



# Russian coal in a changing climate: risks and opportunities for industry and government

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Received: 12 May 2021 / Accepted: 4 August 2022 / Published online: 19 August 2022  
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## Abstract

As one of the world's major coal-producing and exporting states, Russia is central to discussions on the future of the industry in the context of global climate change. This is a question that has become particularly salient in light of Russia's invasion of Ukraine in February 2022. Yet despite this, Russia remains understudied in the literature. As a result, we know little about the extent to which Russia is likely to contribute to the alleviation of coal-driven climate change or to its exacerbation. This analysis seeks to examine this question from the perspective of the coal industry, by exploring whether and how Russia's coal companies incorporate the vulnerabilities and risks around climate change into their corporate presence and behaviour, and how this aligns with broader government policy on the coal industry. Drawing on a range of primary and secondary sources, including corporate reporting, government documents, and media commentary, this analysis identifies two central narratives emerging from coal companies. The first is focused on the risks around climate change, primarily in relation to reputation, increased regulation, and access to markets that a climate-driven global shift away from coal might entail. The second narrative acknowledges the potential opportunities around technology and 'green coal'. Within government, both the pro-coal and coal-sceptic lobby recognise the significance of climate change; however, it is used purely instrumentally in policy debates. The coal sceptics employ climate to highlight risks around global reductions in coal demand but are unable to challenge government support for the industry. Ultimately, our findings suggest that both company behaviour and government policy in Russia remain strongly pro-coal, and that it will take a significant drop in global demand for that to change. We conclude that, before the invasion of Ukraine, selling as much coal as possible was a greater government priority than climate change policy, and the invasion is unlikely to shift the balance the other way.

**Keywords** Russia · Coal · Climate change · Policy · Industry

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## 1 Introduction

Coal is central to discussions on climate change. Since the industrial revolution, coal has been a crucial source of energy and remains the world's largest source of electricity (IEA 2020b, p. 13). Approximately 67% of global coal consumption is for electricity and heat generation, with the iron and steel industry accounting for around 12% (IEA 2020a, p. 21). Coal also has a significant carbon footprint. Coal-fired electricity generation is the largest single emitter of CO<sub>2</sub> and in 2018 was responsible for 30% of total global emissions (IEA 2019, p. 4). Given the contribution of coal to greenhouse gas (GHG) emissions, as Collier and Venables 2015, p. 493) put it, '*any* successful strategy for combating global warming will have the closure of coal as a major consequence'. As a result, the coal industry is directly threatened by global climate change mitigation policies, which necessitate a shift away from coal. As some of the world's largest economies, including the UK and Germany, sign up to coal phase-outs, and coal divestment movements around the world appear to be gathering momentum, the future for coal looks bleak. Yet, at the same time, coal remains very important in a number of states, including Australia, China, the US, India, and Russia. These states have resisted efforts to phase-out coal in their domestic economies and have lobbied hard at the international level, something clearly on display at COP26 in Glasgow.

Russia holds the world's second largest coal reserves and is the sixth largest producer with a global share of around 5%. It is the third largest exporter, with a share of around 15% of global exports, up from 9% a decade ago (Tarazanov and Gubanov 2020, p. 54; Vstrecha 2019). In 2021, Russia produced 438.4 million tonnes (mt) of coal, of which 336.1 mt was thermal coal and 102.3 mt coking coal. A total of 223.3 mt was exported. China was the largest export market in 2021 by a significant margin (accounting for 25% of total exports), followed by Japan (10%), South Korea (10%), and the Netherlands (7%) (Petrenko 2022).

At the domestic level, of the thermal coal, 73.5 mt went to power stations, 21.9 mt to meet the needs of the population (mainly home heating and hot water through district heating plants), and the rest to 'others' (Petrenko 2022). Coal-fired power stations provided 15% of Russian electricity. Gas produced 46%, nuclear 19, and hydro 18. Wind and solar power provided 0.15% (Tikhonov 2020). Coal as a source of power generation has been greatly diminished by gasification. If in 2000 42.1% of Russia's coal output was burned in power stations, the figures for 2005, 2010, and 2020 were 32.1, 32.3, and 20.5 (Tarazanov and Gubanov 2021, p. 36). Between 2000 and 2020, the percentage of Russian population centres serviced by gas increased from 48 to 68.5% (Samedova 2019).

Coal's importance to the Russian economy means that the industry is a powerful domestic actor, with producers enjoying a close relationship with regional and federal governments. The industry employed 138,000 people in 2021 (Petrenko 2022), with a significant proportion of these concentrated in Russia's major coal mining region of Kemerovo (Siberia). The government provides significant resources in the form of subsidies to the industry (Gerasimchuk and Roberts 2019, Safonov 2021). At the same time, the Russian coal industry is unusual amongst the country's resource sectors in being almost entirely privately owned (Na slome 2020, p. 14). While this does not mean that the coal companies are wholly independent of government and its policies, it does give them some opportunity to present their own face to the world, including when it comes to climate change. Furthermore, a reliance on exports means the industry is vulnerable to changing global demand for coal and international climate policy developments. In their analysis of the risks to the Russian economy posed by global climate policy for example, Makarov et al. (2020) found that coal is the most vulnerable sector.

The aim of this paper is to explore whether and how coal companies incorporate climate change vulnerabilities and risks into their corporate presence and behaviour in the period prior to Russia's invasion of Ukraine. In assessing whether considerations of climate change are part of industry discussions on the coal industry and its future, and ultimately whether Russia is likely to continue exacerbating climate change through the expansion of coal production, consumption, and exports, or contribute to its alleviation, we undertake the following. First, to help inform the context in which the coal companies operate, we discuss the Russian government's policy on coal, including the extent to which concerns of climate change and decarbonisation are incorporated within it. We set out key policy discussions on the industry and explore the key actors involved. Second, we turn to the companies themselves, and analyse the rhetoric and behaviour of leading coal companies regarding climate change, including what drives that rhetoric and behaviour, through an examination of the prominence of the issue on company agendas and the strategies adopted, followed by the narratives which emerge relating to climate change and the future of coal.

