Shrinking Cities or Resilient Communities? The Future of Kuzbass Coal Towns in the Post-Coal Era

Daria Tabuldina

(M.Sc. Daria Tabuldina, Master Student in Economic Geography and Digital Spatial Analytics, Department of Geography, Saint Petersburg State University, St. Petersburg, Russia, dashatabuldina@gmail.com)

1 ABSTRACT

Amid the global energy transition, coal-producing regions are forced to rethink their development trajectories. Kuzbass – Russia's largest coal-mining region – remains structurally dependent on the coal industry despite a growing crisis: falling production volumes, rising export risks, and weakening economic indicators. This article examines the conflicting narratives surrounding the future of coal-dependent towns, drawing on official policy documents, regional strategies, and media discourse. While the challenges facing the industry are increasingly recognized, the fate of the towns themselves – and the people living in them – remains largely absent from the public conversation. The paper argues that without explicit planning and differentiated territorial strategies, these cities risk entering a phase of unmanaged shrinkage. Territorial master plans are discussed as a potential instrument for more realistic and adaptive approaches to transition.

Keywords: Kuzbass, coal industry, mono-industrial towns, energy transition, shrinkage

2 KUZBASS TOWNS: COAL DEPENDENCE AND SPATIAL VULNERABILITY

The Kemerovo Region, also known as Kuzbass, is Russia's most important coal-producing territory. It is home to the country's largest open-pit mines and underground operations, including those owned by major companies such as SUEK, Kuzbassrazrezugol, Mechel, Evraz, and Yuzhkuzbassugol. Kuzbass accounts for over 55% of Russia's total hard coal production, including a significant share of metallurgical (coking) coal.

Historically, the region developed as a typical industrial basin: cities emerged around mines, processing plants, and rail infrastructure. Today, Kuzbass has a population of over 2.5 million people and leads the country in the number of officially recognized mono-industrial towns – 17 by status, and more than 20 with mono-profile characteristics. As of 2022, over 1.5 million residents – around 60% of the region's population – lived in such towns. According to the Ministry of Economic Development, coal and related sectors account for over 35% of the regional gross product, and in some municipalities, up to 60% of the working-age population is employed in mining. Over 80% of urban economies in Kuzbass depend on the coal and metallurgical sectors, with more than half of all coal produced in 2023 destined for export. This creates a critical exposure to fluctuations in global demand and pricing.

Such a high concentration of industry and reliance on exports has resulted in significant social and spatial vulnerability. The region is already facing a demographic decline, youth outmigration, increased social burdens, and structural dependence of municipal budgets on coal export revenues. Between 2021 and 2024, regional coal production fell from 255 to 198 million tons, leading to a sharp drop in tax revenue and the temporary closure of several operations.

Despite political rhetoric around a "green Kuzbass" and modernization, the reality remains unchanged: most local economies are still tightly bound to coal.

This economic model, centered around exports and infrastructure-dependent supply chains, makes these towns especially fragile amid global market volatility.

So far, there is no clear program for economic transformation. The regional development strategy offers no structured plan for diversification, and existing measures remain fragmented, continuing to operate within the logic of the coal economy.

This study compares official strategies, regional and municipal planning documents, media narratives, and expert commentary – all of which offer conflicting interpretations of the current situation. The aim is to identify the gap between declarations, real-world trends, and the absence of a coherent long-term strategy.

3 KUZBASS AND THE GLOBAL ENERGY TRANSITION

Despite global trends toward energy transition, 2023 marked an all-time high in global coal production: 179 EJ. Nearly 80% of this output came from the Asia-Pacific region, with China, India, Indonesia, and Australia accounting for around 97% of regional production. China alone was responsible for over half of the global

total. Meanwhile, other regions – including Europe, the CIS, North and South America – continued to experience year-on-year declines in production.

Coal consumption also reached a record high, exceeding 164 EJ. China remains the world's largest coal consumer, accounting for roughly 56% of global demand. India became the second-largest consumer in 2023, surpassing the combined coal use of Europe and North America for the first time.

Until 2022, Russia's coal exports were primarily directed toward Europe and China. However, following sanctions and the EU's coal embargo, Russia's export strategy pivoted entirely to Asia-Pacific markets. A return to European demand appears unlikely, even if sanctions were eased, as the EU continues to pursue decarbonization and a green energy transition. In 2023, Russia exported an estimated 112–115 million tons of coal out of a total 198 million tons mined. Of this, 45–50 million tons (about 43.5%) were sent to China, and 12–15 million tons (13%) to India.

The long-term reliability of China as an export destination is also in question. Despite current demand levels, China has announced plans to peak coal consumption by 2030 and reach carbon neutrality by 2060. In recent years, it has become a global leader in renewable energy, driven by both climate policy and falling technology costs. In the first 10 months of 2023 alone, China commissioned 142.56 GW of new solar capacity. For comparison, the IEA estimates that global solar additions in 2023 totaled around 375–405 GW. As of mid-2024, China had already exceeded its 2030 target of 1,200 GW in combined solar and wind capacity. By the end of 2024, solar and wind made up 42% of the country's installed power capacity.

