our hypothesis is that the 2010 smog, together with the 2011 demonstrations against Putin's return to presidency, redefined the Putin regime's stance on climate change communication. Concern over climate change became a potentially destabilizing threat for the regime, which, as a response, started to feed the public discourse with climate denialist arguments.

In this chapter we are interested in looking at how this turn is visible in the public discourse on climate change and, furthermore, in assessing how the Russian case fits the general theory of climate denial elaborated by Jacques (2012), who argues that the main impetus for climate denial is the threat it poses for those wishing to maintain the (economic or political) status quo (see also Norgaard 2011). Accordingly, we analyse Russia's public discussion on climate change in the period 2011–13, after Putin's return to power; specifically, how the arguments and topics of public discourse on climate change in general, and its denial in particular, are tied to the Russian context: the prevalence of and change in historical cultural categories, including certain 'sacred objectives' (Kivinen 2002, pp. 215–22) of the Russian modernization agenda (see later), the importance of fossil energy for the Russian economy and society, and the power vested in political and economic positions related to energy. The overall aim is to gain an insight in the implications of these discourses for Russia's future climate policy.

We aim to understand recent public discussion on climate change by looking at newspaper articles and popular science books on climate change as well as documentaries and talk shows on national television channels focusing on the climate issue. While we note that there exists another, less official, public discourse on climate change, advocated by environmental activists through alternative media and social networks in Russia (Smyth and Oates 2015), the discourse that we address here as 'public' refers mainly to national media discourse. We focus on this particular discourse because we are interested in the discourse 'construction efforts' of those in power, and because alternative public discourse(s) is (are), according to our observations, much weaker and more fragmented than the national media discourse. One reason for the weakness of the public debate on climate change in Russia is, as noted by Poberezhskaya (2015), the relatively limited media attention to the issue; that is, the omission of the topic altogether rather than biased coverage.

[3] *Rossiiskaya Gazeta*, 21 August 2013, available at: http://www.rg.ru/2013/08/21/prichiny-site.html, accessed 29 March 2018.

Our research material and analysis are limited in one critical aspect, namely assessing how widely climate change denial discourse is accepted by the Russian public. Discussions in the state-controlled media do not reflect the attitudes of Russian people, nor do they necessarily predict the moves that Putin's Russia will make in the framework of international climate negotiations (Korppoo et al. 2015, pp. 44, 47; Smyth and Oates 2015, p. 302). The fact that the state-controlled media does not necessarily reflect the views of the Russian people does not, however, reduce the importance of the analysis: any attempt to frame the issue via state-controlled media may have long-term political ramifications affecting energy and environmental policies, as the Russian populace by far relies on state-controlled media as the primary source of information (Poberezhskaya 2015).[4]

CLIMATE DENIAL IN THE LITERATURE

There is a rich body of research concerning public perceptions of climate change internationally (Demeritt 2006; Hulme 2009). Significant research has been conducted to understand actors and interests behind climate change denial discourse (Goeminne 2012; Jacques et al. 2008), including those studying climate-denial discourses beyond the linguistic analysis (Kolk and Levy 2001; Lahsen 2008; McCright and Dunlap 2003; Nerlich 2010). What is interesting within this body of literature is, from the viewpoint of this chapter, the way in which Jacques (2012) argues that the main impetus for climate change denial is because it is serious and threatening to those wishing to maintain the (economic or political) status quo. Norgaard (2011) argues, on the basis of her case study on Norway, that while the perception of threat posed by climate change is tied to psychological processes in an individual, it is also related to culture and the political economy of a particular context. Dunlap and McCright (2011) emphasize that climate change denial has to do with individual and collective economic interests – for example, the oil industry and actors dependent on its funding – but even more so the denialist position is linked with groups with conservative political views, as governmental, and especially global, climate mitigation governance is viewed by these

[4] Our understanding of the term 'discourse' is defined as a shared way of apprehending the world (Dryzek 1997, p. 8). Discourses (re)produce specific ideas, concepts or statements and affect those who produce them or their context. Discourses carry legitimacy and power. Thus, it is important to study how discourses are produced and maintained by intended practices aiming to define the truth by those in positions of power (Foucault 2008, p. 35).

groups as a threat to economic and even civic liberties. These cultural–political approaches, emphasizing the role of culture and political economy, inform the contextualizing approach we adopt here.

We understand climate change denial discourse in a way that includes both the rejection of the theory that climate is changing as a result of anthropogenic emissions, and that this process may also bring negative societal and environmental effects, along with the idea that this phenomenon should be addressed by redefining the political agenda. Thus, denialist discourse can take the form of outright dismissal of the anthropogenic climate change theory, and emphasize either that the climate is not warming or that the climate is cooling instead. Another denialist viewpoint includes accepting that the climate might be warming, but that this has natural origins (the Sun, changes in the Earth's orbit, for example) and that all that governments and nations can do is adapt to the phenomenon; there are no grounds to implement mitigation measures. This is a relatively clear framing of the climate issue. Denial discourse also includes a midway position that Wilson Rowe (2009, p. 598) describes as 'causally agnostic': climate change might be of anthropogenic origin, but the issue cannot be resolved by scientific means.

In Russia, this agnostic position seemed, from the early to the mid-2000s, to mean accepting, without further scientific evidence, that mitigation measures were justified regardless of the origin of climate change. Politically, this tallies with what Henry and MacIntosh Sundstrom (2012) described as Medvedev's (2008–12) modernization agenda effect: climate mitigation was considered as a positive goal insofar as it pushed forward energy efficiency measures important for the modernization agenda of the former president (see also Korppoo et al. 2015, p. 27). Also, energy efficiency as an economic problem was topical right after the economic crisis that affected Russia in 2008–9 (Laruelle 2014b, p. 86).

While Russia's climate policy per se and its links to international and domestic climate science are well covered by research (Henry and MacIntosh Sundstrom 2007, 2012; Korppoo et al. 2015; N. Tynkkynen 2010; Wilson Rowe 2009, 2012) as well as the media coverage of climate change in Russia (Poberezhskaya 2015), our scrutiny of the denial discourse, closely tied to the domestic policy context, is original and necessary to an understanding of the dynamics of Russian climate politics and their impact on global climate negotiations.

THE CHANGING POLITICO-ECONOMIC CONTEXT DURING PUTIN 2.0

The re-election of Vladimir Putin as President of the Russian Federation in 2012 marked a further expansion of autocratic elements in Russia's political system (Gel'man 2015; Ross 2015; Wegren 2013). President Putin's increasingly authoritarian stance is visible in domestic and foreign policy issues alike. A range of actions indicate an emphasis on sovereignty rather than international cooperation (Palosaari and Tynkkynen 2015), among them, limiting the freedom of expression and LGBT rights, forcing foreign-funded institutions to register as 'foreign agents', taking a unilaterally tough position on the Syrian crisis, annexing Crimea in 2014 and supporting a hybrid war in Ukraine with a consequent souring of relations with the EU, and arresting Greenpeace activists in the Arctic.

Despite the seemingly drastic changes in Russia's domestic and foreign policy brought about by Putin's third term – developments that, according to our analysis, explain the changed tone on climate change – we argue that there are continuities in the Russian political culture that frame major societal challenges facing Russian regimes. As Kivinen (2002) notes, political decision-making regarding the modernization agenda of basically all Soviet as well Russian leaders has allegedly been based on the 'sacred' objectives of science, that is, promoting progress and modernization, and producing economic growth and well-being via expanding industrial production. This consecration has unintended results that are turned into a 'negative sacred' that cannot be addressed in the political and public arenas (Kivinen 2002, pp. 215–22). The 'negative sacred', especially three such taboos – the demonization of reality, chaos and consumption – are pivotal in understanding Russia's stance in global climate politics. The strengthened authoritarian stance presumably indicates that the 'negative sacred' has also gained force in recent years; constraining government effort to justify political decisions to domestic and international audiences (Gel'man 2016; Pomerantsev 2014).

Accordingly, Putin's return has not contested the policy objectives of modernization and efficiency set during Medvedev's presidency (e.g. Gustafson, 2012): it is the reasoning behind these measures that has changed. During Medvedev's term, energy efficiency and modernization were justified not only on economic grounds but also by foreign policy gains (Henry and MacIntosh Sundstrom 2012; Korppoo et al. 2015). Since Putin's re-election, the motivation behind modernization features a

more economic bias, in addition to emphasizing harsh geopolitical objectives and sovereignty instead of international cooperation (Gel'man and Appel 2015).

Studies such as that of Gustafson (2012) hint that Putin's agenda rests not on diversification of the Russian economy, but on granting the hydrocarbon sector an even greater role in paving the way for Russia's future success. Russian economy and society as a whole are dependent on the extraction, transport, refining, consumption and export of fossil energy. Fossil energy is central to Russia's economy: more than half of Russia's budget revenue and 70 per cent (in 2014, compared to 54 per cent in 2000) of exports are accounted for by oil, gas and coal; the oil and gas industries alone account for a fifth of national GDP (Federal State Statistics Service 2015; Kurdin 2016). Moreover, the interests behind Russia's national gas programme, run by the parastatal gas giant Gazprom, are at odds with regional interests aiming at energy self-sufficiency via regional renewable sources of energy (Tynkkynen 2014, 2016b).