Our analysis found that the government's approach to coal policy reflected the dominance of a 'more coal the better' approach; however, there was a split within government circles between pro-coal and coal sceptics, with climate emerging as part of the debate, and used instrumentally as part of lobbying efforts. There was recognition on both sides of the risks to export markets that climate-driven restrictions on coal power in Europe would have for Russia, with the pro-coal lobby pushing for an expansion of Eastern markets. At the company level, our analysis of corporate rhetoric suggested the emergence of two central narratives. The first acknowledged the risks that exist for coal companies around climate change, principally in relation to reputation, regulation, and finance, though socio-economic concerns are also acknowledged. The second narrative pointed to the opportunities presented by climate change, particularly around technology and 'green coal'.

Russia's invasion of Ukraine in February 2022 has introduced a great deal of uncertainty into global energy politics, with implications for both coal markets and climate policy. While much remains unknown at present, the understanding provided by the pre-invasion analysis in this article enables us to offer some informed speculation on what the implications of Western sanctions are for Russia's climate change policy and the place of coal within it. We return to this in the conclusion.

## 2 Methods

To examine the extent to which Russia's coal companies address climate change risks and vulnerabilities, we undertook a narrative analysis of corporate reporting. To identify the key actors, we collected data on the top fourteen Russian coal producers, which together produce about 75% of total output (337.4 of 441.4 mt) (see Table 2).

Corporate narratives on climate were explored by examining annual reports for the period 2017–2020, corporate social responsibility (CSR), sustainability, and climate-specific reports, in addition to websites and other relevant material, including press releases and statements from leading company figures, presentations for investors and shareholders, and environmental, climate, and energy policies. Both Russian and English language materials were gathered, and checked for similarity, with no major inconsistencies between materials. All are publicly available. In total, over 134 individual sources were analysed.

Corporate reporting is widely used in the literature as a source of data to indicate company commitments to a range of environmental, climate, and social issues (e.g. Jaworska 2018). The material examined in this study provides key insights into the *image* which these coal companies wish to convey to external parties around climate and the future of coal in Russia. What we see in this reporting is official company positions, which are used to detect the narratives, or discourses, employed by these actors to defend and promote their own interests. There are limitations with using corporate reporting as data: narratives do not (necessarily) reflect genuine corporate commitment to an issue and there is no independent verification of actions taken. Yet the narratives which emerge from this material are important instruments in the shaping of policy and are central to discussions on climate and energy transitions which are by their nature heavily politicised and highly contested (Trencher et al. 2019; Curran 2021). Narratives are about communication and positioning, thus creating a natural synergy between data and method.

Government documents including reports of ministerial meetings, key policy documents, plans, and programs including the *Program for the Development of the Coal Industry to 2035* were also used to provide context to our analysis. This was supplemented with a review of the limited academic literature on the Russian coal industry, together with media commentary. It should be noted that our focus is on federal-level policy documents rather than subnational programs, which are beyond the scope of this paper.

All data was coded using NVivo qualitative data analysis software. We searched for references to climate, including statements from CEOs and leading figures on company positions towards climate change. We looked for evidence of company strategies and management plans on climate, including internal policies (e.g. GHG emissions control), and insights into how industry perceived the future of coal. Two core narratives emerged from the material around risk and opportunity, and are discussed below.

### 3 Literature review

In the existing literature, consideration has been given to examining how major coal-producing and export states have responded to developments in global climate policy. Blondeel and Van de Graaf (2018), for example, compare coal mining policies in four major coal-producing states (Australia, China, the USA, and India) and find that on the whole considerations of climate change are not factored into coal extraction policies. Spencer et al. (2018) draw similar conclusions in their survey of Australia, South Africa, India, and China, arguing that all four states failed to actively prepare for a large-scale coal transition. Russia has not received the same attention, despite its role as a major coal exporter, though works have considered Putin's use of climate change as part of attempts to project state power to an international audience (Martus 2021) and the role of climate in Russia's 'great power' narrative (Tynkkynen and Tynkkynen 2018). However, we know little about the role coal plays in these discussions. This analysis contributes to existing debates and enables us to test the extent to which Russia corresponds with other major coal states.

Beyond state-level analyses, there is considerable interest in the way in which corporate actors have responded to climate policy developments. However, despite coal being a leading contributor to global GHG emissions, comparatively little research has been conducted on the behaviour and attitudes of the coal industry, particularly in comparison with the oil and gas sector or coalitions of fossil fuel companies more broadly (Edwards 2019). There are however some notable exceptions.

A common thread in this research is the close relations between companies and governments, and industry ability to shape policy outcomes. The literature explores industry's structural and economic power, with coal companies adopting strategies focused on lobbying government for economic support and subsidies and preventing the introduction of emission regulations in a variety of settings. In the USA, Downie (2017) found evidence of strong resistance from coal companies to government attempts to introduce regulations limiting coal emissions. In Australia, close relations between government and the coal industry have enabled industry to exert influence over key policy debates to limit or derail attempts to introduce carbon pricing (Crowley 2013) and mining and carbon taxes (Pearse et al. 2013). In Poland, the coal industry has formed alliances with unions and the government to successfully undermine development of renewables and resist coal phase-out (Brauers and Oei 2020).

The industry has also adopted discursive strategies. In the case of Japan, Trencher et al. (2019) find that key narratives around technology, energy security, and cost have successfully been used by pro-coal actors from government and industry, to promote coal and shape energy trajectories. Brauers et al. (2020) note that framing techniques used by the coal industry in Britain and Germany, centred on issues such as electricity prices and employment, were useful in securing economic support from government for the industry. Industry has also promoted the notion of 'clean coal' in an attempt to rebrand and ensure continued support in the context of growing concern over climate change (Kuchler and Bridge 2018).

A related body of literature examines the social impact of the coal industry, the notion of a 'just transition', and the complex cultural politics of coal (Brown and Spiegel 2019). Of relevance to this discussion is work which considers the public-focused strategies of coal companies as part of broader attempts to resist transition. This includes the creation of a 'normative culture of coal', used to maintain legitimacy amongst local populations involved in mining (Bodenhamer 2016). This work highlights the close integration between industry and local communities as a major barrier to decarbonisation.