Other importers – such as India, Vietnam, and Bangladesh – are increasing coal purchases, but they are unlikely to compensate for the loss of European and, potentially, Chinese demand. This is particularly true given competition from other major exporters like Australia and Indonesia. India, while still expanding coal use, is also rapidly investing in renewables. By the end of 2024, renewables accounted for 50% of India's installed power capacity. The country is now among the world's leaders in both solar deployment and panel manufacturing. Its energy strategy aims to increase non-fossil sources to 50% of capacity by 2030, while reducing coal's share in generation from 73% to 50%.

Across Asia, many countries continue to develop both coal and renewables. However, long-term strategies increasingly include targets to reduce coal dependence. This shift exerts structural pressure on the future of global coal exports. For coal-producing regions far from export terminals – such as Kuzbass – the outlook remains highly uncertain.

An additional domestic challenge is that Russia's reorientation toward Asian markets has been accompanied by growing state support for coal production in Eastern Siberia and the Russian Far East. New mining hubs in Yakutia, Zabaykalsky Krai, and the Taymyr Peninsula are receiving preferential subsidies, infrastructure access, and strategic backing. This raises the risk that Kuzbass may gradually lose its foothold in export flows – even within Russia itself.

4 OFFICIAL AND MEDIA RHETORIC: WHO IS SHAPING THE FUTURE OF KUZBASS?

As the coal industry faces mounting pressure from global trends and internal constraints, it becomes especially important to examine how the present and future of coal-dependent towns are articulated in public and policy discourse. How governments, experts, media, and businesses describe the situation directly shapes political priorities, budgetary decisions, and institutional readiness for change.

This section analyzes various levels of discourse – from federal strategies and ministerial statements to media coverage and expert commentary. The aim is to compare diverging narratives about the future of Kuzbass, identify which scenarios are dominant or omitted, and assess how these representations influence concrete decisions (or the lack thereof).

4.1 Federal Rhetoric: Betting on Exports Despite Losses

At the federal level, coal remains a central pillar of Russia's energy and export strategy. The official *Coal Industry Development Program to 2035* emphasizes Russia's potential to increase coal production and expand its share of the global market – despite sanctions and the loss of European demand. Coal is framed as a competitive advantage, with the strategic focus shifting toward Asian markets, particularly through new deposits in Eastern Siberia and the Russian Far East. Kuzbass, by contrast, is mentioned less frequently and no longer holds priority status.

By 2025, however, this rhetoric began to shift under pressure from economic realities. The Ministry of Energy officially acknowledged that the coal industry was experiencing a protracted crisis driven by multiple factors: international sanctions, logistical challenges in reorienting exports eastward, falling global prices, and the structural pressures of the global energy transition. The average netback price (the price at the destination port minus transport and handling costs) fell below production costs for nearly all coal grades. In response, the ministry drafted an anti-crisis program including transport subsidies, tax deferrals, interest rate compensation, and other support measures. Although not yet adopted, the document marked a rhetorical turn – from expansion to emergency stabilization. Yet the underlying strategic logic remained unchanged: the goal is not restructuring, but preserving the export model, even at a loss.

By the end of 2024, coal became the only sector in Russia's economy to be officially classified as unprofitable – a fact that highlights both the depth of the current crisis and the institutional inertia that shapes the federal response.

The role of Energy Minister Sergey Tsivilyov is particularly significant in this context. Formerly the governor of Kemerovo Region, his appointment formally links the region's interests with federal decision-making. In practice, however, it illustrates the limits of influence. As governor, he failed to initiate meaningful structural reforms, and as minister, he continues to defend the same export-oriented model.

In March 2025, Tsivilyov stated: *"We are obliged to do everything to ensure that the coal industry in Russia continues to grow... According to the Energy Strategy to 2050, our benchmark for coal production is no less than 600 million tons per year."*

This rhetoric stands in sharp contrast to the actual situation: in 2024, total coal production in Russia amounted to around 370 million tons, and the industry posted aggregate losses exceeding 100 billion rubles, with forecasts predicting a further 10% drop in output next year.

4.2 Regional Strategies Without Strategic Change

In regional and municipal development strategies, coal continues to occupy a central place. While officials in Kemerovo Region speak of a "green Kuzbass," modernization, ecology, and logistics development, these narratives are still anchored in preserving the current coal-based model. Problems such as environmental degradation, population decline, labor shortages, and dependence on export revenues are acknowledged – yet they are not treated as reasons to reconsider the region's core economic trajectory.