In short, Putin's changes of political emphasis have given impetus to the strengthening of Russia's status as a 'hydrocarbon superpower' (Bouzarovski and Bassin 2011). An energy superpower is a country that is able to influence political choices of other countries via energy exports, by producing dependencies through energy infrastructures (coercive) and economic benefits produced by the energy trade (alluring). Discussion on whether Russia is an energy superpower culminates in the question of how Russia has used energy as a foreign policy tool vis-à-vis its neighbours and the EU, the main customer of Russian energy. Thus, energy wealth and power have been turned into an identity-construction tool. In this story President Putin is the person responsible for bringing energy assets back to the state and the people from the hands of the oligarchs (Grib 2009). Yet, recent studies indicate that elites and the public have an inconsistent and at times contradictory attitude to the idea that hydrocarbons form the fundamental basis of Russia's superpower status or national identity (Levada Centre 2014; Rutland 2015). Therefore, in case Putin's entourage wants to strengthen Russia's hydrocarbon-superpower status in real terms, the above-mentioned identity-construction tool based on energy and power needs to be used even more aggressively, as well.

At the same time, global hydrocarbon markets have changed significantly during the last couple of years, mainly due to shale gas and oil entering the market. This change is clear in the gas market, as the 'shale gas revolution' that started initially in the United States is reconfiguring the global gas trade. Production of shale oil is also growing, with a

negative impact on the traded volumes of Russian hydrocarbons and on future export prospects (Sharples 2013). The Russian leadership and major energy companies came to grips with the new energy market situation in the period 2011–12. Dwindling energy export prospects in Europe, coupled with anti-monopoly measures by the European Commission and price cuts demanded for Russian pipeline gas (Riley 2012), were a powerful inducement for the Russian political elite to look for greater export prospects elsewhere, especially in North and Southeast Asia (Bradshaw 2014), instead of relying on European energy partners that are institutionally incompatible and demand ethical standards from energy producers. In 2000–4, the EU–Russia Energy Dialogue had an explicit environmental component to curtail pollution related to oil and gas extraction and transport, but ecological aims were pushed aside and an economy-driven agenda prevailed from 2004 onwards (European Commission 2011b, pp. 16–19), at the same time as the price of oil and gas increased, and Russia's economy boomed. Thus, we argue that during Putin's third term, the need to pay lip service to international environmental objectives has diminished and Russia's image as a responsible energy producer is of less concern to the leadership than before. Ultimately, with a general public and a leadership that see themselves intertwined with the cultural meanings, materialities and wealth creation of fossil fuels (Kalinin 2014; Tynkkynen 2016a), the impetus to act in the forefront of climate politics is minimal.

RESEARCH MATERIAL

We analysed climate change discourse in Russia by collecting newspaper articles published in *Rossiiskaya Gazeta* and *Izvestiya* between January 2012 and December 2013. This time frame specifically excludes the distorting feature of the Ukrainian crisis, which erupted in early 2014. These two newspapers have a conservative tone and are considered close to the official view of the Russian political and energy elite (Makeenko 2013).[5] *Rossiiskaya Gazeta* is the official newspaper of the Russian state, whereas *Izvestiya* positions itself as an independent newspaper with a readership of educated elites.[6] Both newspapers have a relatively limited

[5] *Media Atlas of Russia*, 2015, available at: http://www.media-atlas.ru/, accessed 26 November 2015.

[6] *Media Atlas of Russia*, 2015, available at: http://www.media-atlas.ru/, accessed 26 November 2015.

circulation, which is quite typical for newspapers in Russia: 234 500 for *Izvestiya* and 400 000 for *Rossiiskaya Gazeta*. Of course, they can also be followed online.

The 101 articles analysed – 75 published in *Rossiiskaya Gazeta* and 26 in *Izvestiya* – were chosen using the search phrase 'global warming' (*global'noe poteplenie*). We preferred this term to 'climate change', mainly because of the relatively reasonable volume of articles: in *Rossiiskaya Gazeta* alone, 1400 articles published in the period 2012–13 contain the term 'climate change' (*izmenenie klimata*), which in Russian is a broad term that can refer to various phenomena, including the business climate. However, focusing on 'global warming' instead of 'climate change' had its own problems. First, it is a more politicized term, as warming refers to one-directional change without acknowledging regional changes that can lead to both warming and cooling. More to the point, 'global warming' by definition excludes the idea, widely supported by Russians (Wilson Rowe 2009), that, as a result of climate change, the climate might actually be cooling as a whole, not warming – a crucial argument for climate denial. As we found out during our research, the keyword 'global warming' also brought up many articles on global cooling. Usually the articles that discussed cooling also mentioned the international mainstream understanding of warming in order to contradict it. Even though choosing the term 'climate change' might have led to a more neutral tone concerning the phenomenon, it would have excluded from our sample documentaries and products of popular culture, such as cartoons, which hold the keys to understanding the breadth of climate denial discourse.

The second set of research material analysed consists of television documentaries and popular talk shows and programmes broadcast on national television between 2010 and 2013. Because the electronic media – television and internet – are the major sources of information for Russians today (e.g. Smyth and Oates 2015), we also included popular television documentaries and talk shows discussing 'global warming' that had been downloaded on YouTube (see the list in the Appendix). With this choice we found programmes on the topic that reached both traditional television viewers and younger generations who use the internet and social media instead for news, information and entertainment.

In addition, we included in our research material two Russian books on climate change, sold in central academic bookstores in Moscow (*Biblio Globus*) and St Petersburg (*Dom Knigi*) in 2011–13. During these years we managed to find a few translated international academic books on climate change for sale in these bookstores, but these two books were the

only ones intended for a wider public and written by Russian authors. The books are: *Myths of 'Sustainable Development': 'Global Warming' or 'Creeping Global Takeover'* (Pavlenko 2011) and *Climate Paradoxes: Ice Age or Burning Heat?* (Karol' and Kiselev 2013).

We chose this combination of material – the two newspapers, national television and the two books – in order to gain a systematic understanding of climate change discourse in Russia. Thus, focusing on the role of newspapers and television as official and semi-official sources of information allowed us to uncover the discourse construction efforts led by state-owned and controlled media. As the books were aimed at a wider public, their intended audience differs from that targeted by the newspapers and television, ultimately complementing our research material on the selected topic.

METHOD: BENCHMARKING AND CATEGORIZING CLIMATE DENIAL ARGUMENTS

Our analysis developed in two phases. First, we set out to discover the nuances of Russian discourse generated by the Russian elite to influence public opinion on climate change and to identify main elements of that discourse. At this stage, only the newspaper material was used because going through all the material (TV documentaries, cartoons, etc.) and categorizing all arguments in that material would have been time-consuming. Focusing on extensive newspaper material enabled us to provide an overview of the discussion and to identify the main elements of climate change discourse in Russia. We categorized all the articles according to their main stance towards climate change, using four arguments. The first argument was 'denial of mainstream climate science', which denied the anthropogenic nature of climate change or claimed that no mitigation measures are needed. Second, 'naturalizing climate change', exemplified by the argument that climate change is a completely natural phenomenon and all societies can do is to adapt. The third argument notes that 'climate change is beneficial', regardless of its origin. Finally, a fourth argument – climate change is real and negative – appeared to be consistent with international mainstream climate science, as it claims that climate change is an anthropogenic problem while remaining a natural phenomenon with a negative impact.

These categories are not mutually exclusive: individual media publications may include up to three of these arguments: it is not uncommon to find articles in which climate change is viewed as non-human-induced that also argue that mitigation is useless, but that the changing climate

brings beneficial effects (for Russia). As Aleksey Aronov, a *Rossiiskaya Gazeta* journalist, puts it:

> The truth is, the human factor in it [climate change] is clearly exaggerated. All that we 'messed up' in 100 years, all our emissions are 'covered' many times over by a sole change in sun's activity or by a catastrophic eruption of a volcano. … In all: changes are not going to be unambiguous but, as I said, in sum Russia is winning … That is, [our] harsh (cold) climate causes (economic) losses in the energy sector.[7]

The categorizations are shown in detail in Table 6.1. After choosing the categories, we conducted basic statistical analysis to gain an understanding of how much each category was supported in the newspaper material. The results of this analysis are presented in the next section.

In the second phase of our research, the focus of analysis shifted to identifying the elements of denial discourse. At this stage, all the material – the newspaper articles, television shows, documentaries and the two books – was used. For consistency, one of us focused on denial arguments and benchmarked them in the material, applying climate change denial categories identified by Washington and Cook (2011) (see also Berger 2013, pp. 35–62). These categories are as follows: first, circulating conspiracy theories ('Climategate'); second, publicizing fake experts ('There is no consensus'); third, burdening scientists with impossible expectations ('Climate models are unreliable'); fourth, relying on misrepresentations and logical fallacies ('The climate changed in the past'); and fifth, cherry-picking ('Measurements are unreliable'; 'Warming stopped in 1998'; 'It's the sun'; 'Global warming is good'). We highlighted articulations that best crystallized the category in question: these articulations will be described later in this chapter as examples of the categories in question. Accordingly, the method applied can be characterized as thematic analysis (see, for example, Guest et al. 2012) in which themes (that is, categorizations) were, at the first stage, derived inductively from the material and, at the second stage, dissected with the help of further categories identified by Washington and Cook (2011).