In Russia, far less research has been conducted. In one study, however, Martus (2019) compared corporate responses to climate policy developments across the metals and mining sector and found significant variation, with some companies taking a proactive stance on climate by encouraging Russian participation in international policy discussions and domestic efforts to curb GHG emissions, for example, while others, including major coal companies, actively resisted increased regulation of climate policy developments. The present discussion enables a detailed investigation of the dynamics of the coal industry, building a comprehensive picture of the relationship between coal and climate change by drawing together both government policy and corporate responses.

#### 4 Russia's policy on coal and decarbonisation

After years of limited domestic action on climate change, by late 2021, several important developments suggested that a shift towards decarbonisation may be occurring. At Russian Energy Week in October 2021 for example, President Putin announced that Russia would aim for carbon neutrality by 2060, and Prime Minister Mikhail Mishustin called for Russia to gradually reduce its reliance on hydrocarbons.<sup>1</sup> These high-level commitments coincided

<sup>1</sup> See <https://tass.com/politics/1340343>

**Table 1** Forecasts of Russian coal output from three sources, million tonnes

	2019 (actual)	2020 (actual)	2020	2021	2022	2023	2024	2025
Coal program—conservative	439.2	401.6	435					459
Coal program—optimistic	439.2	401.6	466					593
MED, September 2020	439.2	401.6	395.0	390.7	389.5	389.5		
MinEnero, October 2020	439.2	401.6		408	420	435	450	

Sources: Prognoz 2020; Programma razvitiia 2020, Appendix 1, p. 4; Zainullin 2020b; Tarazanov and Gubanov 2021, p. 27

with a number of policy developments, including a new law on reducing GHG emissions and the government's approval of the Ministry of Economic Development's (MED) 'Strategy for the Socio-Economic Development of Russia with a Low Level of Greenhouse Gases to 2050' (the Strategy) on 29 October 2021. The Strategy sets out a pathway for Russia to meet its climate commitments, emphasising low-emissions technology investment and a reduction of coal in electricity generation, though by how much is not made clear. The document acknowledges global decarbonisation trends and sees the solution for Russia as supporting 'innovative and climate efficient technologies for coal combustion' (Pravitel'stvo 2021, section III.2). It should be noted however that despite these developments, Russia's commitments remain very unambitious on a global scale.<sup>2</sup>

Russia has also maintained an official policy on the expansion of the coal industry. The long-term program for the development of the industry to 2035 (the Program) was written by the Ministry of Energy (MinEnero) and approved in June 2020. The Program has an 'optimistic' scenario reflecting industry expectations, and the more policy-relevant 'conservative' scenario, which predicts lower rates of growth than in the previous decade, and very much lower than producers were pushing for (Programma razvitiia 2020). Soon after the Program was approved, both the MED and MinEnero issued updated output forecasts, in September and October 2020 respectively. The former predicted a substantial drop in output in 2020 and a continuing slow decline from then on (Prognoz 2020).<sup>3</sup> The MinEnero figures, while predicting a short-term decline after 2019, saw the industry as being on track to meet the coal program's conservative target for 2025 (Zainullin 2020). Table 1 compares the various forecasts.

Prior to the imposition of Western sanctions in 2022 which we return to in the conclusion, the broad ongoing debate about the expansion of the industry had two major components: growth forecasts for coal output and exports, and expansion of exports to the east. The debate on future output and export levels saw coal producers push for very high figures (with the cautious support of MinEnero), and use them to justify increased spending on infrastructure (Skorlygina and Dzhumailo 2018). On the other side, the MED presented more modest figures.

The second discussion was about increased exports to the East, with one of the biggest concerns how to get the coal to Eastern markets. The key issue was whether the government should support the continued growth of coal exports eastwards by funding the expansion of the so-called Eastern rail polygon, that is, the eastern ends of

<sup>2</sup> Various international rankings score Russia very poorly. The Climate Action Tracker, for example, rates Russia's commitments as 'critically insufficient'.

<sup>3</sup> MED presents its forecast as percentage changes year on year. We have calculated them as yearly volumes, using the 2019 base year output given by Tarazanov and Gubanov (2020, p. 35).

the Baikal-Amur Mainline (BAM) and Trans-Siberian railways, a serious bottleneck in getting coal to eastern seaboard ports. Two main groups of actors dominated these debates. On the one side were the coal producers and MinEnergO, the lead ministry when it comes to coal policy (also responsible for electricity generation). The ministry has always pushed hard for the expansion of the industry and its export potential, albeit at times failing to support the industry's more extravagantly expansionary ambitions (see comments of then Minister for Energy Novak at Vstrecha 2019). On the other side, the economic block in the government, led by the MED, was wary of spending a lot of money on what it saw as a commercially dubious proposition. They were joined by Russian Railways, the state-owned rail monopoly which is responsible for both building and operating the expanded Eastern polygon. These actors represented the 'coal sceptics' within government.

Initially, climate change issues were absent from these discussions. The main policy drivers were a sharp reduction in domestic demand for coal because of the gasification of power generation and heating, and the desire for a shift in exports from Europe on geostrategic grounds, particularly after the annexation of Crimea in March 2014 seriously soured Russia's relations with the West (Huang and Korolev 2017). After a long and sometimes acrimonious debate, Putin eventually intervened on the side of the coal sector, and the expansion of the Eastern polygon went ahead, as a significant expansion of exports to the APR was registered (Fortescue 2021). Opposition to the coal sector did not, however, disappear, and of most interest here, climate change was introduced into the debate.

Climate issues were part of these discussions and were used in an instrumental fashion by both sides. For the coal lobby, an important part of its argument for the need to increase exports to the East, and therefore expansion of the Eastern polygon, was that climate change-driven restrictions on coal-fired power generation in Europe drastically diminished market prospects there. In presenting the 2035 Coal Program to cabinet in February 2020, then Minister for Energy Aleksandr Novak (now a deputy prime minister) stressed the importance of eastern markets as the industry's key growth point, and therefore the need to expand rail infrastructure in that direction, in the context of declining European coal consumption and imports, noting that it was 'facilitated by a turn to the decarbonisation of the economy and the active stimulation of renewable energy sources' (Zasedanie 2020).

