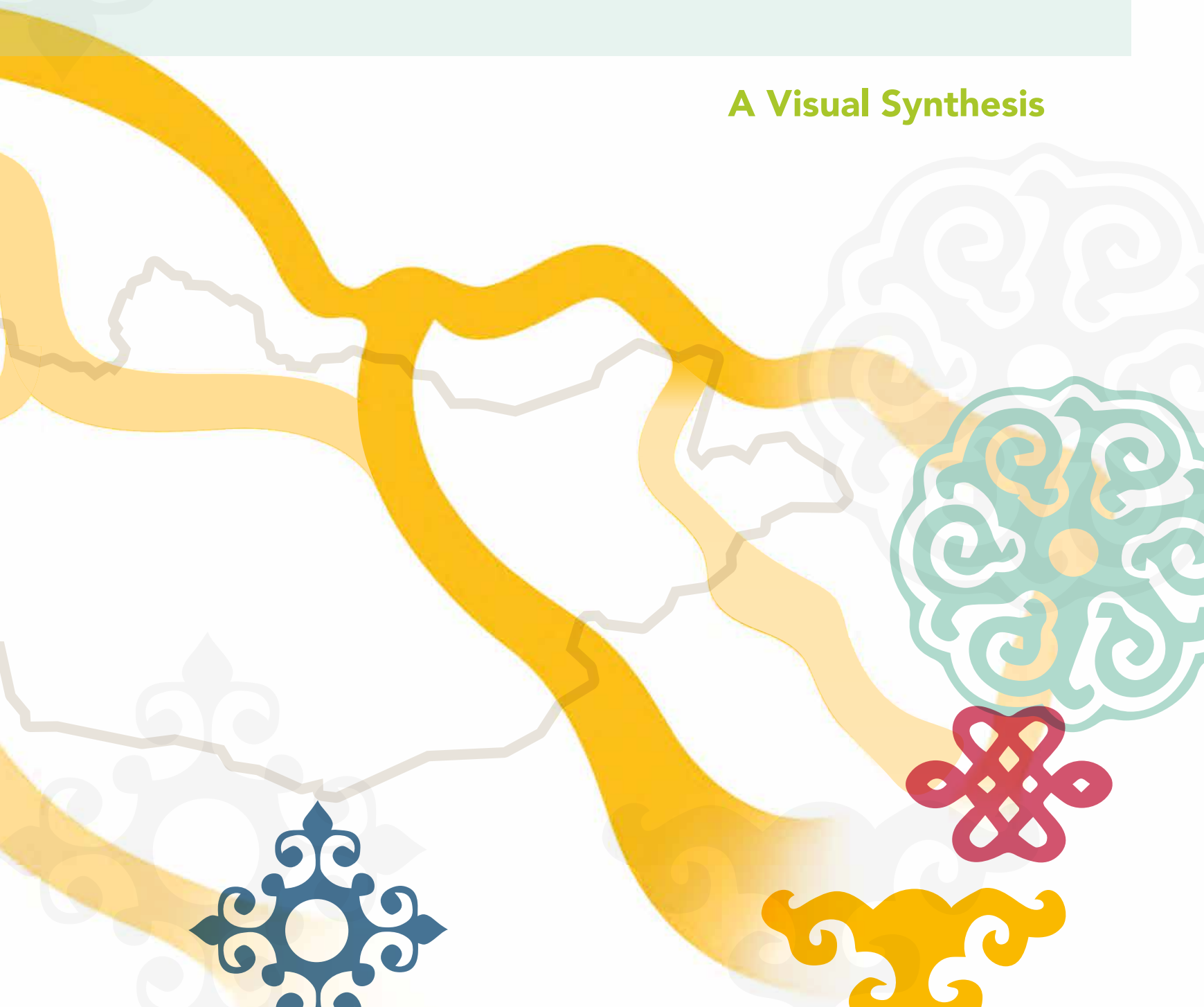


Greening

the China–Mongolia–Russia economic corridor

A Visual Synthesis





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Acknowledgement

The Swiss Federal Office for the Environment (FOEN) and the Permanent Mission of Mongolia in Geneva have provided support and comments in the process of identifying Belt and Road developments, lessons learned and opportunities in the China-Mongolia-Russia economic corridor.

This report is an illustrated overview of the Belt and Road developments in Mongolia. The information comes from official and research sources, from media accounts and from interviews with key actors. While the report strives to maintain high research standards, it presents the scientific and technical material in a manner accessible to lay readers.

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Herders with a Chinese-made motorcycle, Üüreg Nuur, Western Mongolia
© Frédéric Lagrange

Foreword

The route connecting Mongolia, China and Russia offers the shortest transit path between Asia and Europe. The core question facing the three nations is, therefore, simple. How not to pass up this singular opportunity?

This was the underlying motivation behind Mongolia, China and Russia signing a Programme for Building the Mongolia-Russia-China Economic Corridor in 2016 to promote regional economic integration, infrastructure connectivity, as well as steady development of trade and investment. Its vision is to give full play to the potential and advantages of the three parties, strengthen transit transport facilitation, develop infrastructure, and enhance the joint competitiveness in the international market.

The Economic Corridor programme is already under way. Trade flows between China and Russia has been increasing steadily over the past few years. From 2016 to 2019, the volume of transit traffic from China to Russia and the rest of Europe through Mongolia’s territory increased eight times. Furthermore, Mongolia has made great strides in developing its national infrastructure by building over 6,000 km of roads and expanding its railway network.

This trilateral cooperation promises to provide opportunities not only for Mongolia, China and Russia but also other countries, as all of the 32 projects envisaged under the Economic Corridor programme to increase trade volume among three parties, enhance product competitiveness, strengthen transit transport facilitation and develop infrastructure are open to third-party investment. The economic corridor is uniquely situated to usher in a new era of investment and high technology.

However, the Economic Corridor programme would be inconsistent without efforts to ensure its environmental sustainability. Environmental sustainability must come front and centre, if the Economic Corridor is to succeed. This is particularly acute considering the environmental challenges facing Mongolia due to global climate change. The Economic Corridor is doomed to fail if infrastructure and trade development along the Economic Corridor does not go hand in hand with environment protection. As cited in this visual synthesis, “large-scale transportation infrastructure, given its vast geographic coverage, tends to generate a wide

range of environmental impacts – traffic pollution; landslides and hydrological hazards; and the lost or fragmentation of habitats and biodiversity”.

Therefore, the timing of this visual synthesis created by Zoï Environment Network could have not been better. The synthesis reflects on challenges and opportunities faced by Mongolia, China and Russia in greening their trilateral economic corridor. I would like to express my sincere gratitude to Zoï Environment Network for their incredible job in coming up with such a helpful study, as well as to the Swiss Federal Office of Environment for its formidable support and contribution.

I hope that this visual synthesis will provide an insight into a wide range of opportunities for investment by all stakeholders, especially Swiss and European companies.

H.E Lundeg Purevsuren

Ambassador Extraordinary and Plenipotentiary,
Permanent Representative of Mongolia to
the United Nations Office, World Trade Organization and
other international organizations in Geneva