[7] *Rossiiskaya Gazeta*, 14 May 2013, available at: https://rg.ru/2013/05/14/poteplenie.html, accessed 14 April 2018.

Table 6.1 Narratives on climate change in two Russian newspapers

Source / category	'Denial'	'Natural'	'Positive'	'Negative = ICS'	'Denial and Natural'	'Denial and Positive'	'Natural and Positive'	'Natural and Negative'	'Natural and Mixed'	All
Rossiiskaya Gazeta	17 / 22.7	9 / 12.0	4 / 5.3	7 / 9.3	11 / 14.7	3 / 4.0	5 / 6.7	11 / 14.7	8 / 10.7	75 / 100 %
Izvestiya	10 / 38.5	7 / 26.9	3 / 11.5	1 / 3.8	–	–	–	5 / 19.2	–	26 / 100 %
All newspaper articles+	27	16	7	8	11	3	5	16	8	101 & 100 %
Argument occurrence in newspapers*	47	45	17	38	–	–	–	–	–	101 / 100 %

Notes:

+The percentage is approximately the same as the number.
*In this figure all the four main categories found in newspaper articles are considered as individual hits, i.e. the sum volume of arguments 'denial', 'natural', 'positive', and 'negative' is counted. Thus the number of arguments (147) is greater than the number of articles (101).

CLIMATE CHANGE AND ITS DENIAL IN THE RUSSIAN MEDIA

Main Characteristics of Climate Change Discourse

As Table 6.1 demonstrates, 26.9 per cent of 101 newspaper articles analysed could be placed in the first discursive category 'denial of mainstream climate science', marking a strong denialist position. The category of regarding climate change as a neutral issue with no reference to the origin of this phenomenon was dominant in 16 cases (15.9 per cent). The volume of articles arguing for international climate science was, in turn, very small: only 8 articles out of 101 were categorized as being fully in accordance with the mainstream international understanding of the problem. Moreover, contrary to the popular discourse of the early 2000s (N. Tynkkynen 2010), only 7 out of 101 articles were categorized as presenting climate change as beneficial for Russia.

When looking at the occurrence of different arguments in the newspaper articles, 'denial' and 'neutral' arguments can be found in nearly half of all the articles, 47 per cent and 45 per cent respectively, whereas 'negative' arguments appeared in more than every third (38 per cent) article. The relatively high volume of negative connotations related to climate change may imply that stronger emphasis on the unwanted effects is how the mainstream understanding of the problem is entering and affecting Russian discourse. However, the way the negative effects were discussed, mainly in articles arguing that there is no anthropogenic climate change, emphasized implicitly that in Russia the effects would be much less severe than in other parts of the world.

'Positive' arguments related to climate change could be found in only 17 per cent of all the articles, confirming the above-mentioned move away from understanding climate change as a predominantly welcome and beneficial process for Russia. This category sees global temperature rises as a positive development: the melting of the polar ice cap is seen as an opportunity to develop Arctic energy resources that, along with new sea routes, will further strengthen Russia's role as an energy giant and a territorial Great Power (see also Laruelle 2014b, p. 40; Palosaari and Tynkkynen 2015). As stated in a *Rossiiskaya Gazeta* article: "Global warming and the ongoing melting of the ice is turning the Arctic … into a giant international promising project of the

twenty-first century, potentially into the largest investment platform of the current era."[8]

Analysis of the Denial Discourse

The second stage of our analysis, which centred on the arguments concerning climate change denial, revealed that the five categories of arguments defined by Washington and Cook (2011) are also present in the Russian denial discourse. Here, we focused on three categories that drew principally on Russia's domestic context: conspiracy theories, misrepresentations and logical fallacies, and cherry-picking.

Conspiracies behind both international climate science and international efforts to promote climate mitigation policies were emphasized in *Izvestiya* articles and in all television documentaries and talk shows. In Pavlenko's book (2011), this argument is taken to the extreme: the author claims that the 2010 heatwave that had dire environmental and health effects was a result of a 'weather weapon' (*klimaticheskoe oruzhie*), which the United States used to weaken Russia. The way in which the conspiracy argument is presented brings together the threat of 'global governance' to Russia's sovereignty and alleged Western political and economic interests – embodied by references to former US vice president and Nobel Prize winner Al Gore – lying behind international climate governance:

> As crowd is attacking [climate sceptics], Albert Gore gets his peace prize [the Nobel Prize] named after the producer of explosives. … [to be used] in the battle against global warming that no one has proved, but which has already turned into a vast bird feeder [source of money] for bureaucrats. … Observations by the public—'Where's the warming? Snow is covering Europe now'—are challenged by scientific conclusions: 'This is a visual proof of global warming.' And look, straight off there is an institute and another getting funding to prove global warming—yet it is actually global cooling. Peace is war, love is hate. … We had already read this in Orwell's books when words like 'global warming' were not yet in our swill.[9]

Pavlenko – as the title of his book, *Myths of 'Sustainable Development': 'Global Warming' or 'Creeping Global Takeover'*, ultimately suggests – sees the objective of sustainable development and international climate

[8] *Rossiiskaya Gazeta*, 31 May 2013, available at: http://www.rg.ru/2013/05/31/led.html, accessed 17 April 2018. All translations are by the authors unless otherwise stated.

[9] *Izvestiya*, 17 September 2013, available at: http://izvestia.ru/news/557239#ixzz3u6DTLZH6, accessed 17 April 2018.

policy as an extension of Western hegemonic power (see also Korppoo et al. 2015, p. 29; Oldfield and Shaw 2006). He argues that global climate policy is diminishing Russia's sovereignty in two ways: via Western-led global governance, and by demonizing the hydrocarbons crucial for Russia's economy, society and culture: "At the same time, what is most important for the economic independence and sovereignty of nations—energy, machinery and metallurgy—is [through global climate governance] included into the league of the most 'dangerous' sectors of the economy" (Pavlenko 2011, p. 106). *Izvestiya* journalist Anatolii Vasserman, in turn, argues:

> The aim [of climate mitigation policies] is the massive destruction of developing countries. They do not possess the strength to restructure their [fossil fuel-based] economies, as obliged by [climate change] theory. This way it is possible to perpetuate the economic gap prevailing between developed nations and the rest of the world. More, measures already taken based on this leading—and obviously for any literate physicist—fraud have led to losses equivalent to millions of deaths.[10]

Some versions of the 'eco-conspiracy' argument, evident throughout our research material, claimed that banks funding and corporations producing green technologies and renewable energy are the institutional actors behind this Western-led conspiracy. For example, Pavlenko writes:

> Why [are critics of climate change not listened to]? One of the reasons, without any doubt, is related to the economy. A widely known factor is the interest of financial giants, such as J.P. Morgan Chase, Morgan Stanley, Goldman & Sachs … to engage in trade with greenhouse gas-emissions quotas. … In the situation of 'catastrophic' [climate change] … there is a [pressing] need to expand financing of environmental programs. (Pavlenko 2011, p. 103)

With regard to the category of 'cherry-picking', our analysis shows that the arguments 'It's the sun' and 'Warming is good' were used more frequently than other arguments. For example, the main argument presented in the book *Climate Paradoxes: Ice Age or Burning Heat?* by Karol' and Kiselev (2013) can be classified in this category: the authors do not deny anthropogenic climate change, but they fail at the same time to criticize Russia for not taking responsibility for climate policy measures or reducing emissions. Karol' and Kiselev describe the current situation as follows:

[10] *Izvestiya*, 13 December 2012, available at: http://izvestia.ru/news/537615, accessed 17 April 2018.

> In Russia, solar, geothermal and wind power have so far been developed very little. Their intensive exploitation is planned for 2030 … Maintaining and developing the hydrocarbon sector important for Russia's economy is at odds with the global trend to invest in energy efficiency and saving … Of course, during the next few years the priority of hydrocarbons in providing the main source of energy [for Russia] is hardly going to be challenged. (Karol' and Kiselev 2013, p. 245)

The arguments prevalent in the 'cherry-picking' category are optimistic about the positive outcomes of global warming for Russia. This tendency can be regarded as a reflection of the history of science in the Soviet Union and Russia, as the mental stance of the High Modern frames all industrial and material progress in an overly positive light (Laruelle 2014b, p. 82). To a very similar extent, the category 'The climate changed in the past' placed in the 'logical fallacy' category by Washington and Cook (2011), can be understood as the intellectual legacy of the global cooling hypothesis elaborated by Soviet scholars during the 1950s–1970s (Wilson Rowe 2009). According to this hypothesis, the Earth's climate is facing a new glaciation period, and that this natural climatic fluctuation over intervals of several thousand years is a more real and pressing threat than global warming. Global warming is therefore a positive development, as it postpones the beginning of a new glaciation.