The coal sector also used climate change and other environmental arguments to support bids for more government support, particularly for the development of 'clean coal' technologies. That was a position briefly but categorically affirmed by Putin in his April 2021 address to parliament, in which he described the 'ecological use of coal as being possible in the modern world' (Poslanie 2021).

Climate change arguments were also used by coal sceptics, albeit with a commitment no more passionate than the pro-coal lobby. Much of the scepticism was based on doubts as to the competitiveness of Russian coal on export markets, primarily because of the cost of long rail hauls (Fortescue 2016; Fortescue 2021; Na slone 2020), but also due to fears of climate policy-induced shrinkage of export markets. In its analysis of the industry's growth prospects, the MED referred to the market consequences of climate-driven restrictions on coal-fired power generation. However, unlike the coal lobby, it displayed no optimism regarding Asian markets, at least prior to February 2022, the implication being that it should not be assumed that climate change-based restrictions will not be imposed there as well as in Europe (Prognoz 2020).<sup>4</sup>

<sup>4</sup> Commentators are very aware of the implications for Russian coal exports of a green agenda in Asia ('Zelenaia politika', 2020; 'Rossiiskim ugol'shchikam', 2021).



While there may have been doubts about the sincerity and intensity of the political leadership's commitment to climate mitigation, it did allow the issue to be used in policy debates. It was used in the coal debate by both sides purely instrumentally and as backup for what are almost certainly seen as weightier, economic arguments. Even before the invasion of Ukraine, Russia's position on coal and climate change was always likely to be challenged by the intensification of the decarbonisation agenda on a global scale, forcing adjustments in the views of all protagonists in the coal policy debate regarding Eastern markets. Those adjustments have arguably become more urgent post-invasion, in ways that will be considered below.

## 5 Russian coal companies and climate change

In light of this policy environment, we turn now to the individual coal companies to explore their rhetoric and behaviour and develop our understanding of the place of climate change in Russian coal politics. As privately owned companies operating on global markets, they have some autonomy in strategic decisions and in sourcing financing. Does that autonomy result in more—or less—consideration of climate change issues? Are they driven by the government-based policy environment described above, or by other factors such as international reputation, pressure from investors and creditors, or local pressures? To answer these questions requires the categorisation of coal companies, as they differ greatly from each other in various ways.

Amongst the fourteen top producers examined, there are two types of company: coal-dedicated companies, whose operations are more or less exclusively oriented towards coal production and sale; and vertically integrated steel, aluminium, and electricity producers with coal assets. Their coal is used both in their own operations and sold on the open market. The classification of companies by type can be seen in Table 2.

Coal-dedicated companies are divided into those that look primarily to domestic markets and those which are export-oriented. Those serving domestic markets have suffered from the government's policy of gasification, while exporters are vulnerable to climate-related reductions in demand in markets that are outside the control of the Russian government and the influence of Russian industry lobbying. Vertically integrated companies, to the extent that they sell coal on the open market, are subject to the same vulnerabilities as pure coal companies; they are also subject to the vulnerabilities that derive from the use of coal in their upstream activities. How these different vulnerabilities are reflected in company rhetoric and policies will be examined below, after brief consideration of how, if at all, pressure can be brought to bear on companies by non-government actors, in the context of Western jurisdictions, shareholders, and funding bodies.

As can be seen from Table 2, the vast majority of the top fourteen Russian producers are owned by Yeltsin-era oligarchs, the exceptions being Sibantratsit, Stoiservis, and Kolmar, which are owned by regional and post-Yeltsin oligarchs. Although some companies are listed on foreign stock exchanges, none has a sufficiently large free float to threaten the core owner's control. Evraz and Severstal are outliers, in having free floats of around 33 and 22% respectively. To protect dominant shareholdings, owners are reluctant to issue new equity, and certainly do not rely on that approach for funding. In summary, shareholder pressure is not a problem for these companies. Furthermore, given customers are usually traders or industrial end users, we see little to suggest that consumer pressure is part of company considerations.



**Table 2** Top 14 Russian coal producers

Name	Location*	Output, thousand tonnes**			Core owner	Nature of business
		Exports	Domestic	Intra-group		
SUEK	Kemerovo	39,290	33,182	33,700	Andrei Mel'nichenko (Yeltsin oligarch)	Pure coal
Kuzbassrazrezugol' (KRU)	Kemerovo	27,522	3265	0	Alisher Usmanov (Yeltsin oligarch)	Pure coal
Evrz	Novokuznetsk	7998	11,441	6600	Abramovich & Abramov (Yeltsin oligarchs)	Mixed (steel)
SDS-ugol'	Kemerovo	19,722	4846	0	Mikhail Fediaev (regional oligarch)	Mixed (electricity)
Sibantratsit	Novosibirsk	16,970	6072	0	Al'bert Avdolin (post-Yeltsin oligarch)	Pure coal
Mechel	Yakutia	8985	N/A	N/A	Igor' Ziuzin (Yeltsin oligarch)	Mixed (steel)
KTK	Kemerovo	9963	5667	0	Mikhail Gutseriev (Yeltsin oligarch)	Pure coal
En+	East Siberia	1570	634	14,787	Oleg Deripaska*** (Yeltsin oligarch)	Mixed (electricity)
Russkii ugol'	Russian Far East	2834	12,455	0	Mikhail Gutseriev (Yeltsin oligarch)	Pure coal
Stroiservis	Kemerovo	4009	9160	0	Dmitrii Nikolaev (regional oligarch)	Pure coal
Evrz Mezhdurechensk	Kemerovo	2485	3334	6569	Abramovich & Abramov (Yeltsin oligarchs)	Mixed (steel)
Vorkutaugol'	Vorkuta	0	863	9282	Aleksei Mordashov (Yeltsin oligarch)	Mixed (steel)
Kolmar	Yakutia	2856	5137	0	Timchenko & Tsvilev (Putin & regional oligarch)	Pure coal
Resurs	Novokuznetsk	5160	947	0	Alisher Usmanov (Yeltsin oligarch)	Pure coal

\*Many companies have geographically dispersed mines. This column indicates where the bulk of mining activity takes place

\*\*Data are not always taken from the same source, and so should be taken as indicative only

\*\*\* See text (section 7.1) on complex ownership arrangements

Sources: Tarazanov and Gubanov 2020; company reports

Available information on companies' financing and debt positions is very incomplete. Most used debt finance, but some of the biggest with substantial non-coal assets also tapped bond markets (Artemov 2019). There are companies that admitted to higher than desirable debt levels, putting that down to the cost of developing new mines (on Kolmar, see Tsivileva 2020; on SUEK, see SUEK 2019a, p. 28). Some companies overextended themselves to the point of bankruptcy and radical restructurings. So, there was a vulnerability in the need to source loans and roll over debt. Prior to the most recent round of sanctions, Western financial institutions show up reasonably often as lenders, but Russian state-owned banks are also ready providers of funding, including of last resort. In an environment of limited governmental and extra-governmental pressure to seriously address climate change issues, how do the fourteen companies address climate change, in their rhetoric and behaviour?