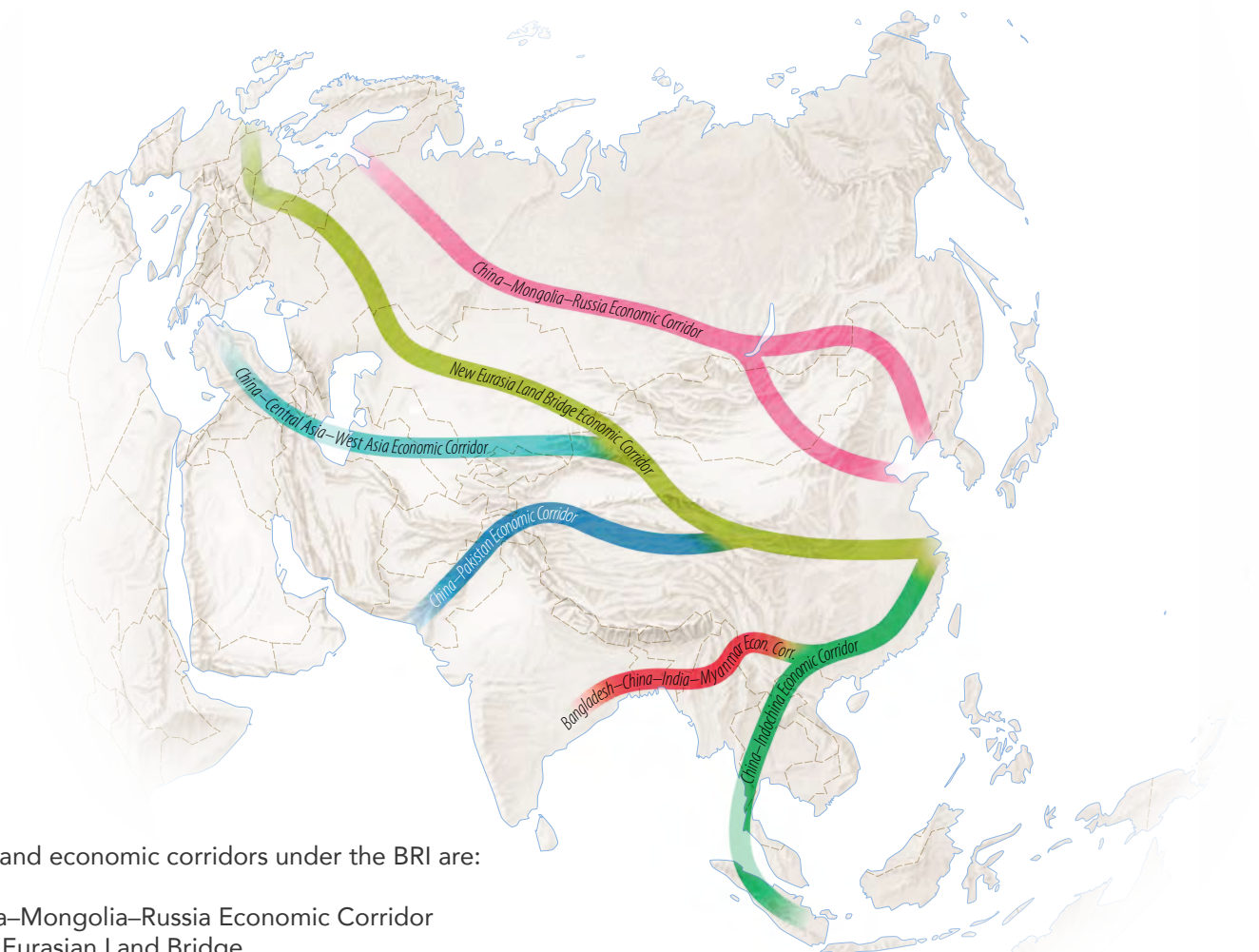
Introduction

Launched in 2013, the Belt and Road Initiative gives rise to a new infrastructure boom of global scale. By one estimate, over 70 countries – accounting for 30 percent of global GDP, two-thirds of population and an estimated 75 percent of known energy reserves – have participated in this initiative seeking to expand infrastructure networks and trade relations with China and each other (Hilton 2019).

The Belt and Road Initiative (BRI) includes six proposed overland economic corridors, with the notion of connecting countries along geographically targeted routes to promote economic integration. A recent World Bank report (2019a) notes the potential for BRI corridor countries to bolster trade and increase foreign direct investments through improved infrastructure connectivity and new transport links. But potential gains come also with considerable risks – higher debts, environmen-

tal damage and social inequities. A robust policy and governance framework is needed to mitigate these risks. Experience in established economic corridors, such as the North Sea–Mediterranean Corridor in Europe and the Pearl River Delta region in China, suggests that investing in physical infrastructure, human capital, and a sound regulatory system are important factors in the success of economic corridors (Dossani 2016).

This report examines one of the six corridors – the China–Mongolia–Russia economic corridor – through an analysis of key development, projects and their implications for environmental sustainability. In particular, the analysis focuses on Mongolia’s challenges and opportunities and on how the country can promote the development of sustainable infrastructure along this corridor to realize its vision for sustainable development.



The six overland economic corridors under the BRI are:

- The China–Mongolia–Russia Economic Corridor
- The New Eurasian Land Bridge
- The China–Central Asia–West Asia Economic Corridor
- The China–Indochina Peninsula Economic Corridor
- The China–Pakistan Economic Corridor
- The Bangladesh–China–India–Myanmar Economic Corridor

Produced by Zoï Environment Network 2020
Source: Derudder et al. WB 2018

Projects in the China–Mongolia–Russia Economic Corridor

Mongolia Facts

Capital: Ulaanbaatar

- **Population** 3.17 million (2018)
- **Area** (protected area % of total area) 1.56 million km² (17.7% 2018)
- **GDP** (annual growth %) US \$13.07 billion (7.2%, 2018)
- **Income level** lower-middle income
- **Total debt service as % of exports** 101.6% (2018)
- **Life expectancy** 70 years (2018)
- **Human Development Index** 0.735 (92nd)
- **CO₂ emissions in metric tonnes per capita** 7.1 (2014), as compared to the average 1.5 for lower-middle income countries)

Sources: UNDP and World Bank



A herder in the Orkhon Valley, Central Mongolia
© Frédéric Lagrange

Strategically located between Russia and China, Mongolia has a unique opportunity to strengthen trade linkages between Asia and Europe while expanding its reach to new markets. In 2016, the three countries reached a comprehensive deal on developing the China–Mongolia–Russia (CMR) economic corridor. At its core, the CMR corridor aims to improve transport connectivity and cross-border trade services through infrastructure development, and to strengthen cooperation across energy, agribusiness, communication technology, tourism and environmental protection. A list of 32 cooperation projects was announced following the signing of the official document.

Proposed projects in the China–Mongolia–Russia Economic Corridor

- Transportation and infrastructure – 13
 - Railway – 7
 - Road – 4
 - Logistics – 1
 - Telecommunication – 1
- Energy – 1
- Industry – 2
- Agriculture – 1
- Border cooperation – 1
- Trade and customs (control and inspection) – 4
- Environment and ecology – 3
- Education, science and technology cooperation – 3
- Social & humanitarian – 3
- Health and medical services – 1

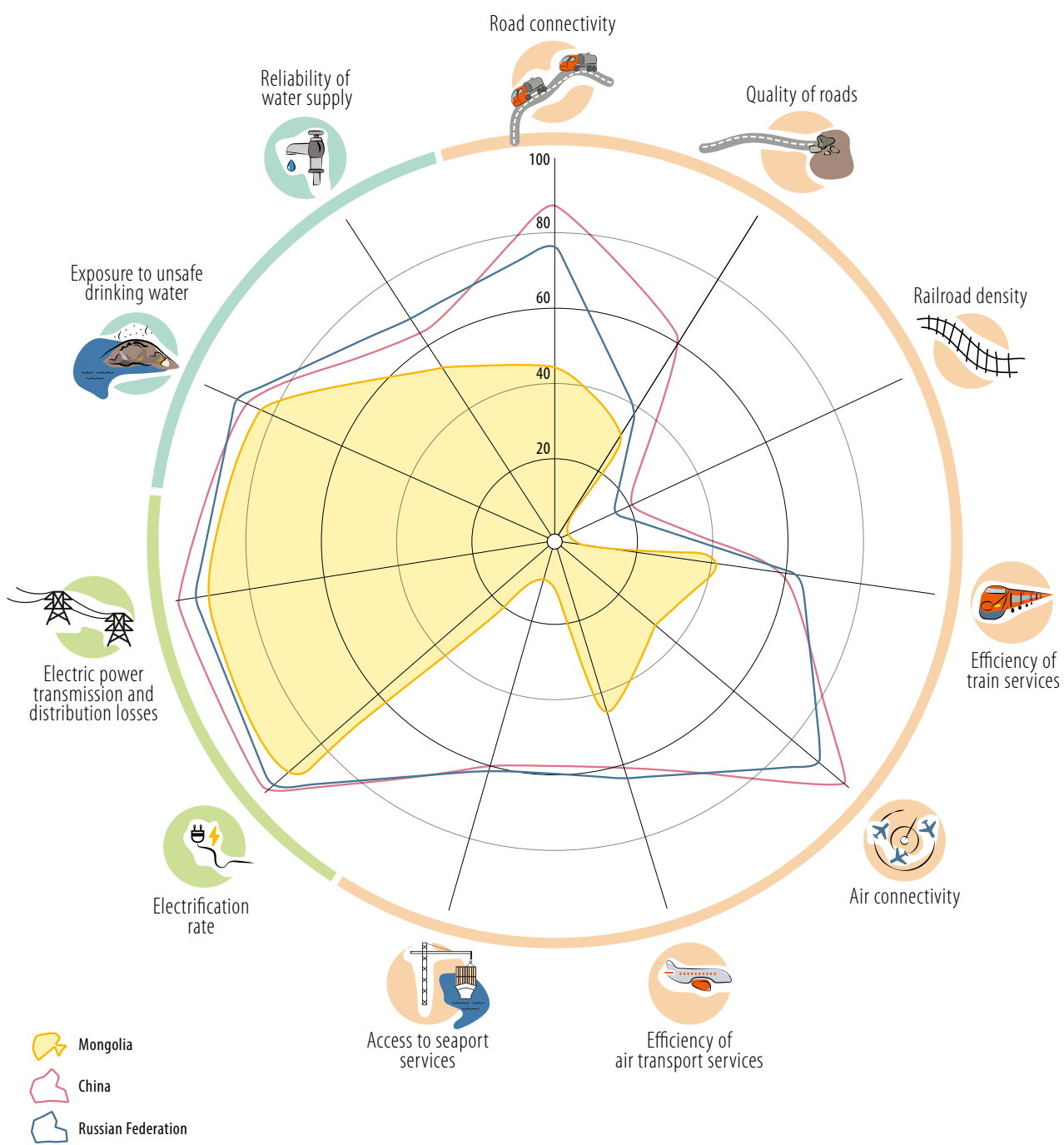
Source: UlaanBaatar Post, www.ftrsk.com

The CMR corridor carries geopolitical and economic importance for Mongolia, a landlocked country between two powerful neighbours. Joining this grand scheme will likely bring Mongolia closer to the economic orbit of China, already its largest trading partner, accounting for 76 per cent of Mongolia's exports. For decades, Mongolia's infrastructure has suffered from considerable deficiencies due to underinvestment. China, under the Belt and Road Initiative, is expected to channel some US \$30 billion of credit to Mongolia for infrastructure projects (OECD 2019). The proposed corridor aligns well with Mongolia's national development strategy, known as the Steppe Road, which calls for massive infrastructure investment to expand the country's railway and road systems and to upgrade the electricity grid and energy supply pipelines. Chinese investment and technologies offer a promising alternative to meet Mongolia's acute infrastructure needs, but many have raised concerns about sustainability and the increasing risks of indebtedness.