Arguments belonging to Washington and Cook's (2011) category, 'Relying on misrepresentations and logical fallacies', are central to the denial discourse throughout our research material. These arguments mostly emphasize the climate cooling theory. This theory represents a specifically Russian version of the denial discourse, and its popularity has to do with the fact that the Soviet cooling theory precedes the current mainstream global warming thesis, presented even in the most neutral accounts (including the TV documentary *Rossiya Nauka*) as an equally possible scenario to global warming. In its most populist versions, the theory was taken to its extreme, approaching science fiction with ungrounded apocalyptic visions for the future (the *REN-TV* documentary *Terrotoriya zablizhdenii* (Territory of Misconceptions) and the *NTV* documentary *Holod* (Cold)). The support for the climate cooling theory is indicative of the Russian interest in emphasizing Russia's role as a major hydrocarbon producer which can, by not taking measures to decrease GHG emissions but rather by contributing to global warming, save the world from a global winter. The documentary *Holod* claims, "the fluctuating temperature on Earth is a natural and unavoidable phenomenon. Naturally, it is reasonable to fight against emissions, as the atmosphere becomes purer [free from toxins]. … but to control the

weather is beyond our power. All we can do is to adapt, if possible." In the same vein, according to the *REN-TV* documentary:

> Scientists are not hesitating: if, instead of focusing on global warming during the last 35 years we [humanity] prepared for a long winter on the planet, we could have resisted the changing temperatures [at this point, the documentary shows footage of the oil refinery smokestacks]. … [Now] without protection humanity is facing a new Ice Age that threatens us.

Another line of argumentation representing the above-mentioned category suggests that the observed temperature rise is of natural origin. A *Rossiiskaya Gazeta* article focused on future droughts in Kyrgyzstan and Central Asian countries caused by climate change: "According to scientists, humans, alas, cannot do anything to avoid such nightmarish forecasts from taking place."[11]

This claim is repeated in an episode – with 7.1 million views on YouTube – of a very popular children's cartoon, *Barboskiny*.[12] The storyline focuses on the main character, a young boy dog, who hears about global warming on the radio during a summer heatwave. He misses the ending of the news as a tennis ball hits the radio, turning it off. As a result, he assumes that he has caused the ongoing heatwave and global warming by having sent, one cold winter's day, his sister's battery-operated hairdryer to the upper atmosphere attached to a bunch of balloons to warm the air. He ties balloons to himself in a quest to find the voyaging hairdryer and rescue mankind from global warming. His big brother (dog) intervenes to stop him from flying off into the atmosphere and, as they struggle, the radio is switched back on to announce, "Scientists are assured that global warming is caused by continuous natural cycle, and Earthlings have not and cannot impact on this process." There is a happy ending as the hero declares: "It's the Earth that is warming itself, not me!" That is, the political message of the cartoon is that Russians should not be worried about the effects of climate change and, more importantly, not to push an agenda asking for emission cuts or changes in energy policies, as Russians or people in general cannot impact climate processes.

According to the natural-origin argument, no mitigation policies are needed; on the contrary, such policies are detrimental to the economy of Russia and the developing world. It is therefore a moral obligation for

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[11] *Rossiiskaya Gazeta*, 5 April 2012, available at: http://www.rg.ru/2012/04/05/resurs.html, accessed 18 April 2018.

[12] Барбоскины, No. 107: *Глобальное потепление* (Global'noe poteplenie), available at: https://www.youtube.com/watch?v=LgkE90RHey4, accessed 18 April 2018.

governments not to engage in mitigation policies. An example of this argument is offered by the host of the TV1 talk show *Gordon Kihot*,[13] following the same argument that also appeared in several newspaper articles: "but, on an economic and political 'global court', all possible steps aimed at changing the [global] economy for the benefit of others are taken with the help of organizations like Greenpeace, simultaneously worsening others' possibilities. [This activity is] based on an academic dispute, nothing more."

DENIAL DISCOURSE (RE)CONTEXTUALIZED

Unlike the internationally prominent community of Russian climate scientists who have adopted mainstream international climate science and dismissed the idea that the Russian context could affect their views on climate science, the three categories of climate change denial studied here – conspiracy theories, 'cherry-picking' and 'misrepresentations/ logical fallacies' – underline the specifically Russian political and economic conditions. The extreme version of the denial discourse promotes the Messianic idea that Russia has a special role to play in the global climate system and world history more broadly. In this version, which falls into both the cherry-picking and logical fallacies categories, Russia needs to save the world from global cooling by releasing more GHG into the atmosphere. The milder version makes the case that Russia is actually behaving responsibly when it opposes the Western-led 'green industry conspiracy' and declines to compromise global economic growth, in particular, the right of developing nations to modernize, in the name of climate policy.

As noted, a juxtaposition of Russian and international interests regarding climate change is a constant in our research material. International climate policy is increasingly seen as a Western-led hegemonic project aiming to bypass or overrule the sovereignty of Russia. This juxtaposition is also supported by conspiracy arguments. As our analysis indicates, the denial discourse generates distrust in international climate science and emphasizes the contextual nature of scientific knowledge by claiming, in particular, that the West is trying to monopolize climate science and that global climate governance is a Western strategy to weaken Russia

[13] Gordon Kihot – Global'noe poteplenie, available at: https://en.myshows.me/m/view/episode/1111359/, accessed 18 April 2018.

economically and politically. Similar arguments, with nevertheless different content, were already being voiced in the Russian media in the early 2000s (Korppoo et al. 2015, pp. 28–9).

Accordingly, the temporal overlap of the shift in the tone of climate change discourse and Putin's return indicates that the new discourse serves the domestic political needs of the regime. A possible impetus for this qualitative change came after the 2010 drought and fires, that is, the need to reduce the threat posed by those protesting against the regime, especially as we have not seen much public criticism on climate change politics. Yet, the need to reduce environmentally-toned criticism towards the regime that has not engaged in climate change mitigation and adaptation is perhaps not fully detached from the fear caused by the protests against Putin's third term in major Russian cities in 2011 and 2012.

On top (and as part) of the sovereignty argument and the direct political interests of Putin's regime, we argue that the material-spatial context of Russia in a profound way affects the cultural and political spheres. That is, the collective feeling aroused by the vast space and its seemingly endless resources, explains at least some of the arguments behind climate denial in Russia and, indirectly, the interests of the regime and its supporters in hydrocarbon exploitation. One motive for Russian political and energy actors to oppose mainstream international understanding of climate change, or at least to cast serious doubts on climate change as a human-induced process, could be in both the specific interests of the energy sector in maintaining the status quo in domestic energy policy and in the general interests of Putin's regime in reducing the likelihood of criticism by the Russian people toward the hydrocarbon-based political and economic system.

Furthermore, referring to the literature on identity construction based on materialities of energy in Russia (Bassin 2006; Bouzarovski and Bassin 2011; Grib 2009; Rogers 2012; see also Rutland 2015), we find that climate denial discourse in Russia could be strategically used to strengthen a national identity constructed on the notion of Russia as a 'hydrocarbon giant' or 'energy superpower'. As noted by the above-mentioned scholars, there is the wish of the leadership to strengthen the role of hydrocarbons as the basis for Russia's Great Power status. International understanding of the problem, in particular, its internationally agreed solutions, including diversification of energy sources away from fossil fuels, is thus pictured in the media material as an existential threat to the national identity of Russians.

CONCLUSION

Russia's climate change discourse is nationally specific, especially with regard to climate change denial, drawing on the self-understanding of the Russian elite concerning their geography and resources, and place in the world.

There exists a cultural code in Russia enabling the use of the 'negative sacral', that is, societal taboos for the benefit of those in power (Kivinen 2002). In the context of climate denial, three such negative 'sacreds' are of particular interest. First, our analysis indicates that the *demonization of reality* is often constructed through the cultivation of conspiracy theories at the expense of scientific facts. Frequently, increased exploitation of fossil energy is offered as a cure both for Russia and the developing world, in direct contradiction to climate change mitigation by reduced fossil fuel extraction and use. According to Jacques' (2012) general theory of denial, its primary cause is that climate change discourse is serious and threatening to those wishing to maintain power and the accustomed way of life. Thus, second, the potential and actual *chaos caused by climate change* is difficult to acknowledge and discuss in the public arena. Moreover, the development of production forces, that is, industrial capacity and the concomitant increase in consumption, is viewed as a linear process producing well-being and reducing poverty. This sacral objective is turned into a 'negative sacred', the third taboo, hiding the fact that the extractive nature of the Russian economy ultimately leads to the *consumption of the future wealth* of the nation through resource depletion and climate change.

When compared to Russian climate change discourse during the 2000s (N. Tynkkynen 2010; Wilson Rowe 2009, 2012), a change in the climate discourse can be identified: pessimistic accounts of climate change have gained dominance over the arguments supporting mainstream climate science. Extreme denialists were influential in Russian climate science even before the ratification of the Kyoto Protocol (Laruelle 2014b, pp. 83–4), but as our analysis shows, they seem to have much wider possibilities for reaching the public via the media compared to scientists and journalists adhering to the mainstream international understanding. The changes experienced recently in Russia's position as hydrocarbon producer and exporter and in Russia's foreign and domestic political situation provide further motivation for the political leadership not to oppose climate denial voices in society, if not to support such forces openly.