## 6 Inclusion of climate in corporate presence

We first discuss the form of corporate engagement with the issue, before turning to the narratives that emerge about climate and the future of coal. All companies surveyed had some form of environmental and CSR reporting, indicating that this type of communication is a routine part of company operations. Requirements for environmental disclosure in Russia are limited, and there are large variations between companies (on the oil and gas industry, see Shvarts et al. 2016). However, there are basic national requirements that require big polluters to report harmful atmospheric emissions. Information is then made available on a public register.<sup>5</sup>

While companies are unable to ignore the serious environmental issues related to coal mining and transportation (see Fortescue and Martus 2020), the nature and extent of reporting on climate indicators varied considerably between companies. For example, Resurs had no reporting on climate-related themes, including GHG emissions, and only limited environment reporting. Similarly, Stroiservis did not engage with the issue of climate change directly,<sup>6</sup> though provided other forms of environment-related material including community-focused activities like tree planting, data on waste, and information about coal dust suppression efforts (Stroiservis 2021). Other companies such as SDS-ugol', Mechel, and Russkii ugol' listed various environmental activities they funded, while others such as Sibantratsit and Kolmar provided specific corporate environmental policies and plans for reducing air pollution, but made no direct link to climate change.<sup>7</sup>

When climate did appear in company reporting, the approaches adopted by corporate actors can be broadly classified into internal company policies, which involved position statements, plans for emissions reduction, and reporting tools; and external policies, which involved engagement with actors outside the company. A limited number of companies had explicit corporate statements or positions on climate change (e.g. Evraz 2020). However, for the most part, climate change was referenced in more general CSR reporting and annual reports. Frequently, CEOs or leading figures within the company provided statements on climate as part of annual reports. For example, Aleksei Mordashov, chairman of Severstal's

<sup>5</sup> Available at <https://onv.fsrpn.ru/>

<sup>6</sup> It is involved in the 'Green Coal, Clean Kuzbass' program discussed below, which has a weak climate change component.

<sup>7</sup> For example, see Kolmar 'Okruzhaiushchaia sreda', [Kolmar.ru/sustainable-development/environment/](http://Kolmar.ru/sustainable-development/environment/).

Board of Directors, noted that ‘we are focusing on ecology and climate change action initiatives in recognition of the circular economy and environmental concerns. Being fully vertically integrated, we take responsibility for the whole production chain and continue improving the environmental footprint of our business’ (Severstal 2019a, p. 9). Some companies established internal actions to respond to climate change, including setting company GHG emissions targets, establishing committees to manage climate issues, and in the case of En+, a vertically integrated aluminium and electricity producer with coal assets, reviewing coal assets altogether. This is discussed further below. Companies also presented data and strategies around related issues such as energy efficiency and the adoption of cleaner technology.<sup>8</sup>

In addition to internal policies and actions, companies had a range of externally oriented policies in their discussions of and reporting on climate, which emphasised links with other actors. Key business associations, for example, provided a focal point for climate discussions within the sector. The steel companies with coal assets participate in the World Steel Association and promote collective action on climate through its Climate Action program, centred on data collection on emissions. Four companies (SUEK, KRU, SDS-ugol’, and KTK) signed up as Bettercoal Producers, which promotes the idea of socially and environmentally responsible mining. Finally, attention was given to promoting corporate participation in international initiatives, such as the UN’s Global Compact and the Carbon Disclosure Project.

## 7 Company narratives on climate and the future of coal

Two central narratives emerged from this material, centred on the idea of climate change as risk, and as opportunity. These narratives were employed by corporate actors to frame their discussions on climate change and coal’s future in Russia and the global energy mix, and provide valuable insights into how an industry, heavily impacted by climate policy developments, responds to the issue.

### 7.1 Climate change as risk

A key finding from the evaluation of company reporting was the growing narrative of climate change as risk. This narrative is dominated not by the environmental consequences of climate change, but by the economic implications of climate policy for the industry, including, as discussed, the market implications of restrictions on coal-fired power generation outside Russia. This shift to a risk-based approach to climate change adaptation is in line with global trends (Connelly et al. 2018, p. 1), where there is growing interest in private sector adaptation strategies and approaches to climate risk (Surminski 2013). Broadly, the notion of climate risk for business involves environmental risk and physical risk to infrastructure; however, there is also growing recognition of risk around climate regulations, reputation, and consumer expectations.

This notion of risk as understood by the coal companies is multifaceted. Within this narrative, we saw varying degrees of company engagement with the notion of risk, from its basic acknowledgement to the introduction of specific policies and programs designed to

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<sup>8</sup> There are a series of government regulations requiring the adoption of energy efficiency measures.

manage it. Climate risk was interpreted broadly. There was only limited acknowledgement of the physical risks posed to companies, including risk to infrastructure and equipment. For example, Evraz highlighted climate risks to the company as those that might lead to ‘business disruptions, resource shortages, and damage to the supply chain, equipment, and reputation’ (Evraz 2019, p. 28). Companies were more concerned with risks to reputation, access to finance, regulation, and the challenge from renewables. Given the sector is likely to be heavily impacted by climate change, it is somewhat surprising that so little attention was given to physical risks. At the government level, there is a growing recognition of this problem, with the MED, for example, tasked with developing guidelines to address infrastructure risks in the recent National Climate Adaptation Plan (Pravitel’stvo 2019).