Camels around the frozen lake Üüreg, Western Mongolia
© Frédéric Lagrange

Quality of infrastructure in Mongolia, China and Russia

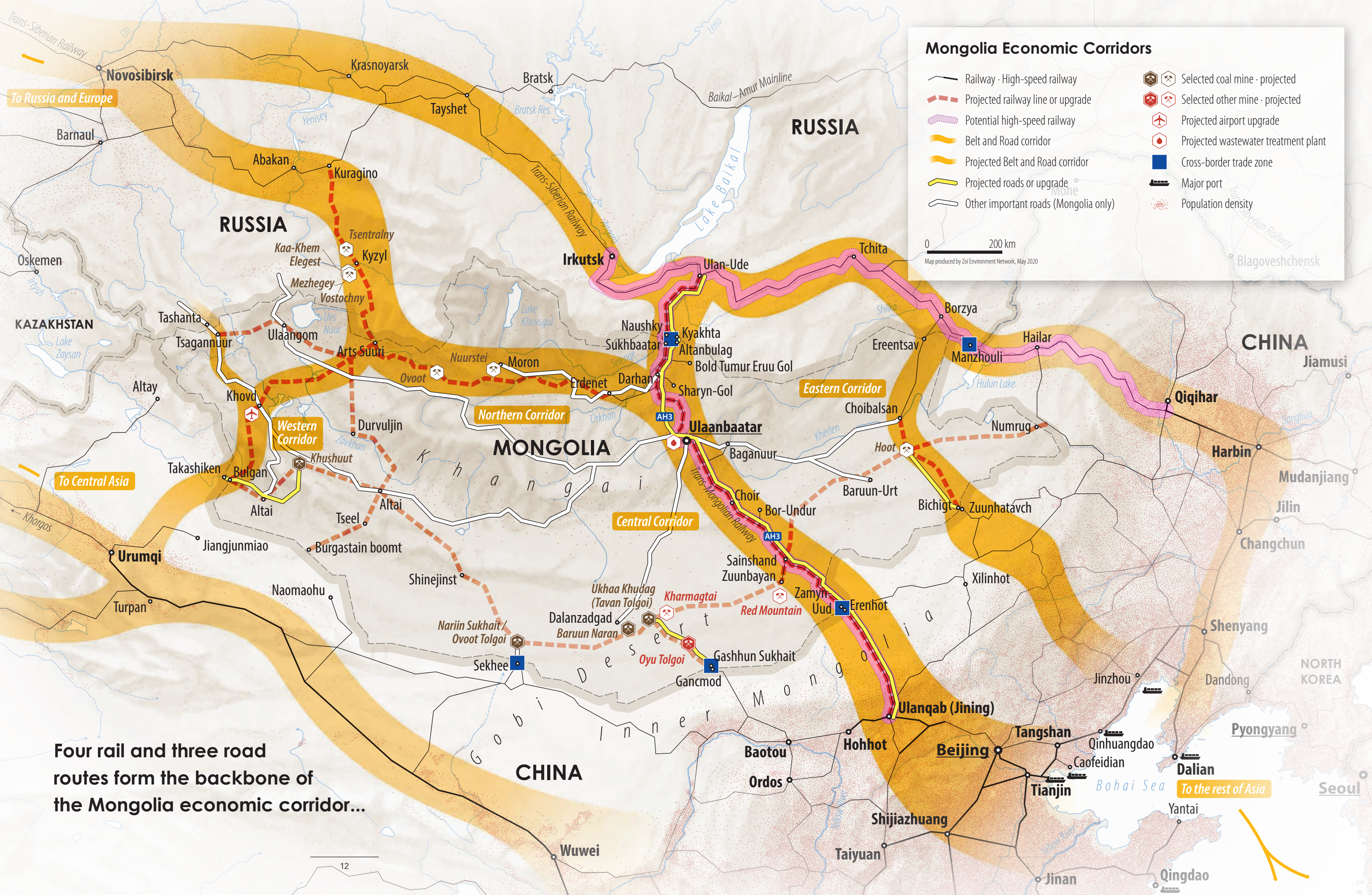


Produced by Zoï Environment Network 2020
Source: OECD 2019 and World Economic Forum The Global Competitiveness Report 2017-2018

For each of the indicators, the closer the score is to 100, the better. Of the indicators most relevant to Mongolia, the transport and water infrastructure are notably deficient. The blue and red lines show that infrastructure in Russia and China is more well-developed than in Mongolia. A detailed methodology note with full description of indicators is available at: http://www3.weforum.org/docs/WEF_GCR_2019_Appendix_A.pdf.



A Mongol "highway", Central Mongolia
© Frédéric Lagrange



Mongolia Economic Corridors

	Railway · High-speed railway		Selected coal mine · projected
	Projected railway line or upgrade		Selected other mine · projected
	Potential high-speed railway		Projected airport upgrade
	Belt and Road corridor		Projected wastewater treatment plant
	Projected Belt and Road corridor		Cross-border trade zone
	Projected roads or upgrade		Major port
	Other important roads (Mongolia only)		Population density

0 200 km
Map produced by Zoi Environment Network, May 2020

Four rail and three road routes form the backbone of the Mongolia economic corridor...

To the rest of Asia

A double-track railway and technical upgrade of the existing central route in Mongolia is envisaged to enhance connectivity between northern China's industrial powerhouse and Europe through the Trans-Siberian railway. Several aspirational rail and road routes are proposed to connect regions of Mongolia where major mining and industrial sites are being developed, including a rail line from the giant Tavan Tolgoi coal mine to the Chinese border intended to reduce traffic and the resulting environmental damage on unpaved roads.

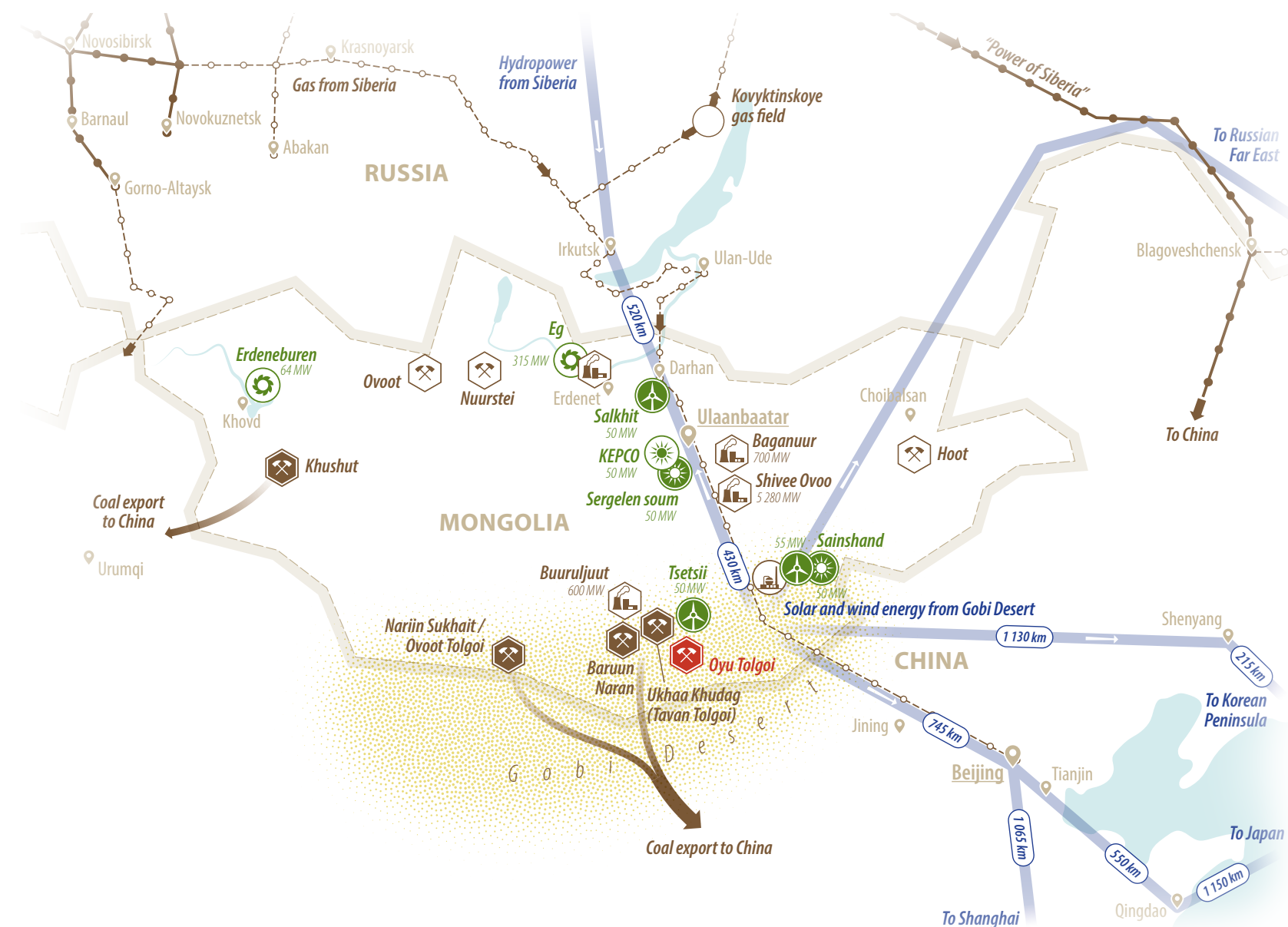
Mega-mining projects, such as the Oyu Tolgoi copper-gold mine and the Tavan Tolgoi coal mine, are set to gain economic viability due to close proximity to China and the improved logistical conditions along the CMR economic corridor. Overdependence on mining, however, makes the economy of Mongolia structurally vulnerable to external market shocks and commodity price cycles, and comes with the high environmental risks associated with extractive industries. The Government has made economic diversification a top policy goal and is keen to promote the export of non-mining products to the corridor countries and beyond.