Of course, discussions in the state-controlled media do not reflect the attitudes of Russian people, and the discourse is only loosely linked to the choices Russia will make within international climate governance (Korppoo et al. 2015, pp. 44, 47; Smyth and Oates 2015, p. 302). Yet, the less the Russian populace is aware of the problems caused by climate change, and in particular, the less alarmed they are by such problems, the longer those in power can continue to consolidate their position by accumulating wealth through extraction and export of fossil energy while ignoring the threats caused by climate change. Promotion in the state-controlled media of contrarian and rhetorical notions such as 'undecided climate science', 'non-rational climate agreements' or 'risk-free climate impacts for Russia' fits the interests of the energy industry and Putin's regime to ensure that there is no strong grassroots opposition to Russia's 'free rider' role in international climate change mitigation commitments. Even if public discussion after the Paris agreement in December 2015 is beyond the scope of our research setting here, we can assume that the tone of the discourse has not remarkably changed after Paris, as Russia's commitments concerning emission cuts under the agreement have not been ambitious.

For the future of Russia's climate policy, all this comes with major implications. The need for rapid action in the sphere of climate change mitigation may arouse more rejection and denial than agency for change. Because of the 'negative sacred', the potential and realized chaos possibly caused by climate change cannot be discussed. More to the point, as the international climate effort is in Russia often seen as a conspiracy to make profit or limit Russia's sovereignty, the Great Power dimension of national identity makes it difficult to accept the need to forefront climate change mitigation policies and emission cuts. Energy from fossil fuels is seen as Russia's entrée to Great Power status, and it seems that this 'sacred' cannot be questioned any time soon.

APPENDIX: THE ANALYSED TV DOCUMENTARIES, TALK SHOWS AND COMEDY SERIES

1. A talk show devoted to climate change aired on national *TV1* on 12 December 2009 (Gordon Kihot – "Global'noe poteplenie").
2. A television documentary utilizing part of the British climate change denial documentary *The Great Global Warming Swindle* (2007), with added Russian sections and interviews (Istoriya odnogo obmana ili global'noe poteplenie), aired on national *TV1* on 12 December 2010.

3. A television documentary aired on 26 March 2013 on *REN-TV* (Territoriya zabluzhdenii s Igorem Prokopenko No. 20).
4. A TV documentary viewed on national *Rossiya Nauka* (Russia Science) channel on 14 August 2013 (Nauka 2.0. Global'noe poteplenie ili lednikovyi period).
5. A documentary film *Cold* (Holod) aired on *NTV* in December 2013.
6. A comedy show for adults aired in November 2011 (Odna za Vsekh – Kris i Endzhi – Global'noe poteplenie).
7. A very popular cartoon (more than 7.1 million views on YouTube) for kids on national *TV1* aired in October 2013 (Barboskiny – 107 seriya. Global'noe poteplenie).

7. The climate is changing Russia: from a hydrocarbon to an ecological culture

In this concluding chapter I will bring together the features of the Russian hydrocarbon culture and the practices of Putin's fossil-inspired geo-governmentality in the context of a changing global climate. Putin's Russia continues the centuries-old practices of an empire that is violent towards its own people and the outside world and is simultaneously unable to utilize the bountiful resources that Russia possesses, which can be part of the solution of a healthy planet. Therefore, I want to discuss not only the gloomy past and the first, but far too inadequate steps that this regime has taken towards this global goal, but also provide a blueprint and a vision for a resilient and sustainable Russia. This vision stems not only from the same geographical realities as the criticized geo-governmentality of the Putinite hydrocarbon culture, but also from a knowledge of the Russian national identity and culture. The task of unleashing the spatial and societal processes that will turn Russia into an internally strong and internationally respected player is difficult, but certainly not impossible. This requires a rethinking of the objectives and rules of the game in both domestic and cross-border contexts: how will Russians foster the necessary change from within, and how can Russia's partners enhance this through their efforts in the spheres of business and politics?

THE INEVITABILITY OF CHANGE: WILL RUSSIA SUFFER OR BENEFIT FROM IT?

The scientific evidence and political consensus built up over the past decades means that climate change is not hitting us out of the blue. It is not a 'black swan' in today's global perspective; the progress and severity of climate change does not or should not come as a surprise to leaders. However, in line with the image constructed by Putin's regime, the negative societal impacts of advancing climate change will probably be

unexpected for many Russians. As I showed in previous chapters, fossil energy, political power and climate denial are intertwined in Russia to the extent that an ambitious climate policy with the objective of reducing emissions, and thus engaging in climate mitigation and transition from a fossil-based energy system to a carbon neutral one, will be an extremely difficult task. The political leadership of the country may even see the effects of climate change as, all things included, beneficial for Russia. Others, namely the United States, several European countries and China, will suffer *more* than Russia (cf. Graybill 2019), so it must be a beneficial process for the Eurasian territorial giant. The studies illustrating the potential beneficial economic effects of climate change, such as the one by Burke and colleagues (2015) regarding the regionalized economic impacts of climate change, and another focusing on governmental expenditures in Russia (Leppänen et al. 2017), encourage the Russian leadership to cling to the narrative about the beneficial effects of climate change for Russia. This story has been told to Russians since at least the 1990s (for example, N. Tynkkynen 2010): global warming, if it happens, will for natural reasons benefit Russia. The famous slogan coined by President Putin in the 2000s on the changing climate – "we need less fur hats in the future" – is consistent with the possible zero-sum calculations behind the denialist narrative and political stance. If this thought is truly driving the words and deeds of the Putin regime's geo-governmentality, as I suggest in this book, the idea of Russia as a surrounded fortress that has permeated political thought is profoundly biasing the security and risk perceptions of the Russian leadership.

The Fortress Russia mentality is well-suited to the general nationalistic rhetoric of the conservative-populist movements – which are enchanted by authoritarianism and its promise to bring order into a world that looks chaotic – that we see growing today from Eurasia to Latin and North America. This parochial view of the world is unable or unwilling to see the cumulative negative effects of climate change as a common problem facing all humanity and all nations. Instead, it looks at global climate governance and the effects of climate change as a zero-sum game. The remedy according to this worldview is not climate mitigation, but thought control at home in the form of climate denial, and free-riding internationally in hopes that others who supposedly and in reality suffer more from global warming will also take care of the mitigation efforts. Furthermore, as the actors that are actually implementing the mitigation measures, such as the EU, happen to be the main customers of Russia's fossil energy resources, the mitigation itself turns into a security threat for the fossil-based regime.

When looking at the effects of climate change for Russia, I want to emphasize that in addition to direct environmental and societal effects there are others linked to global consequences. These effects, which include drawbacks in human security leading to conflicts and refugee crises in Asia, the Middle East and Africa because of climate induced resource, food and water shortages, are an issue that is nearly fully absent in the Russian discussion on climate change. As we discussed in the previous chapter about the Russian mediascape regarding the climate issue, the line of narrative is that bad things might happen because of climate change, but they won't affect Russia. Still, in addition to the probable impacts of climate change within Russia, the global changes will have an indirect impact on Russia.

In the territory of Russia, the warming climate will increase the frequency of extreme and negative weather phenomena (Trenberth and Fasullo 2012) and infrastructural challenges and economic costs – including those of the cherished hydrocarbon industries – brought about by thawing permafrost (Hjort et al. 2018; Schaeffer et al. 2012). The phenomenon of permafrost thaw is in fact a decisive issue both for Russia and the whole world. In global terms, a permafrost meltdown may release such huge volumes of methane into the atmosphere that we might face a runaway greenhouse effect with catastrophic impacts. In Russia, permafrost covers approximately 60 per cent of the country's territory in western, central and eastern Siberia. Infrastructure, from industry and transport to housing, is susceptible to the negative effects of permafrost thaw. The upper layer of soil will become waterlogged and erosion will be accelerated, thus increasing the costs of building and maintaining infrastructures. The majority of Russia's unused hydrocarbon deposits are in the permafrost areas, meaning that the environmental change experienced there will negatively affect the economy of future projects, as well as Russia's ability to export hydrocarbons. This is acknowledged in official governmental documents (Ministry of Energy 2016): as the climate changes, the protection of critical infrastructures will become much more important than today.

In the more northern areas, rising temperatures will be a boon for agriculture, but the gains on these less fertile lands will be offset by decreasing grain production in the most fertile southern areas of Russia. Due to changes in precipitation and evaporation, these areas will become more arid (Belyaeva and Bokusheva 2017). A warmer climate and higher CO_2 content in the atmosphere will make the forests of the large coniferous zone of Eurasia grow faster, but forests and forestry in the taiga zone are expected to suffer from the spread of pathogens and a higher frequency of forest fires (La Porta et al. 2008). Finally, health

problems will be exacerbated and life expectancy reduced due to increasing extreme weather phenomena, such as heatwaves, and by the spread of tropical and sub-tropical diseases and infection-bearing insects towards the north (Revich et al. 2012).

The regional and global feedback processes of intensifying climate change will thus affect Russia in a similar way to the impact they will have on other Northern industrialized societies. However, the present hydrocarbon culture mentality is trying to detach Russia from the global processes and, in fact, from the global community. The parochial Fortress Russia and the nationalistic-conservative shift carried out by the Putin regime makes it impossible to picture Russia having any significant role in the battle against climate change, especially in light of the regime's inability to evaluate the trans-boundary security threats of climate change. As we very well know, climate change is also a security threat *par excellence* impacting on all nations, including Russia. Therefore, unfortunately, the black swan precedes the white: a climate-related natural disaster in Russia will be the likely trigger for a move towards sustainability in the present political culture, as climate change is not a problem for the leadership of a fossil-dependent and monolithically ruled Fortress Russia. In real terms, not viewed via a socially constructed hydrocarbon culture identity and practices of a fossil energy-driven geo-governmentality, climate change is a problem for the Russian people, businesses and the environment regardless of the mind-set within the leadership of the country. The severity of the climate-induced catastrophe, and how soon it hits Russia, will determine whether Russia is among the leaders of a new climate-neutral world or a laggard unable to profit economically or politically from the transition.