Leaving aside physical risks, companies demonstrated a sensitivity to the negative public image of coal on a global scale. SUEK, for example, noted the ‘increased public attention to carbon regulation and the responsibility of business to protect the environment. In the event of environmental damage or degradation, there could be claims from supervisory bodies, financial institutions or potential investors. These claims could, in turn, influence the company’s production and financial performance; negatively affecting our ability to raise funds through the debt market’ (SUEK 2019a, p. 47). In other words, the reputational risk of coal has the potential to undermine the financial success of the company (SUEK 2019b, p. 51). Severstal too referred to ‘investors being unwilling to invest in companies that do not have a climate strategy and policy, refusal of insurance companies to insure coal-fired facilities’ (Severstal 2020a, p. 3).

Investor risk was thus clearly identified in company statements. However, as noted, companies’ actual exposure to the risk, given their ownership and debt structures, was limited. SUEK, which is tightly owned by Andrei Mel’nichenko, admitted it is heavily indebted (SUEK 2019a, p. 28). Nevertheless, it appeared to have had little difficulty raising funds to finance operations, investment, and debt rollovers, from Western, Asian, and domestic lenders in the past, none of whom showed concern over climate issues. One might tentatively suggest that these companies devoted more attention to climate change than the degree of investor pressure on them might lead one to expect because regulatory risk reporting requirements encouraged generalised reporting of all conceivable risks in a ‘boiler plate’ way, and large global companies see ‘social awareness’ as a necessary part of their image.

Both international and domestic regulatory risks were identified as part of the overall risk narrative. Severstal, for example, noted that the ‘climatic risks for the company include tighter government regulation, [and the] introduction of a carbon border management mechanism in the EU’ (Severstal 2020a, p. 3).<sup>9</sup> The company also pointed to the tightening of climate and emission legislation in Russia and abroad as a potential concern for the company (Severstal 2020b). En+ noted the potential for higher costs due to changes in carbon prices in the European market, as well as measures ‘to discourage the use of fossil fuels in operation’ as a threat (En+ Group 2019b, p. 81).

There was also a perceived threat to the coal industry from the growth of renewable energy, particularly in the global context. KRU’s 2017 annual report noted the commercial risk ‘of a decrease in coal production and sales due to a decline in demand for coal products in connection with the development of alternative energy sources’ (KRU 2017, p. 17). Similarly, SUEK cited ‘Europe’s planned transition to renewable energy sources’ as a key

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<sup>9</sup> The EU Carbon Border Tax was seen as a particular threat to companies such as Severstal and En+, with the EU a key market for steel and aluminium (prior to sanctions).

threat to the coal market (SUEK 2019a, p. 34). As suggested above, coal producers have used this threat, which they limit to Europe, to strengthen their arguments for increased government spending on rail capacity to the East.

Despite the rhetoric, clear strategies for managing and adapting to the identified risks were limited, and primarily restricted to claims to be working with international and domestic partners on policy development, or reference to existing GHG mitigation programs. The only company to go a step further than risk identification and raise the prospect of reviewing their coal assets was En+. The company stated that ‘coal mining operations and fossil fuel power generation are issues of strategic concern for En+ Group’ (EN+ 2019b, p. 80), noting that the Board had commissioned ‘a full review of strategic options’ regarding its coal and coal-fired power assets (En+ 2019a, p. 12). A key theme across En+ reporting was its emphasis on building a low-carbon economy and the shift away from ‘highly polluting fossil fuels’ (e.g. En+ 2019b, p. 4). These developments came after the company was forced to restructure its ownership, to reduce Oleg Deripaska’s shareholding to below 50% to avoid crippling US sanctions. That restructuring was driven by Lord Barker, a former British Minister of Energy, who was appointed chairman of the En+ board in 2017 and subsequently pushed a green agenda very hard (Lord Barker 2021).<sup>10</sup> Significant weight was put on the ‘green’ advantage En+’s aluminium arm, Rusal, has over its competitors through its use predominantly of hydropower to drive its smelters (Rusal 2020, p. 6). It is in this context that the company is sensitive about its large-scale coal mining in East Siberia. The coal is used by the company’s subsidiaries to produce electricity and district heating, with an undisclosed proportion sold to third parties domestically and abroad. Very small initial steps have been taken to reduce coal-based generation in favour of hydro and to consolidate some coal-based assets with the implied goal of eventual disposal (En+ 2020, pp. 43–47, 146). Exit from the coal sector, however, seems a long way off.

The focus on the reputation, regulation, and financial elements of climate risk was important considering the limited attention to climate policy in both the public and political arena in Russia. There was a clear difference in reporting on climate between ‘local’ and ‘global’ companies. That local companies (i.e. those with limited or no international presence) did not devote much attention to climate concerns is relatively easily explained: such companies are very focused in a single region (usually Kemerovo) in terms of ownership and operations. It is important for them, therefore, to maintain good relations with the local community and political leaders. What environmental concerns they have is on peripheral climate change issues such as air pollution and tree planting. The full complexity of local attitudes in coal mining areas cannot be addressed here but concerns over environmental issues with which residents come into direct daily contact are sufficiently strong that local politicians and ‘local’ companies cannot afford to ignore them (Fortescue and Martus 2020).

The situation regarding companies with an international, particularly European, presence was less clear. As already noted, although they had a presence in international financial markets, it was not a strong dependence. There are a few possible explanations for why there was nevertheless a recognition of climate change issues by the companies: it was a purely pro forma response to risk reporting requirements; even a small dependence was enough to change rhetoric if not behaviour (particularly if oligarch-owned companies were keen to avoid reliance on Russian state-owned banks as key sources of finance); or that

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<sup>10</sup> He resigned in March 2022.

companies that saw themselves as international felt the need to look international, including highly visible awareness of key issues of political and public concern. It is also probably relevant that coal, particularly its export to Europe, was not core to their businesses. Public commitments to climate change mitigation did not, therefore, as directly question the core of their businesses in the way it would a specialist coal company. Quite likely all explanations played a role.