Among the identified BRI transport routes, the Mongolia central route boasts the shortest path between Asia and Europe, but it is currently underutilized and underdeveloped compared to other competing land trade routes. Challenges to the Mongolia route include physical infrastructure impediments such as two border crossings and rail gauge incompatibility. The trans-Manchurian route, for example, connects northern China to the Trans-Siberian railway with just one border crossing, while the new Eurasian Land Bridge route via key logistic hubs Khorgos and Alataw Pass handles with efficiency more than 70 per cent of the trade volume of China–Europe Railway Express services, a landmark project of BRI (Hou 2019).

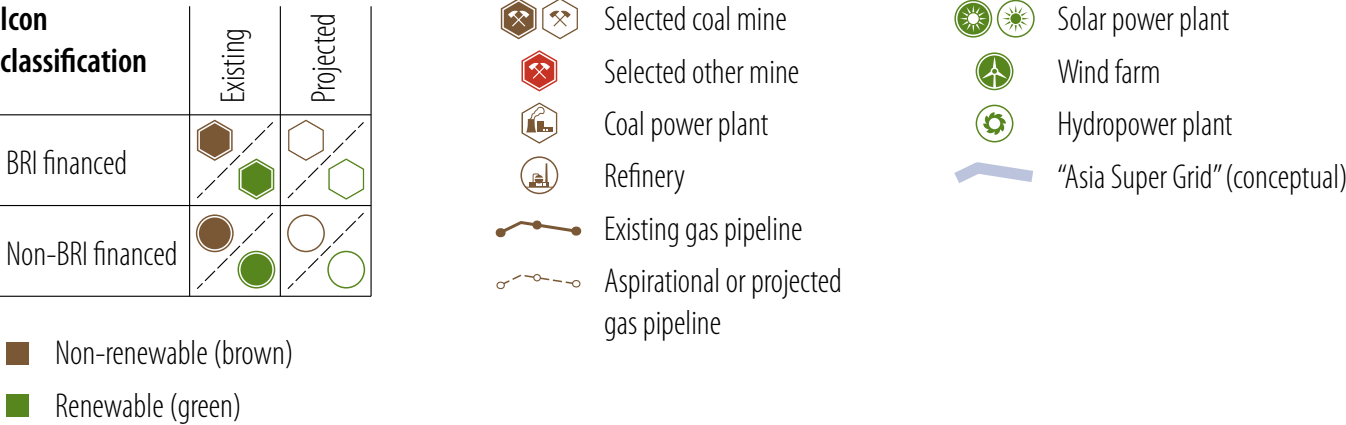
Custom and trade facilitation remains a key to the success of the Mongolia economic corridor. To the southern end of Mongolia's central route, a major cross-border economic zone is under construction. Already, the border city of Erenhot – China's largest land port to Mongolia – has made progress in electronic custom procedures and witnessed a 500 per cent increase in transit volume of China–Europe freight trains between 2016 and 2018 (Mongolia Today 2019, Hou 2019). Since 2016, China, Mongolia and Russia have signed a number of tripartite agreements to streamline border clearance procedures and facilitate seamless road and railway transport along the corridor. Full implementation of WTO's Trade Facilitation Agreement, which Mongolia recently ratified, is expected to bring down the transaction costs by about 16.5 per cent and strengthen Mongolia's trade competitiveness (WB 2019b).



Thousands of heavy-duty trucks loaded with coal are lined up for up to 130 kilometres from the Mongolia-China border on the sole road in the Gobi desert, Mongolia, 2017
© B. Rentsendorj / Reuters



Energy and infrastructure



Produced by Zoï Environment Network 2020

Mongolia's ailing energy infrastructure and insufficient grid coverage undermine the country's growth potential. Nearly 10 per cent of the population lacks access to electricity, and three in four Mongolians are not connected to central or district heating (OECD 2019). The rampant use of inefficient coal-burning stoves during long winters has led to a serious air pollution challenge in urban areas. Owing to its vast coal reserves, Mongolia generates 93 per cent of its power from coal. In recent years, a growing number of aging coal-fired power plants are in critical need of rehabilitation and investment.

Meeting the growing energy demand while reducing reliance on coal for health and environmental benefits is among the top concerns of the Government of Mongolia, which has set the ambitious energy targets of achieving universal access to electricity and a minimum 30 per cent share of renewables in the energy mix by 2030.

Promisingly enough, the country's rolling steppes and deserts are ideal for wind and solar, with an estimated potential of 2.6TW – as much as the entire electricity demand of neighbouring China

in 2030 (IRENA 2016). With some 270 sunny days a year and nearly one-tenth of the territory rich in wind resources, Mongolia has the potential to become a regional clean energy exporter (Mongolia Today 2019). One aspirational project under consideration along the corridor is the creation of a regionally integrated power supply and transmission network, part of the ambitious Asia Super Grid, for exporting clean energy out of the Gobi Desert to China, Japan and other northeast Asia destinations.

For this to happen, new investment and planning need to be aligned with long-term energy goals, but the OECD (2019) notes a worrying prospect that 95 per cent of the planned power capacity in Mongolia will still come from coal, leading to further carbon lock-in. Notably, the 5280 MW Shivee Ovoo mega-coal project, which accounts for more than half of the country's total planned new capacity, is expected to export electricity back to China through ultra-high-voltage transmission lines (Simonov 2019). So far Chinese involvement in the Mongolia energy sector has focused on coal-related technologies. Moving forward, an integrated approach favoring the selection and deployment of renewable technologies will be key to greening the economic corridor.



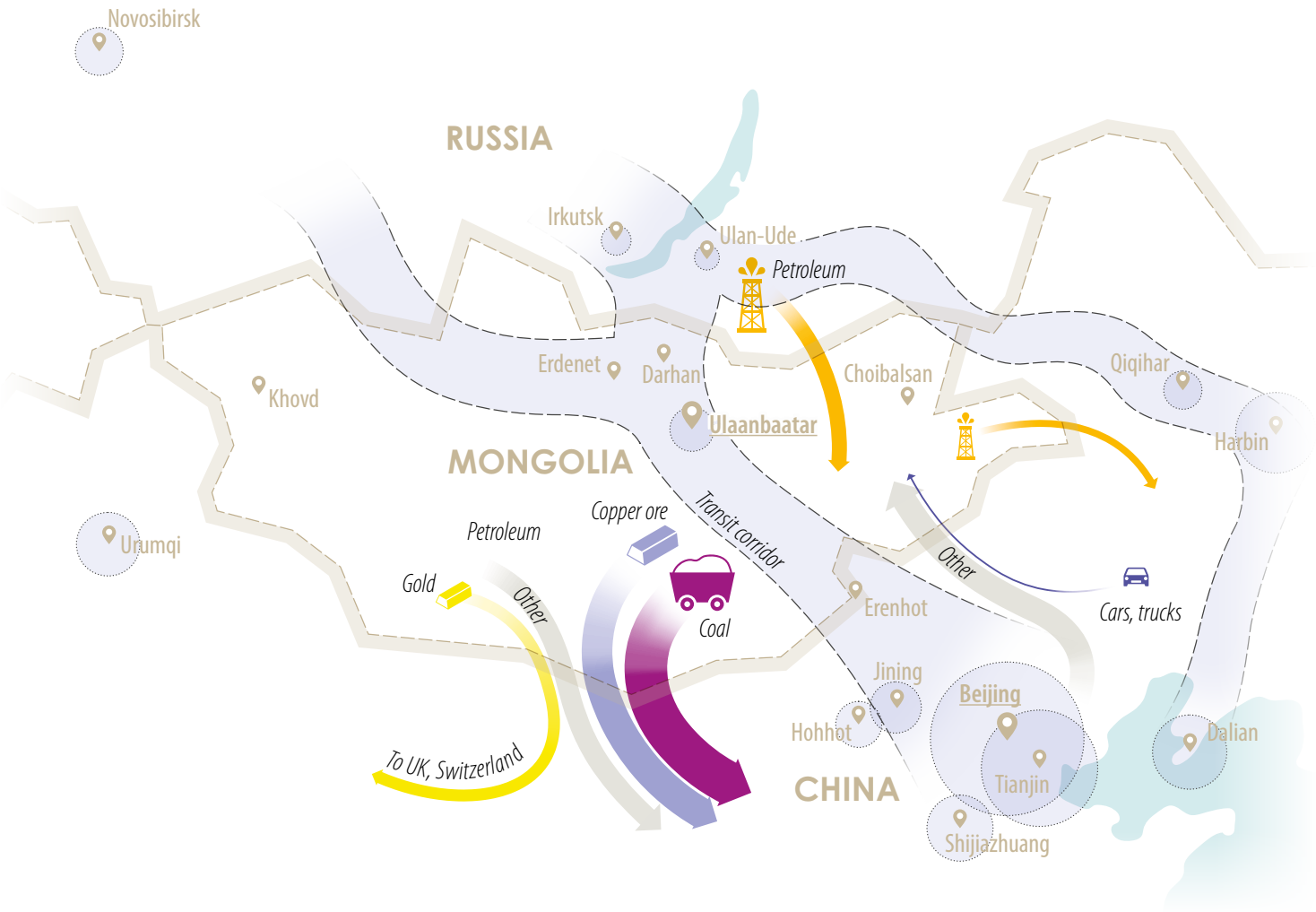
Solar-powered gers in Mongolia
© Shutterstock / Kagemusha

To date, the CMR economic corridor has shown great potential, but modest results. Three years after the signing of the trilateral agreement, as the president of Mongolia noted during a trilateral summit meeting in 2019, the corridor has yet to produce sustained results for Mongolia's economy other than an increased volume of transit trade (Mongolia Today 2019). Observers cite difficult logistics, the lack of financing, environmental risks and institutional gaps related to implementation as key barriers to progress (Judge 2018, WB 2019b).