In light of Russia's current strategic outlook, dictated by the hydrocarbon culture, the rapid energy transformation is suboptimal. The large-scale shift from hydrocarbons to renewable energy sources (RES) provides energy consumers with more choices, meaning that Russia's control of energy flows becomes a less effective instrument of geo-political power (see Chapter 4). Furthermore, since the Russian state budget is highly dependent on energy export revenues, a major change in this sector will have a negative impact in many other sectors, including the military build-up. Lastly, political and technological factors mean that Russia is unlikely to pioneer the technology development required for the renewable energy transition. Russia's involvement in international climate policy shows that it strives to use diplomacy to influence international energy and climate policy in a way that discourages change. One key reason for this inactivity is the power produced via a hydrocarbon culture.

The logic of a hydrocarbon culture seems to be at odds with Russia's potential to transform to a new level of technological progress. An innovative economy, which is a prerequisite for transitioning towards a resilient and sustainable economy built on renewable energies, would require omitting the mentality and practices – the geo-governmentality – of a hydrocarbon culture. Instead, Putin's Russia is now trying to more effectively utilize different non-military forms of aggression in order to compensate for the technological lead of Western countries and China. This point of departure is in fact guiding the agenda of the National Security Strategy of Putinite Russia. The document states that direct and indirect political, military, economic and information means are used in the global struggle for power, and to produce 'a strategic deterrent' (Strategiya 2015). A rapid transition to a new technological level, with energy technologies based on RES leading the way, thus poses a security threat for Putin's Russia that needs to be confronted using a wide repertoire of asymmetric and violent means that have recently been labelled as 'hybrid warfare' (Cullen and Reichborn-Kjennerud 2017; Galeotti 2017). Furthermore, in the name of Russia's national interests, Putin's hydrocarbon culture is trying to mobilize the entire Russian society – from individual citizens to major enterprises – behind this hybrid offensive (Chernenko 2012). In summary, the transition to a resilient and sustainable Russia that is able to reap the benefits of the ongoing transition to a new technological level and new RES-based energies is extremely unlikely under the contemporary violence-prone hydrocarbon culture. This is the case despite the fact that RES deployment in Putin's Russia does exist, as I describe below.

FIRST STEPS: RENEWABLE ENERGY DEPLOYMENT WITHIN THE HYDROCARBON CULTURE

Russia is an energy giant also in terms of RES: it has both large resources and the technologically relatively developed society and economy needed to foster an energy transition towards renewables and a low-carbon economy. Russia has a large bioenergy potential via its forest resources, which are the largest in the world, but its vast territory also provides the potential to develop wind, small-scale hydro, solar and geothermal power in an economically viable way (LUT 2015). Despite this promising starting point, the fact that the political elite has grown so dependent on rents and power derived from hydrocarbons means the hydrocarbon culture in the making that we are witnessing is at odds with the energy transition objectives. Historical path dependencies actually

dictate today's approach to energy, resources and the environment in Russia. An important factor is the centrality of resource extractive industries in the Russian economy throughout its history – from furs, coal and ore to oil and gas – resulting in economic and environmental practices that resemble those of other colonial contexts in Africa, Asia and the Americas. This historical tendency was accelerated during Soviet era industrialization, which relied on unchecked utilization of natural resources. The vast size of the industries in the natural resource sector is the result not only of political history and large resources per se, but also that of specific resource geographies: the globally important deposits of oil, gas, coal and uranium are not evenly distributed in the Russian Eurasian space. Instead, these industries have required significant infrastructural investments in order to develop resources found mainly in the periphery. Thus, the specific population and resource geographies of the country have led to 'stretched' infrastructures. This factor then amplifies the energy–society loop: the more Russia has been compelled to invest in the energy infrastructures (in gas and oil pipelines, ports and so on) to maintain production volumes allowing a certain level of rents, the more its political choices have been narrowed concerning the energy transition to a carbon-free energy system.

Despite this difficult situation, Russia has officially promoted the use of renewables and an increase in its energy efficiency. All the energy strategies that Russia has approved during the 2000s (Ministry of Energy 2003, 2009, 2017) emphasize the necessity to increase energy efficiency in the Russian economy, from households to the public sector and industry. This plea for higher efficiency is in line with the economic rationale to benefit from using less oil and gas in the Russian economy, and allowing these volumes to be sold on the international markets at a better premium. Moreover, energy efficiency objectives promote the deployment of RES, as renewables are also seen as a substitute – especially for oil and coal – in the domestic energy mix (Smeets 2018a). Despite being criticized for overblown optimism, particularly concerning energy efficiency goals and increasing the use of renewables, central objectives in the strategies (Tynkkynen and Aalto 2012, p. 107; Tynkkynen 2014) all mirror the political objectives set for the energy sector by the political elite. Consequently, the strategies do tell something about the direction in which official Russia would like to see its energy policies shift and aim to reassure the rest of the world that Russia is a modern state with modern goals that only lacks the tools to operationalize these aspiring objectives. The overly optimistic nature of the strategies is clearly evident when looking at how the issue of RES deployment has been discussed, what kind of goals are set, and how these aims have been

met during the last decade. The 2009 strategy notes that the share of renewables in the Russian energy mix should cover 14 per cent of the total energy demand by 2030, and the share of electricity produced via RES should reach 4.5 per cent (Ministry of Energy 2009). Currently, Russia's energy mix contains only 1 per cent so-called new renewables (IEA 2018b).

Then again, the strategies have had an impact on legislation. The idea of renewable energies pushing energy efficiencies is made normative through the government resolution 'On the Main Areas of Government Policy to Raise the Energy Efficiency of Electric Power from Renewable Energy Sources for the Period to 2020' (Government of Russia 2009). The legal framework for deploying renewables in Russia, targeting wind power and bioenergy in particular, was launched in the early 2000s, and has recently been elaborated by the Russian government via several new norms concerning both wholesale and retail electricity markets (Gsänger and Denisov 2017, Appendix 2). Two central governmental strategies set the scene. The first is the Government decree 'On the mechanism of promoting the use of renewable energies in the wholesale electricity market and power' (No. 449) passed in May 2013, which introduces procedures for deploying renewable energy projects within the wholesale electricity market. This decree has been improved several times since its onset. The second is the Government decree 'The scheme of the territorial planning of the Russian Federation in the field of energy' (No. 1634-r) issued in 2016, which sets a target to build more than a dozen wind farms of over 100 MW with the objective of gaining a total wind power capacity of 4.5 GW by 2030. These efforts have largely been tied to energy efficiency discourse and norms: the Federal Energy Efficiency Law of 2009 and Federal Heat Law of 2010 both rely on the idea that promoting renewables enhances energy efficiency.

In terms of wind power, the issued normative framework is relatively generous regarding the guaranteed return on investments (Kozlova 2015). If they meet the capacity supply contract criteria concerning efficiency and utilized capacity, investments in wind power capacity have a 12 per cent guarantee of the return on capital. Despite this attractive normative setting, deployment of wind power has been very slow in Russia: the ongoing wind installation projects total less than 2000 MW. Even so, the finalization of these projects will provide a 10-fold increase in Russia's wind power capacity. Gsänger and Denisov (2017) list several obstacles slowing the deployment of wind power in Russia. First, there are very few investments in the sector because the remuneration scheme is not transparent. Second, the institutional framework does not favour the wind power sector, as the players are scattered and lack the scale needed to

push policies through on the national level. This weakness is further amplified by the still very small market volume of Russia's wind power business. Third, although a legal framework exists, it is considered weak especially with regard to technical standards and land-use issues. For example, the standards are hard to observe because of the complicated regulations concerning the requirements for domestic production and procurement of technical appliances. Lastly, grid connection is challenging for small-volume wind generator companies, as powerful energy sector actors in the thermal, nuclear and hydro power areas dominate the market. Thus, the normative and governance environment for RES deployment is *de jure* in place (Boute 2011, 2012), but *de facto* this scheme has been very difficult to promote (Pristupa and Mol 2015).