An analysis of development strategies in Kuzbass's mono-industrial towns reveals a similar pattern. Even in the most vulnerable cases – such as Kiselevsk, where abandoned territories are expanding and resettlement is underway – coal remains the main and often unquestioned foundation. Diversification is mentioned, but rarely developed as an independent direction. The future is imagined as a slightly improved version of the present – with no alternative pathways and no transition to a post-coal reality.

4.3 Media Discourse

Unlike official strategies that continue to describe the coal industry in terms of growth and modernization, independent and regional media increasingly adopt the language of stagnation and systemic crisis. In sources such as VSE42, Forbes, NEFT Research, and RenEn, coal regions are portrayed as spaces of decline: mine closures, population loss, deteriorating living conditions, and declining profitability have become recurring themes.

A Forbes report, for example, depicts Kuzbass as a region where industrial infrastructure has displaced everyday life – coal dust, explosions, and the relocation of entire settlements near open-pit mines. Analysts at RenEn and the Center for Energy Development point to a declining export outlook and growing logistical barriers that make Kuzbass increasingly uncompetitive. Against this backdrop, direct statements of hopelessness are also emerging: Natalia Zubarevich, professor at Moscow State University and a leading expert on regional socio-economic development in Russia, warns against investing in coal regions, calling them economically unviable and socially unstable.

Experts broadly agree that there is no coherent federal or regional policy for transition or scenario-based planning in mono-dependent territories. Even in the most critical and independent publications – where issues such as unprofitability, shrinking exports, and logistical bottlenecks are well documented – the fate of the towns themselves is rarely discussed.

Although the crisis directly impacts urban life and long-term prospects, it remains largely absent from public debate. Mono-industrial towns are left "offstage" – as if their decline were not a crisis in itself, but merely a side effect.

The attempt to frame this crisis not only as an industrial problem but as a spatial one – with a focus on cities and communities – helps to fill a critical gap in the current discourse. In this context, the clearest, if still fragmented, representation of Kuzbass's future emerges from independent media and expert commentary: not as a zone of growth, but as a region where the crisis has already begun – even if it has yet to be officially recognized.

Discourse Category	Role of Coal	Framing of Problems	Imagined Future	Tone
Official (federal)	Core element of energy and axport strategy; source of competitive advantage; focus on Asian markets	Not openely acknowledged or framed as temprorary / logistical issues	Export-oriented modernization without structural transformatiom	Optimistic / industrial-mobilization
Official (regional)	Key sector for employment and economy; foundation of green Kuzbass and logistics expansion	Acknowledged but not leading to a reconsideration of the model	Digitization and "green" coal without changing the underlying model	Cautiously positive / adaptive
Official (municipal)	Economic core of mono-towns; coal as the only realistic foundation	Recognized (e.g. depopulation, pollution), but addressed through sectoral improvements rather than economic diversification	A better version of the present: same coal-based structure with local upgrades	Pragmatic / inertia-driven
Independent media	Source of crisis and social pressure; object of criticism and public concern	Clearly voiced: unprofitability, stagnation, shrinking workforce, declining exports, falling competitiveness	Post-coal decline without coordination or support	Critical / concerned
Experts	Exhausted sector with no long-term competitiveness; strategic vulnerability of coal-dependent areas	Structural: vulnerability of mono-towns, lack of alternatives, state inaction	Need for a transition to a new model – not yet formally articulated	Analytical / cautionary

Table 1: Discourse Analysis Table

5 CONCLUSION

The discourse surrounding the future of Kuzbass's coal towns reveals more than just a gap between official and expert narratives – it reflects a deeper divergence in how the situation is understood. In official documents, declining production, demographic shrinkage, and logistical barriers are framed as manageable challenges. In contrast, independent media and expert commentary increasingly describe these issues as symptoms of systemic exhaustion – the result of a collision between Kuzbass's export-oriented economic model, the global energy transition, falling demand in key Asian markets, and internal structural weaknesses. No clear strategic response has been proposed to address this exhaustion.

The concern here is not only economic. It also reflects an institutional silence – the absence of any public recognition that the old model has run its course. Media sources capture not just outmigration, but a loss of belief in the future: investors are leaving, young people are moving away, and the language of "development" no longer resonates. Experts increasingly point to the lack of any meaningful transition scenario in regional strategies – only modernization efforts that avoid rethinking the fundamentals.

Kuzbass, however, is not a monolith. It is a constellation of cities with differing densities, economic structures, and resilience. In some, planned shrinkage may be appropriate. In others, continued support for viable industries, gradual transition, or targeted modernization could be viable. Elsewhere, new directions – in processing, tourism, or small business – may be more promising. But such responses require carefully developed master plans, grounded in honest diagnostics, community participation, and input from external experts. This cannot be a top-down campaign; it must be a subtle, context-sensitive process rooted in local realities.

Otherwise, the issue will not be one of transition – but of quiet, unmanaged, and ultimately irreversible decline.