A well-planned and integrated economic corridor holds great promise for trade, investment and job opportunities and people-to-people exchange. An important node in the corridor, Mongolia's capital Ulaanbaatar alone accounts for more than 60 per cent of the country's GDP and 50 per cent of its total investment, and is home to half of the country's three million people. Ongoing rapid urbanization also brings Ulaanbaatar new challenges such as congestion, air pollution and insufficient basic public services. Thus, the planning and design of Mongolia economic corridor will consider low-carbon, efficient and socially inclusive technologies whenever possible.

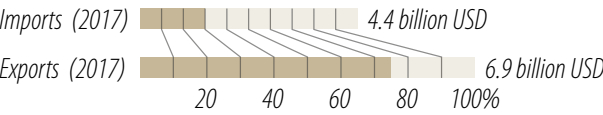
Improved logistic connections from Mongolia's hinterland to China's major sea gateways may open up new prospects for Mongolia. Today, more than 70 per cent of foreign direct investment inflows still goes to the mining sector, as compared to 2 per cent to the tourism sector (OECD 2019). Mining-related products also dominate bilateral trade between Mongolia and its neighbours. In 2017, 96 per cent of the country's coal exports and 100 per cent of copper ore exports find end markets in China. In comparison, Mongolia's non-mining exports, such as agricultural products, remain an insignificant share in the global value chain, despite Mongolia's

comparative advantage in the livestock sector. Even though mining has an oversized influence on Mongolia's GDP, more than one third of the country's working population earn their income through animal husbandry (OECD 2019). In this regard, enhancing the quality and supply chain capacity of non-mineral exports through the corridor development could bring meaningful improvement to livelihoods in Mongolia. This would require an enabling business environment and a robust and transparent governance system to mitigate environmental risks and distribute the economic gains in a socially inclusive manner.

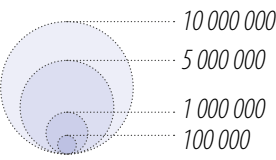


Corridors: trade flows and population

Share of China in country's...



City population



Camels in front of a coking plant in the Gobi desert
© Simone Tramonte

The environmental stakes

As the world's most sparsely populated country, Mongolia's landscape features unspoiled natural habitats from the Altai Mountains in the west to the extensive boreal forests in the north. The country's vast areas of steppe grasslands and deserts are of critical ecological importance. The Daurian Steppe to the east is the most undisturbed steppe ecosystem in the world, supporting viable populations of large ungulates and birds, many of them considered nearly extinct in other regions of the world (UNECE 2018).

The country's water resources are unevenly distributed, with 70 per cent of river flows originating in the north and west. The Selenge River basin is the largest in Mongolia and provides a significant

share of the inflows to Lake Baikal, a biodiversity hotspot of world significance. The south Gobi Desert region, due to high rates of evaporation and infiltration, is water scarce and heavily reliant on groundwater. The dry and cold Gobi ecosystem is fragile, with rangelands easily degraded by overgrazing to deserts where not even Bactrian camels can survive.

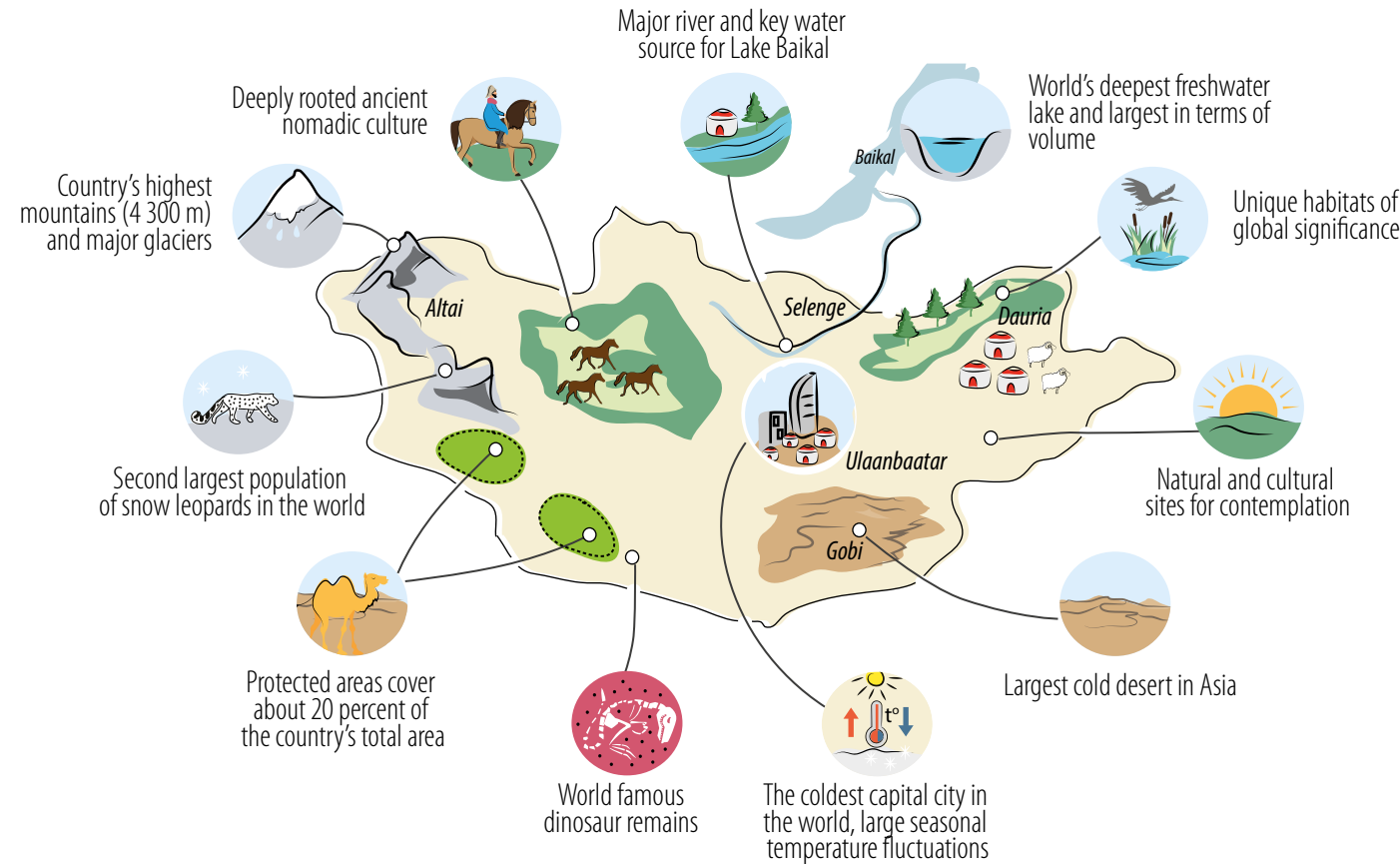
Mongolia's endless steppes and rich natural resources have sustained a nomadic lifestyle for generations, profoundly shaping the country's cultural identity and heritage. In recent years, however, the growing number of livestock and increasing pressure from human activities – including mining and transportation – have disrupted the ecosystem beyond its carrying capacity.

Decades of economic growth has transformed Mongolia into a modern democracy, yet overdependence on mining and natural resources, coupled with rapid urbanization, has led to increased pressure on land, environmental degradation and an elevated level of air pollution particularly in the country's capital city.