Despite the efforts to construct the normative basis for renewables in Russia, there are still major problems related to the legal issues: the system is not transparent and it is full of loopholes that are impossible for small and medium-sized business players to tackle (Smeets 2018a, 2018b). More to the point, the structure of the energy sector in Russia is highly biased, in other words, dominated by colossal parastatal companies and state corporations such as Gazprom, Rosneft and Rosatom. This institutional setting makes it extremely difficult to promote renewables. In concrete infrastructural terms, the obstacles are also related to the central role of gas, which comprises half of consumption in Russia's energy mix. Historical reliance on gas and the ongoing *Gazifikatsiia Rossii* programme (see Chapter 3) have created both political and infrastructural path dependencies that have become a major barrier to the decarbonization of Russia. However, within the bioenergy sector – which is in practice located in the taiga (coniferous) zone of Russia – there is potential to deploy renewables as they can substitute for the use of costly oil and coal hauled in from great distances. This is explained by the fact that the forest industry is a powerful actor in the areas surrounding the three forestry clusters of Russia – the Northwest region, Southern Siberia and the Far East – and also has an interest in expanding to bioenergy. Despite this positive potential push, power plant projects running on bioenergy have been scarce. This is the case even though national energy strategies designate the North as a piloting area that would pave the way for wider bioenergy deployment throughout the country (Government of Russia 2009). In the forestry-based regions of Russia, the Northern Delivery system (*severnyi zavos*), which handles the transportation of mainly heavy oil and coal from outside the region for use in local power plants, is surprisingly one of the obstacles to developing bioenergy. Despite being costly to the communities of the North, the networks of power, subsidies and the rents involved in the system make it difficult to

build new energy capacities based on renewables (Salonen 2018). On the other hand, bioenergy exports, mainly to the EU in the form of wood pellets and chips, have developed in a much more promising direction during the past decade (Tynkkynen 2014).

Russia has all the material resources needed to become a 'Green Giant', but currently it is severely lagging behind all other major energy powers – the EU, China and the United States – in RES deployment. The proportional increases in RES utilization may encourage the idea that a major shift is already underway in Russia, but this is only due to the extremely low starting point. A central question in the context of Putin's hydrocarbon culture concerns who is promoting renewable energy in Russia, and why are specific actors doing so? Discursively speaking, the promotion of RES is part of a global normative shift to frame social and economic practices via the loop of environmental sustainability. However, sustainability has never been a popular term in Russia (Oldfield and Shaw 2002; V.-P. Tynkkynen 2010). For example, the conservative shift in Russian policies experienced since the re-election of Putin in 2012 has basically dropped environmental justifications out of the equation, leaving money as the primary reason to enhance sustainability-related goals such as energy efficiency (Gustafson 2012; Tynkkynen 2018a). Then again, the Arctic may well be the context where 'sustainability' resonates for the Putin regime, as being considered 'green' is a way to make future oil and gas projects possible (see Chapter 5). The main problem with sustainability discourse for Russian critics is related to its social dimension and, in particular, its emphasis on giving voice to local communities to define the course of action concerning the use of natural environments (Tynkkynen 2009b). This liberal ideal is at odds with the authoritarian power structure prevailing in Russia under Putin. However, sustainability has entered the corporate world to the extent that major Russian hydrocarbon companies produce sustainability reports on a yearly basis.

The rationale of Russian actors and institutions when speaking about sustainability is linked to the concept of democracy. The way democracy is mimicked in Russia – although it holds elections, has a multi-party system and independent NGOs exist, all of these are controlled in a growing fashion by the present regime – suggests that the idea of democracy has a legitimizing role. In order to gain acceptance, Russian leaders have thus tried to present themselves as being democratic, as well as sustainable in their economic policies. Therefore, parastatal companies employ narratives that mirror the implicit weak sustainability ('non-sustained yield', see Tynkkynen 2007, p. 865) mentality in fossil energy industries in Russia. Official government policies and programmes, such as the 'Year of the Environment 2017' (see Chapter 5), discuss the

environment and *pollution* rather than using the societally loaded term, *sustainability*. In order to understand why Russia is home to a growing number of sustainability projects, it is necessary to examine *who* is promoting renewable energy in Russia.

It is no surprise that the actors capable of building renewable energy capacities today are large domestic and foreign actors rather than regional or local energy companies that could revolutionize the energy market from below. For example, the Finnish company Fortum, which produces up to 8 per cent of Russia's electricity, is investing in both wind and solar power in Russia (Fortum 2018). The Russian state corporation Rosatom (2018) has also entered the renewables scene with investments in wind power. Although these are real projects, they can be seen as a showcase initiative enabling the nuclear giant to greenwash its highly problematic environmental track record. These cases show that so far only big actors are able to push forward renewables projects on a scale that has any significance. The combined online capacity (approximately 200 MW) and ongoing wind power investments (approximately 1800 MW) in Russia total about 2000 MW (IRENA 2017, p. 12). This might seem like an acceptable figure, but Russia's enormous territory – 17 million square kilometres – sets the potential wind power capacity at thousands of terawatts and reveals the huge mismatch between the potential and current deployment. According to the World Energy Council (2018), the economically viable wind power potential of Russia is a staggering 6000 TWh per year. In comparison, Germany, which has the third largest wind power capacity after China and the United States, produced 80 TWh from wind in 2016. The fact that China currently has over 150 times more and the United States about 80 times more online wind power capacity is quite telling.

In summary, this kind of a societal setting makes it a very demanding task to promote renewables and foster the energy transition towards a low-carbon society. Major energy players have taken the first steps to establish the renewables sector, and this state-centred approach to RES deployment will dominate in Russia for years to come. As a result, this is the only way to promote RES in Russia when the present political realities are taken into account (Smeets 2018a, 2018b). For the transition to be successful, Russia will need transparent rules for all actors, small and large, in addition to breaking the fatal relationship of hydrocarbons and the social. Thus, while some changes are clearly underway in Russia, it seems that the (geo)politics of renewables are still the (geo)politics of hydrocarbons.

THE NEXT STEP: DEBUNKING PUTIN'S HYDROCARBON CULTURE AT HOME AND ABROAD

If climate change is not a problem for the leadership of a centrally ruled, fossil-based Fortress Russia, it will certainly be a severe problem for the leadership of a globally-oriented, yet locally and regionally strong federalized Russia. On a regional level, there are already developments taking place in the renewables sector as well as in the area of climate change mitigation and adaptation. This is the case in the regions that can the most benefit from their own RES potential, as well as areas that are already feeling the effects of climate change (Skryzhevska et al. 2015). The above-mentioned first steps towards renewables deployment in the hydrocarbon culture of Russia are a prerequisite for a broader environmental and energy political transformation in the society, but they alone will not put Russia on the path to resilience and sustainability. The hydrocarbon culture must be omitted and the social contract based on oil and gas replaced by regionalized social contracts that are derived from local socio-economic strengths.

How can the hydrocarbon culture be debunked? The first step is to discursively unfold and deconstruct the fallacy of the hydrocarbon culture: to dissect and itemize the presuppositions of the social contract that stands behind and maintains the hydrocarbon culture. This book aims to do precisely that and luckily I am not alone, as a growing number of Russian (Likhacheva et al. 2015; Makarov and Sokolova 2017) and international (Collier 2011; Rogers 2015) observers are engaged in this necessary task. This will certainly be very difficult in the authoritarian and increasingly closed and secretive mediascape of Putin's Russia, but it is important for this work to be performed inside the country – first and foremost by the Russian people – in order to show how the bubble of hydrocarbon culture is at odds with the global imperative to shift away from hydrocarbons and why clinging to oil and gas will be perilous for the Russian people and the state alike. This could be done by revealing the rationale as well as the business and political actors behind the specific campaigns and manoeuvres of a hydrocarbon culture, for example, by scrutinizing and analysing the narrative in the 'Hydrocarbon-motherland' (*Uglevodorodina*) in the special issue of *Novaya Gazeta* (2019), which tells the story of Gazprom's 'immaculate' national gas programme while casting a slur on renewables.

Secondly, in tandem and in relation to debunking the hydrocarbon culture in the domestic context, there is the need to construct an Ecological Great Power narrative (Klyuev 2002; N. Tynkkynen 2010):

a resilient and sustainable Russia made possible by unleashing its potential in renewable energy as well as carbon storage via Russia's protected forests, bogs and permafrost. This is a great power position that comes not by commanding and via coercion, but through the soft power Russia possesses because other powers look up to it. Russia is respected and admired because of the ecological services it provides for the global community along with renewable energies and the related transport and storage infrastructures, including the electricity super-grid, power-to-gas production and hydropower capacities, that provide Russia with a new and – in all meanings of the term – sustainable economy.

Thirdly, as Russia exports most of its energy commodities, the Russian thirst for the windfall rents from oil and gas – the root cause of hydrocarbon culture – can be quenched only by internationally jointly derived practices aiming at a global transition towards decarbonization. This primarily consists of new practices, norms and objectives within the fossil and non-renewable energy industries that force inclusion of the costs of the social and environmental externalities of hydrocarbon production, refining and transport in the final price of hydrocarbons and fossil carbon-based energy in general. Therefore, along with the EU, China, India and the United States, Russia should jointly agree on strict monitoring of the social and environmental impacts of hydrocarbon production as well as mitigation of its negative effects. This must take many forms: such as carbon pricing and, for example, corporate responsibility certificates that are already well developed in agriculture and mining. Only in this way can the impact of direct and indirect subsidies for fossil and non-renewable energy production be reduced, thus paving the way for renewable energy businesses to compete in the domestic and international markets.