The socio-economic role of the industry makes up the final part of the climate risk narrative. It involved invoking the needs of local communities, part of a long tradition going back to the Soviet system of state paternalism and community investment by enterprises (Tysiachniouk et al. 2018, p. 4). The idea of providing essential services and facilities to local coal mining communities, as well as providing a crucial source of employment, was central to the image projected by companies. There was also an emphasis on the importance of coal as a source of heating in Siberia and the Far North. Coal was portrayed as reliable and essential given Russia's extreme climatic conditions.

There was no denial of anthropogenic climate change as a phenomenon, in fact, often the language used expresses support for policy efforts to address climate change in general terms. However, the argument was that coal remained an important energy source in Russia and globally, and that the social and political aspects of energy transitions needed to be considered. In this regard, the focus of companies on the socio-economic implications of a transition away from coal demonstrated their understanding of climate policy developments and industry regulation as a threat to their operations.

In its *Position on Climate Change*, for example, SUEK noted the contribution of coal and coal-fired electricity to GHG emissions, but that 'as a major coal producer, we also emphasise our responsibility to continue providing the energy people need' (SUEK 2021a). Coal was seen as affordable, widely available, and reliable, with the Deputy CEO commenting: 'you cannot disregard the social and political component. Curtailing production in single-industry towns ... will cause major social upheavals' (Shapovalov 2020). This focus on socio-economic implications of a low-carbon transition aligned closely with domestic policy on the coal industry, where we saw the government integrate concerns around employment and regional development into policymaking. The socio-economic implication of a transition away from coal is an issue that all coal-producing areas must grapple with, with a substantial literature emerging around the notion of a just transition (Johnstone and Hielscher 2017 on the UK; Cha 2020 on the US).

## 7.2 Climate change as opportunity

While risk formed the dominant narrative in corporate reporting, we also detected evidence of the emergence of a second narrative based around the idea of the opportunities associated with climate change. This is a narrative with two core ideas. The first concerned economic opportunities and ways in which companies stood to benefit from changes in global markets associated with climate mitigation and international climate policy responses.<sup>11</sup> The second related to the opportunities that exist for companies around technology and 'clean', or 'green coal'. Both will be examined in turn.

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<sup>11</sup> This needs to be distinguished from a separate narrative within Russian politics broadly concerning the potential advantages that climate change might have for Russia. The National Climate Adaptation Plan, for example, cites potential opportunities, including the expansion of agricultural land and more open navigation in the Arctic (Pravitel'stvo 2019).

For the most part, the companies in our sample said little about economic opportunities, particularly regarding their coal assets, with one exception. Severstal pointed to potential benefits for the company of disruptions caused by climatic change to the ability of competitors (Australia and Brazil) to supply iron ore and coking coal to the global market (Severstal 2020b). It is unclear whether the reference was to physical disruptions (floods, for example) or policy-based restrictions. The 2035 coal program (Programma razvitiia 2020, p. 63) recognises Australia's enormous reserves as a risk to the Russian sector, noting that demand and the government's ecological policies are the only limits on growth. This could be taken as a back-handed recognition of an opportunity if Australian climate policy led to withdrawal from the market. It is surprising that this possibility was not more actively raised by Russian policy makers and companies.

The second part of the opportunity narrative related to the idea of 'clean coal' and technological solutions. This centred on the argument that coal has an important future for Russia and in global energy supplies. As discussed, coal companies demonstrated an awareness of the climate implications of coal but emphasised the socio-economic necessity of continuing to use it. The solution then, according to companies, was to address the impact of coal by investing in technology to limit GHG emissions and improve coal mining practices. Companies present this as the ultimate 'win-win' solution: coal remains a crucial source of energy for power generation and steelmaking, and gets cleaned up. As discussed above, it was an argument taken up by pro-coal policy actors and summed up by Putin in his April 2021 address to parliament.

As an example, this framing was central to SUEK's communication strategy. The company's deputy CEO, Sergei Grigor'ev, wanted to 'prove to everyone that coal can also be "green"', by increasing investment in 'coal chemistry', modernising mining practices, and introducing the best available technology (Shapovalov 2020). The company claimed to be investing in methane capture and utilisation in underground mines, efficiency measures for coal-fired power plants, and coal gasification (SUEK 2021b), while the company's position on climate noted an interest in carbon capture and storage (CCS) technology (SUEK 2019b, p. 119). However, despite this brief reference to CCS technology, it was not a central element of the technology narrative and corresponds with Russia's limited involvement with CCS to date (Vasil'ev et al. 2021).

Severstal (which until recently owned Vorkutaugol) also discussed its approach to reducing CO<sub>2</sub> emissions within the context of technology, referring to the use of coking coal in steelmaking rather than thermal coal in power generation. Severstal noted there was as yet no real alternative to the use of coking coal, but claimed to be exploring options around the use of hydrogen as a replacement for fossil fuels in the future (Severstal 2019b, p. 77).

Several companies, particularly regionally based companies such as Stroiservis and SDS-ugol', were involved in the 'Clean Coal – Green Kuzbass' program. Federally funded and led by the Kuzbass Government, it was announced in June 2019, aiming to introduce new technologies to improve coal mining practices and minimise environmental impacts of the industry. It emphasises 'clean coal' technology but has been overwhelmingly focused on non-climate specific environmental issues, of the sort one would expect of a regional program. This was also reflected in the emphasis on the socio-economic importance of coal in the Kuzbass region and its role in job creation.

The emphasis on technology is a common narrative we see elsewhere, and, in this way, Russia corresponds with the experience of other major coal states. Trencher et al. (2019, p. 788), for example, have demonstrated this in the case of Japan, where pro-coal actors have framed Japanese coal technology as the cleanest in the world as a way of justifying exports



to developing states. Curran (2021) finds similar discourses in the Australian context, noting the considerable commitment of funds to support research and development in 'clean coal' technology.