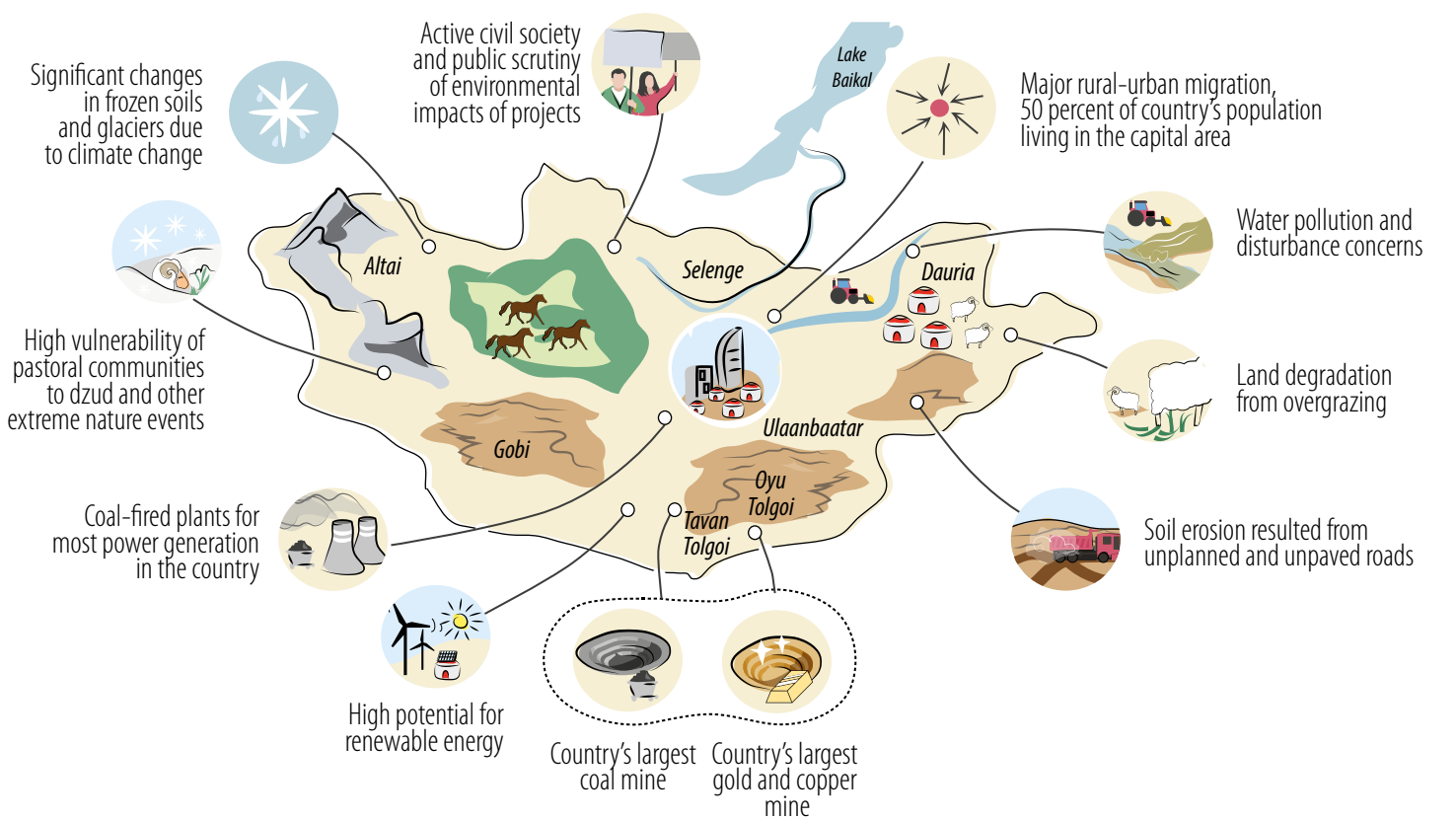
Since the 1940s, the country has recorded an average temperature increase of 2.24°C, more than double the global average (GCF 2019). Melting glaciers, decreased precipitation and intensified extreme weather hazards, such as dzud¹ and drought, has led to increased vulnerability in key economic sectors and people's livelihood. Over the past three decades, the livestock population in Mongolia increased by 2.7 times (UNECE 2018). As a result, more than 60 per cent of the country's rangeland is severely overgrazed, putting a centuries-old nomadic herding tradition under threat.

Accelerated human activities such as mining continue to increase pressure on land and water resources, fuelling a rapid wave of rural to urban migration. In the past decade alone, 600,000 people have migrated to the capital Ulaanbaatar, now a sprawling city with one and half million people (Muller 2019). Migrants establish large-scale informal ger² settlements in outlying districts, but many of these settlements lack clean water, basic sanitation and reliable access to electricity. In winter, uncontrolled burning of coal has caused some of the worst pollution days in the world's coldest capital city. This has become a heightened concern for the country's sustainable development. In response, the Government has introduced a ban on the use of raw coal and put forward bold policy goals to guide sustainable urban development, green facilities planning and waste management in urban settlements.

Mongolia's natural treasures

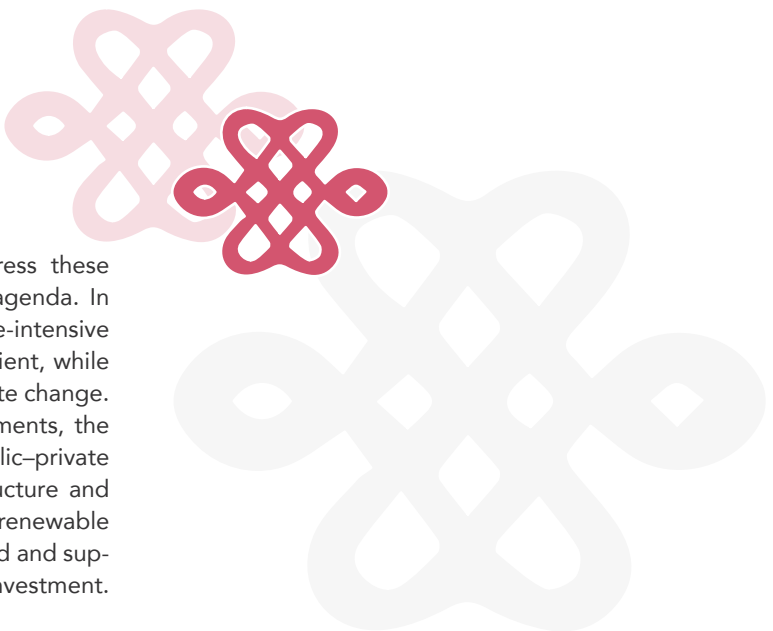


The human presence in Mongolia's landscape



¹ Dzud is a Mongolian term for a severe winter in which large number of livestock die, primarily of starvation because they are unable to graze and in other cases directly from the cold.
² A traditional ger (Mongolian) is a portable, round tent covered with skins or felt and used as a dwelling by several distinct nomadic groups in the steppes of Central Asia.

The Government of Mongolia is determined to address these challenges through a nationwide green development agenda. In doing so, the country aims to shift away from a resource-intensive growth model into one that is climate-resilient and efficient, while preserving its unique environment and coping with climate change. To meet the substantial needs for infrastructure investments, the Government has given high priority to the use of public-private partnerships to improve the delivery of public infrastructure and services. A number of green public-private projects in renewable energy and municipal infrastructure have been developed and supported by multilateral development loans and private investment.



Aerial view of the Mongolian capital's ger district
© Simone Tramonte

In this context, the proposed infrastructure development in the CMR corridor, given its long-term sustainability impacts, could be a make-or-break force to the country's green development trajectory. If not planned carefully, the massive scale of BRI infrastructure may pose irreversible environmental risks to Mongolia's fragile ecosystems and threaten the socially vulnerable. Energy and mining projects, notably coal-fired power plants, could lock Mongolia into carbon for decades to come, undermine its national GHG emission targets, exacerbate its air pollution crisis and exhaust groundwater supplies. On the other hand, the deployment of renewable energy technologies and grid, of which

China is a world leader, can provide green investment opportunities for Mongolia's energy transition.

Large-scale transportation infrastructure, given its vast geographic coverage, tends to generate a wide range of direct and indirect environmental impacts – air and sound pollution from traffic; landslides and flooding; and the loss or fragmentation of habitats and biodiversity. One particular concern for the CMR economic corridor compared to other routes is that new routes that cut through intact frontier landscapes, mostly in Russia, will lead to uncontrolled deforestation and loss of biodiversity and other ecosystem services (Losos et al. 2019).

Mongolia energy and extractive industries: Environmental considerations



Follow good practices

- 1 Promote mini-grids and decentralized clean energy solutions
- 2 Assess environmental and social impacts of the planned major dams on key river basins
- 3 Improve fuel quality standards, reduce dependence on fuel imports
- 4 Expand and upgrade national railway network, promote a shift towards public transport
- 5 Develop super-grid for clean energy generation and exchange

Exercise caution

- 1 Reduce coal subsidies, incentivize the use of cleaner energy sources domestically
- 2 Diversify power generation from coal to curb air pollution
- 3 Reduce over-dependency on mining sector, diversify sources of income
- 4 Consider natural gas projects with caution in line with the Paris Agreement
- 5 Avoid urban sprawl and unplanned development, curtail energy losses and waste

To mitigate the environmental risks related to large-scale transport, energy and mining infrastructure projects, experts recommend following the best practices of a four-step mitigation approach for biodiversity safeguards (Losos et al. 2019, Narain et al. 2020):

1. Avoid strictly protected areas and biodiversity hotspots through careful selection of projects and routes. Generally speaking, an up-grade of existing railway is much less likely to create significant deforestation than a new route that opens up intact frontier landscapes.
2. Reduce impacts on biodiversity through the application of state-of-the-art and environmentally friendly technologies during the construction phase. In particular, consideration on transport options, such as rail versus roads, merits careful assessment.
3. Restore disturbed areas through the implementation of activities to neutralize net impacts locally.
4. Offset any residue impacts through protection and/or restoration of habitats elsewhere, possibly by creating an “offset corridor” through affected areas.

These mitigation measures are hierarchical, and often used in combination. Avoidance – usually the most effective way of dealing with the negative impacts of transportation infrastructure – should be the first option. When avoiding risk is impossible, planners should seek to reduce the environmental risks, and should turn to restoration only when avoidance and reduction are infeasible. Biodiversity offsetting, as provided in the 2012 Mongolian Law on Environmental Impact Assessment, is a last resort.