In the EU–Russia energy diplomacy, this is an issue of both energy and comprehensive security that can enhance symmetry in energy trade and promote cooperation and peace. It requires a common voice inside the EU, via the newly established Energy Union, to exert the full potential of Europe's buyer's power – the natural leverage that the EU possesses, but has so far failed to use in its relations with Russia (see Chapter 4). The EU's Energy Union should enforce strict environmental and social responsibility norms for all imported and domestically produced energy sources. This must not be understood as an anti-Russian (or anti-Norwegian/Libyan/Saudi-Arabian/Nigerian) manoeuvre, as the entourage of Putin's hydrocarbon culture would like us to believe. For example, according to the Russian National Security Strategy (Strategiya 2015) and the report published by the Ministry of Energy (2016) on

technological prospects in the global energy sector, the United States and the EU are engaging in a new kind of war against Russia. In this setting, energy infrastructure is seen as a political tool and source of control. The Ministry of Energy report argues that "politicization of visions for the future" is taking place, in other words, increasing demand for norms and technology that serve environmental objectives set by global climate governance. They also express the fear that these norms will turn into geopolitical tensions that hinder investments in Russia. Here they misunderstand the intent; the effort needed to debunk the hydrocarbon culture does not involve hindering or stopping investments in Russia, but diverting them to sectors and businesses that enable the change to a low-carbon society. It is an effort to construct symmetric and just trade relations with Russia that can become sustainable and resilient along with the reorganization of (trade) relations. This kind of political trajectory would actually encourage Russia to be at the forefront and behind the steering wheel in terms of confronting the ongoing energy transition, rather than being a laggard and a drifter unable to define its own fate. This problem, which is in fact a grave security issue for Russia and its neighbours, is recognized in the above-mentioned report by the Ministry of Energy (2016), and here the "energy revolution" is one option. Furthermore, the report states that Russian energy companies – and thus the Russian state – are taking a great risk if they fail to de-invest in hydrocarbons and reinvest in renewables. The Presidential Decree (2019) confirming the Energy Security Doctrine of Russia also acknowledges the need to enable a 'green economy' and mitigate climate change. The risk is that Russia will lose markets and most of the rents as the price of oil plunges due to the energy transition. Thus, the security risk linked to the fact that Russia is being left behind in the global race towards decarbonization is an issue that some factions of the Putin regime understand. However, they are unable to turn the scales towards action in the present hydrocarbon culture and when geo-governmentalities dictated by oil and gas are at play. The above-mentioned Presidential Decree is a prime example of this: green economies and climate mitigation are promoted as long as the national economic and security *interests of energy producers* are not compromised. Therefore, the above-mentioned steps need to be taken in order to materialize the vision for a resilient and sustainable Russia.

VISION: RENEWABLE ENERGY GEOGRAPHIES WILL REGIONALIZE AND MODERNIZE RUSSIA

I want to conclude this book with a vision that can act as a blueprint for a resilient and sustainable Russia. This vision stems from the same geographical realities as the criticized geo-governmentality of Putin's hydrocarbon culture. Furthermore, it corresponds to the mainstream self-understanding of Russians regarding their national identity and culture. As I stated above, the task of unleashing those spatial and societal processes that will turn Russia into an internally strong and internationally respected player is not easy. However, Russia and the Russian people can choose differently and prosper. Central to this move is the fact that the consequences of climate change, and the economies that will flourish because of it, is the new scene, a game-changer. Although I argue that materialities and spatialities of (fossil) energy create path dependencies – the historical inertia of resource-led development and the authoritarian rule encouraged by it – I emphasize that Russia is not a prisoner of its geography.

In addition to a highly educated populace, geography and resources are certainly Russia's central assets. However, Russia needs to utilize those riches not for fast economic and political returns, as is the case today with oil and gas, but to enable a resilient and sustainable Russia. Russia can play an important role in transforming its own energy system, and drastically reduce its own emissions, while simultaneously helping China and Europe, among others, move beyond fossil-based energy systems and towards renewables. Russia has all the means to make this transition a reality, and to capitalize on becoming a Green Giant or an Ecological Great Power. In addition to rich resources – vast space to accommodate wind and solar power, the ability to link the regions and states of Eurasia to an electricity (super)grid running on renewables, providing rare earth metals to benefit renewable energy industries worldwide – this new position is well suited to the Russian great power identity. Seeing Russia as a Great Power and an *Empire*, which is a view shared by many in Russia, is an asset that can be used for the common good of Russians and humanity (Klyuev 2002; N. Tynkkynen 2010). The idea of a Great Power with a special global role has always been a central element in Russian political thought (Kivinen 2002). This means that Russia can be a key player in fostering the transition to a climate-neutral world. As climate change risk becomes reality and also because of its nature Russia can enable positive change by promoting a new kind of energy policy leadership. Russia can subsequently become a strong player, resilient and

sustainable both internally and externally. It can become an Empire whose power is based on the respect and admiration granted by other powers because Russia works for the common good of the Earth and humanity. Today, Russia's alleged power is based on fear, as illustrated by the popular Russian proverb: *boiatsya, znachit – uvazhaiut* or 'they fear us, that is – they respect us'. Along with global environmental and economic changes, Russia has all the potential to be a leader and a respected actor in a new world where renewable energy plays a decisive role. One might criticize that this new Green Giant position would be counterproductive in the framework of Russian modernization aims: seeing renewables as a new Eldorado for Russia dwarfs the efforts to diversify Russian economy away from economic dependence on energy. However, the geographies of renewables are able to foster regionalization of Russia's economies to the point that businesses are able to fully utilize the potential that the specific locality and area possesses. Due to the profoundly different spatialities and materialities, geographies and infrastructures of renewable energies (see Chapter 2), they can help to guide the monolithically ruled country onto the path of decentralization, regionalization and federalization. In this new context, the whole territory of Russia becomes an asset as opposed to minuscule points on the peripheral Siberian and Arctic tundra where oil and gas are extracted today. This will certainly require new rules, as a true federal system is able to function only under proper rule of law. However, rule of law will develop as Russia moves along the path of decentralization and regionalization, as it is a prerequisite for resilient and flourishing local businesses, regardless of whether they are small, medium or large, and in the energy business or not.

As I outlined in Chapter 2, the geopolitical implications of a global transition to renewables (Scholten 2019) are sure to be a risk for a monolithically ruled hydrocarbon culture like Russia. However, they represent a great opportunity for a societally, politically and economically resilient and sustainable Russia. The inevitable transition has started, but because the Putin regime is in practical terms unwilling to recognize this, Russia is severely lagging behind other powers in this transition. The danger of falling behind is immense: in fact, it is an issue of global peace and security. A Russia that is unable to transform its economies and shift the social contract away from hydrocarbon dominance is an extremely unpredictable and dangerous player in a world that is leaving fossil energy behind. Therefore, although the prospect of hydrocarbons losing their markets and profitability appears very distant at this time, now is the time to make large-scale changes. Once a country falls behind in the race to deploy renewables on a large scale, it is extremely difficult to catch up.

As Scholten (2019) argues, renewables are not a strategic factor in the near future: renewables will probably reduce geopolitical tensions concerning oil and gas, but do not seem to present a challenge to fossil energy. However, the possibility for petrostates such as Russia to continue to do business as usual is deceiving.

However, the transition to renewables will depoliticize energy markets in the medium term, which means around the 2050s. Energy markets and trade will become more regionalized, but the energy infrastructures needed to maintain this renewables-based energy system respect (in principle) no borders. Thus, there will be less need for global flows of energy, and the accompanying power-vested and geopolitically sensitive global trade relations, as most of the energy will be produced and consumed locally. At the same time regionalized energy infrastructures will make energy relations more complex and reposition the former producing and consuming countries. Scholten (2019) claims that by this time energy markets will be regionalized, partly because of the electricity super-grid. At this stage renewable technologies will probably be produced massively and in a way that capitalizes on economies of scale. In this situation, Russia and other petrostates will find that their investments in oil and gas are turning into stranded assets. If Russia is unable to rid itself of the hydrocarbon culture and the accompanying social contract by that time, it will face severe societal problems. This kind of future will surely not be welcomed by Russians or the global community. However, as it seems likely that critical metals will be a central part of renewable technologies, Russia is well positioned with its vast rare earth metal resources (see Chapter 2). It can capitalize on these resources but still benefit only partly from the energy transition – remaining a 'raw material exporter' with a volatile and non-resilient economy – if its own energy system is not changed from centralizing fossil energy to decentralizing renewables that, in turn, will be a boon for regionalized economies of Russia.

A Russia that has chosen to become an ecological Great Power in both words and deeds, forming a new kind of culture and governmentality and a new strategic outlook that utilizes in this construction all the assets that the geographies of Russia have to offer, will flourish economically and be socially resilient in addition to providing solutions for a more sustainable world via its assets. Renewable energy resources and infrastructures will play an essential role in this future world. For example, Russia has a central role to play in forming a Eurasian electricity supergrid that simultaneously functions as a transit and a storage infrastructure for electricity trade throughout the Eurasian continent. In terms of domestic impacts, this transnational infrastructure would allow an

economically and thus politically regionalized Russia to sustainably harvest all of its potential – agriculture, high-tech manufacturing and education – as the colossal structure and the centralizing nature of the hydrocarbon culture would no longer be blocking business development. In the international context, along with the trade in renewable electricity, Russian and European as well as Russian and Chinese relations would also develop in a more symmetric direction. The renewables-based electricity super-grid of Eurasia – from Reykjavik and Lisbon to Vladivostok and Shanghai – will make Russia and its regions important actors in production, transit and storage of electricity. This can foster trade relations that are beneficial economically, socially and environmentally and mitigate common threats: asymmetric dependencies in the domestic and international contexts as well as global climate change.

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Index