## 8 Discussion and conclusions

Despite the seemingly ambitious developments we saw with the government's 2021 Strategy and the 2060 carbon neutrality commitment, the issue of coal and its presence in Russia's energy mix remains unresolved. However, in policy terms, there is no indication that Russia will decarbonise in such a way that would lead it to reject coal exports. All evidence points to Russia only rejecting coal exports if there is a significant reduction in external demand due to international climate action. The presence of climate change in company discourse and government policy discussions was based almost entirely on the possible effect on coal markets of state, investor, and public anti-coal sentiments outside Russia's boundaries. Given that the growth of Russia's coal industry is based purely on exports, such market effects are crucial but outside the control of the Russian state and its coal producers. The fact that the possibility of climate-driven limits on coal demand abroad is already used as an argument by the coal sceptics within the Russian government, stronger evidence of such limits becoming reality, particularly in Asia, could well lead to a reduced state commitment to coal exports. However, the current commitment to the sector, including in the person of President Putin, is strong enough that the evidence would have to be powerful. It should also be remembered that coal scepticism is not only, or even primarily, based on the possibility of climate change-driven reductions in demand. There are doubts about the commercial sustainability of coal exports without strong government support, which could—in different budgetary circumstances—lead to a policy decision to downgrade coal regardless of climate change considerations.

The evidence suggests therefore that it is unlikely that coal exporters will behave any differently than is suggested by the governments' coal strategy: if demand is there, they will seek to meet it. This is reflected in the narratives identified in this study, with some nuances detected in relation to the different categories of producers. Amongst producers, we saw two broad narratives emerge, centred on the risks and opportunities associated with climate change, that were used to convey company interests and give an insight into the extent to which these actors engaged with the issue of climate change. The findings suggested that the more 'international' a company—with the vertically integrated companies more likely to have that status—the more likely it was to address climate issues in public arenas and the more vocal they were in their corporate presence about the risks posed by climate policy developments. This was presumably based on sensitivity to reputational issues and a need to demonstrate their status as 'global' companies, although of what precise nature it was not possible to determine, given that even the most international companies were not heavily exposed to foreign stakeholder pressures. Certainly, the sensitivity was not enough to have as yet brought about any serious changes in company strategy or behaviour. These companies were different too because coal is less existential for them, demonstrated by their stated interest in alternatives to coal such as hydrogen and the push for green steel. However, they would likely only switch from coal to other inputs if it were commercially viable.

More 'local' companies were much less climate-aware and far more likely to focus on non-climate environmental issues of more immediate concern to local residents, to what

effect being beyond the remit of this article but an important area for future research. They were also more likely to be pure coal companies, and these are the companies that produce and export the majority of Russian coal output (see Table 2). What this means in terms of climate change is that Russia has been exporting large and increasing amounts of global GHG emissions in the form of coal, above all by companies that barely acknowledge climate change issues in their rhetoric, let alone action. These companies have far less reason to engage in any climate narratives than the international companies, and indeed they have the government coal export strategy to support them in this way.

Similar to Trencher et al.'s (2019) findings on Japan, whereby narratives were used to mobilise economic and political support for the coal industry, in the Russian context we see the presence of similar narratives coming from the pure coal companies, emphasising the socio-economic implications of any shift away from coal as part of the risks presented by national and international climate policy developments, together with developmental arguments focused on the RFE and Eastern Siberia which emerge in policy discussions.

These companies also highlighted the opportunities afforded by climate change, including around 'green coal' and the adoption of technological solutions to high GHG emissions. These two narratives were reinforced by lobbying activities aimed at shaping policy and government support for the industry, with this group of pure coal companies at the core of the state-company interactions. They lobbied hard for the inclusion of the most expansionary forecasts in government planning documents and for high levels of government spending on coal export infrastructure. They were successful in their efforts, as demonstrated by government support for industry expansion.

In many ways therefore, Russia displays similar characteristics to other major coal producers in displaying a reluctance to actively engage in international climate politics (Martus 2019), failing to actively explore options for a large-scale transition away from coal, and a reliance on 'clean coal' technology as the way out (Spencer et al. 2018; Blondeel and Van de Graaf 2018). Further, as in other large coal states, the close relationship between government and industry has given industry a privileged position to lobby for financial support and shape the policy agenda. For the most part, government policy and company behaviour in Russia remain strongly pro-coal. It will take a lot more evidence that climate change-based declines in demand, particularly in Asia, are real and imminent for that to change.

While much remains unknown following Russia's invasion of Ukraine, we can offer some preliminary observations as to the impact on the coal industry and climate policy. At the time of writing, the EU had announced a ban on the import of Russian coal to take effect in August 2022, and similar discussions were underway in Japan and South Korea (Oda and Lee 2022). This means around 50% of Russia's exports are or are likely to be sanctioned.<sup>12</sup> Since the invasion in February, Russia has seen a drop in exports, and has been selling coal at significant discounts to try and make up the shortfall (Zainullin 2022a). India is being talked up as a big new market for Russia, with China the other major destination. So far, high market prices have meant good returns for companies, despite this heavy discounting from Russia and the decline in exports (Zainullin 2022b). This may change once European export bans come into effect.

In terms of climate policy, the invasion has derailed the 2021 reforms discussed above, at least temporarily, with the government looking to postpone the Strategy's implementation, and companies calling for a revision of emissions reduction plans due to the pressure of sanctions and difficulties accessing foreign technology (Voronov 2022). However, it

<sup>12</sup> Based on 2020 figures for export destinations (see Petrenko 2022). Kommersant puts it at 37% of thermal coal exports based on 2021 figures (Zainullin 2022b).

remains too early to tell whether this will lead to a longer-term repudiation of Russia's climate commitments, or indeed, whether we will see a shift in company rhetoric. Regardless of what happens in terms of climate policy though, the invasion has greatly strengthened the pro-coal lobby's argument for a vigorous expansion of exports to the East, particularly given Western bans on coal imports.

Pre-invasion, selling as much coal as possible was a greater government priority than climate change policy, and the invasion is unlikely to shift the balance the other way. Vertically integrated companies appear to have increasing doubts about coal assets, but with image as uncertain a driver as in the past. In its sudden total reliance on a much narrower range of markets, Russia faces major commercial and infrastructure issues, but the major long-term threat remains, as it was before the invasion, decarbonisation policy spreading to non-European markets.

**Funding** Open Access funding enabled and organized by CAUL and its Member Institutions

**Data availability** n/a.

**Code availability** n/a.

## Declarations

**Conflict of interest** n/a.

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