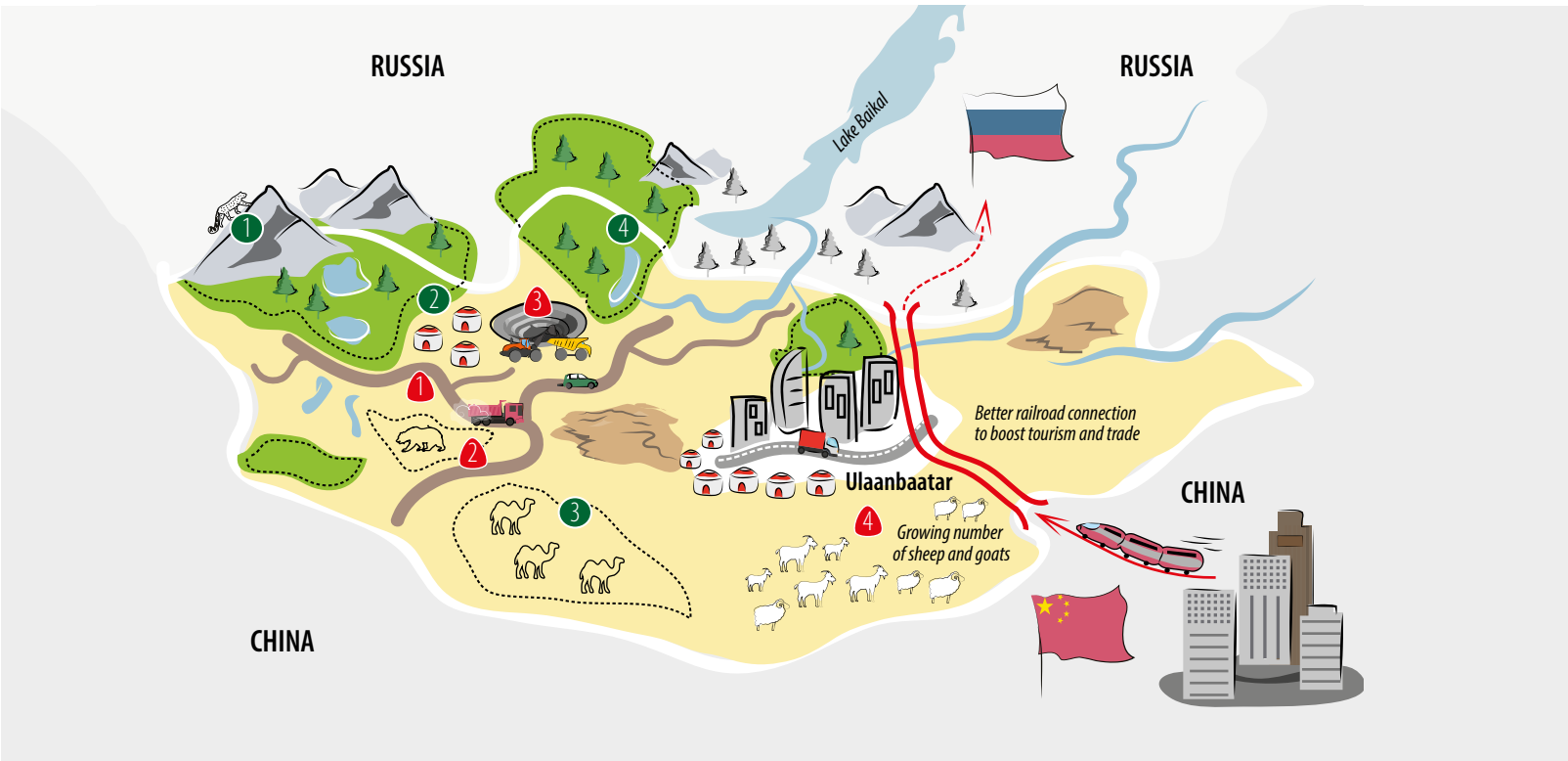
Reindeer herders and Mongolian Taiga
© Lawrence Hislop

While risks of ecosystem fragmentation can be reduced through better planning, as is the case for Mongolia’s central transit route where the corridor follows pre-existing transport routes, more efforts are needed to improve the management and enforcement of state and local protected areas. In high-risk mining sites and production areas, the lack of secured funding and legal enforcement may jeopardize the efforts for proper mine closure and environmental rehabilitation.

Although Mongolia produces a third of the global supply of cashmere from its sizable goat stock and could potentially grow more with improved logistics along the CMR corridor, rapid and uncontrolled expansion might increase pressure beyond the carrying capacity of pastureland and accelerate desertification in certain regions (OECD 2019).

Lake Baikal, a UNESCO World Heritage site and promising destination for eco-tourism, contains about 20 per cent of the world’s fresh surface water, and is home to more than 3,000 species of plants and animals, many of which are unique to that ecosystem. In recent years, hydropower development planned in the Selenge basin, largely driven by growing energy demand for mining activities, has raised concerns over biodiversity impacts on the habitats of endangered migratory freshwater species of the Selenga–Lake Baikal complex (UNESCO 2018). New hydropower projects that fully consider the transboundary environmental impacts and nature-based solutions such as upstream riverbank erosion management are likely to have better environmental outcomes.

Mongolia natural resources and tourism: Environmental considerations

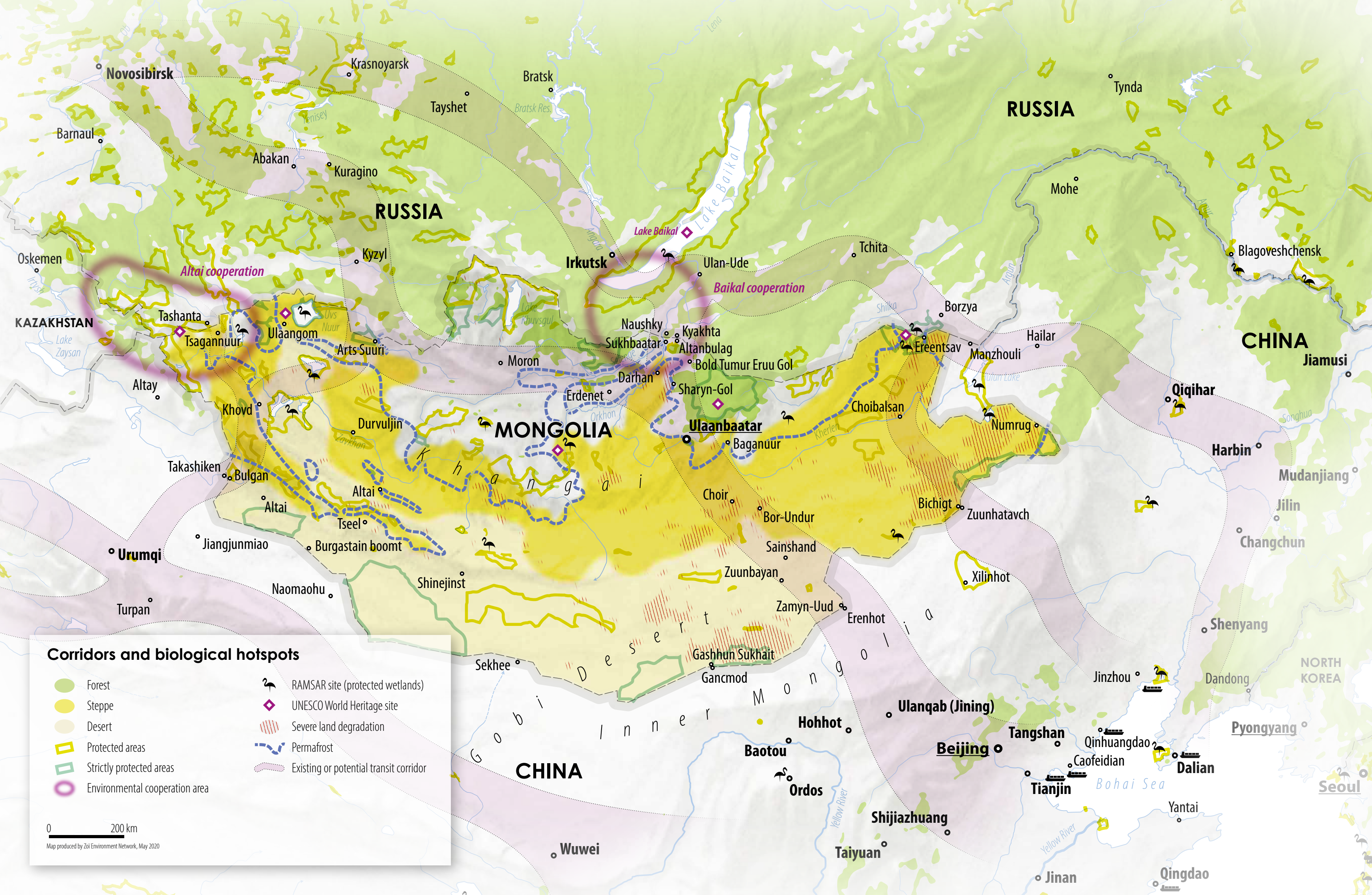


Follow good practices

- 1 Protect species and places of global heritage
- 2 Promote community based eco-tourism
- 3 Make management of the state and local protected areas more effective
- 4 Intensify cross-border environmental cooperation and engage stakeholders from different sectors and the public

Exercise caution

- 1 Reduce extent of dirt roads and fragmentation of ecosystems by roads
- 2 Consider better protection of critical and endangered species and habitats
- 3 Avoid nature damage by mining and ensure post-mining recovery of land
- 4 Limit pressure on natural pastures



Corridors and biological hotspots

- | | |
|--------------------------------|--|
| Forest | RAMSAR site (protected wetlands) |
| Steppe | UNESCO World Heritage site |
| Desert | Severe land degradation |
| Protected areas | Permafrost |
| Strictly protected areas | Existing or potential transit corridor |
| Environmental cooperation area | |

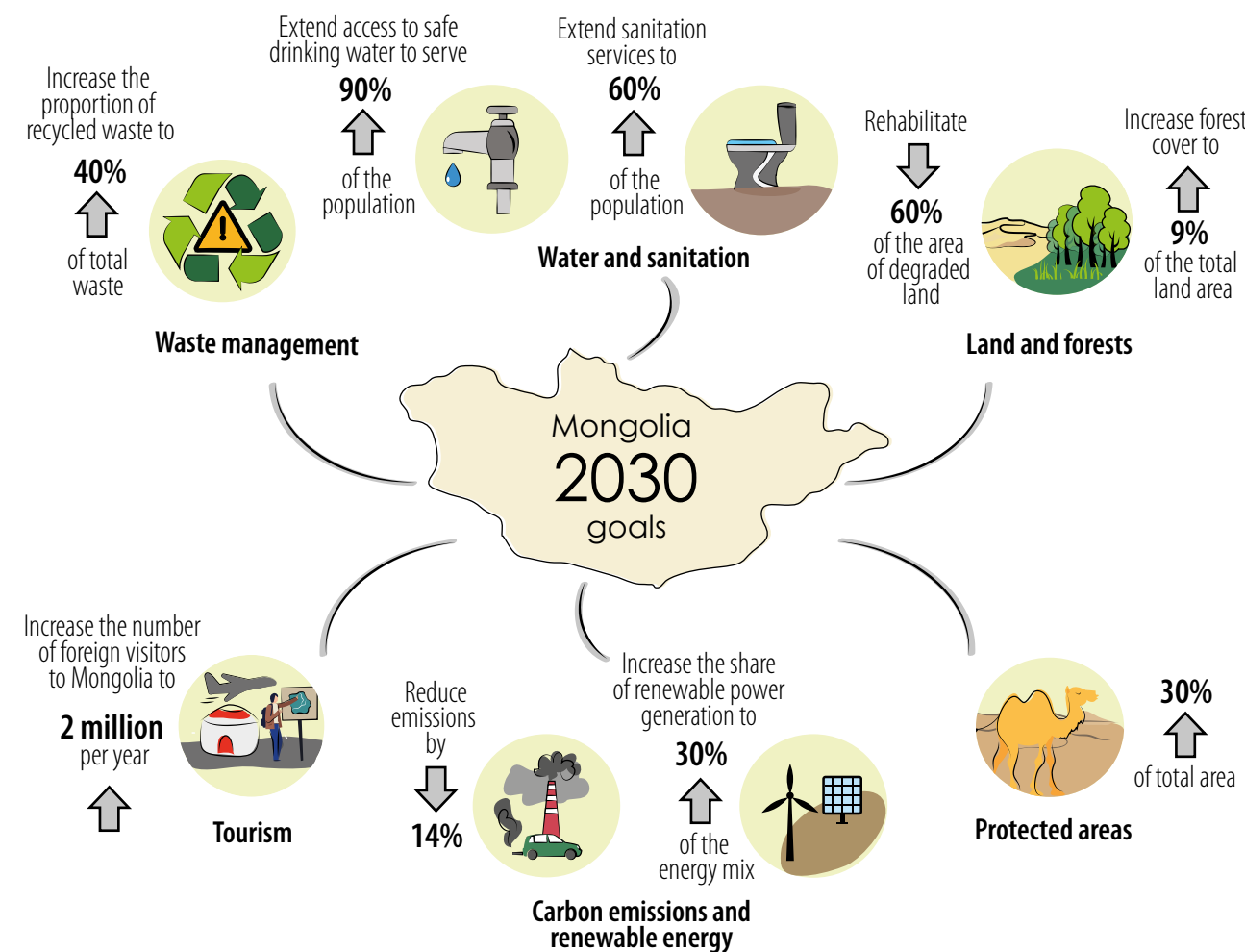
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Map produced by Zoi Environment Network, May 2020

The corridor to a green economy

Green development is at the core of Mongolia's long-term development strategy. In 2016, the State Great Hural (national parliament) of Mongolia endorsed a visionary policy framework, the *Mongolia Sustainable Development Vision 2030*, which sets out

aspirational goals to transform the country into a thriving economy by 2030, while ending all forms of poverty, reducing social inequality, improving environmental sustainability and strengthening the governance system.



To embark on a transition to a green economy, Mongolia became the first country to join the UN PAGE - Partnership for Action on Green Economy in 2013 and started mainstreaming green economy policies into its national development strategy. Recognizing the centrality and potential of sustainable infrastructure, Mongolia submitted a draft Resolution on Sustainable Infrastructure (UNEP/EA.4/L.6) at the Fourth United Nations Environmental Assembly (UNEA), which was then adopted by the international community, calling for governments and relevant stakeholders to apply appropriate sustainability criteria to all infrastructure, and to promote the mobilization and realignment of investments towards sustainable infrastructure projects.

Greening the CMR economic corridor can be a catalytic force for Mongolia's green transition, but implementing strong sustainability criteria and safeguards for infrastructure projects will require improved institutional capacity and coordination across the relevant agencies in BRI countries, as well as from China (WB 2019a). A recent literature review suggests that a plethora of environmental standards and safeguards already exist, both in China and in international forums, and can be applied to greening the Belt and Road investments.

Specifically, the Multilateral Environmental Agreements (MEAs) on climate, biodiversity and environmental governance can be viable

instruments to influence and enhance the environmental and social performance of BRI infrastructure projects. The Convention on Migratory Species, which Mongolia and many Central Asia countries have ratified, for example, has the potential to promote transboundary conservation efforts within the BRI economic corridors. Mongolia has also expressed the interest in acceding to the Aarhus Convention on access to information and environmental justice, which can promote a greater environmental transparency and public participation in decision-making of BRI infrastructure projects.

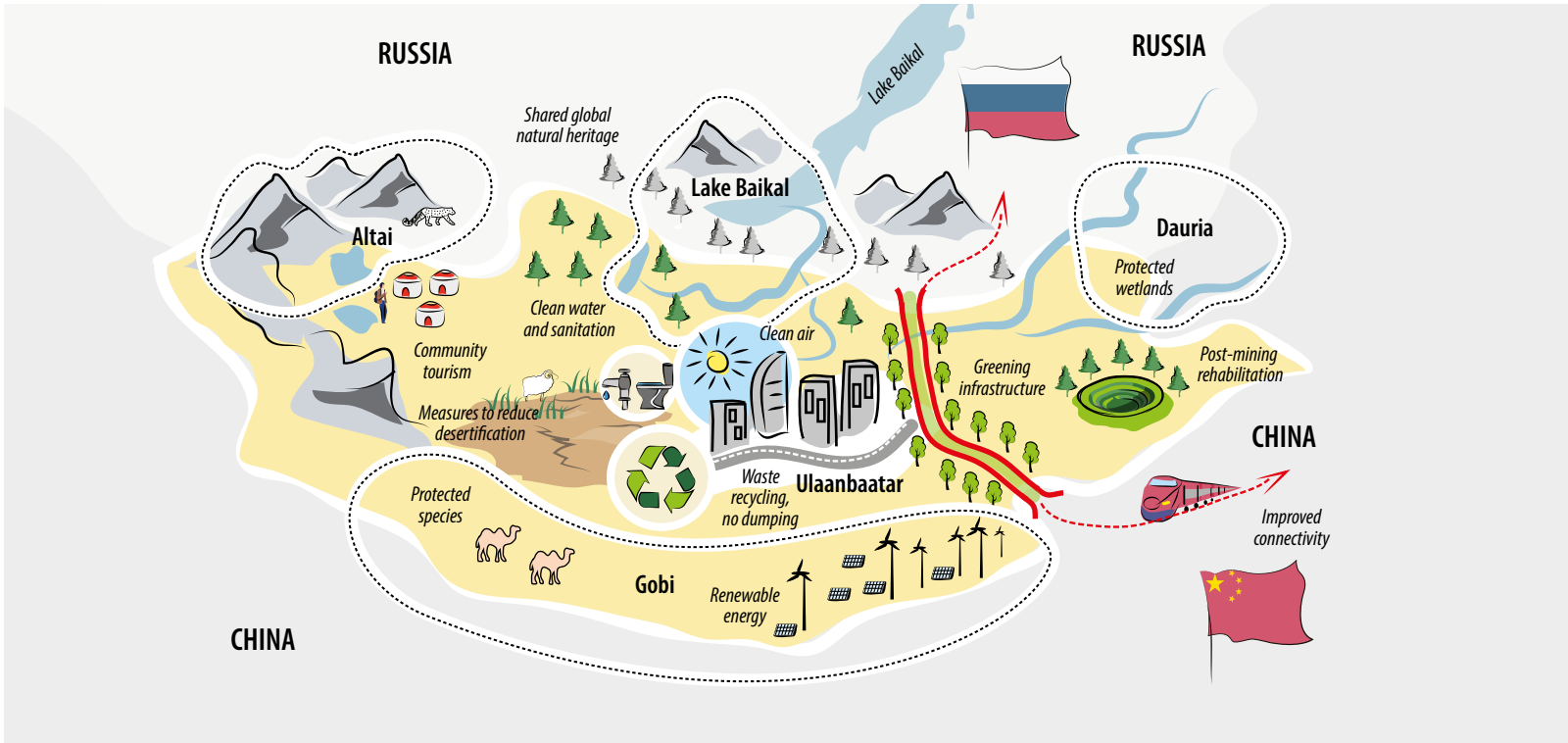
Another useful MEA instrument – the Espoo Convention and its protocol on Strategic Environmental Assessment – obligates host countries to integrate environmental impact assessment into early-stage infrastructure development planning and to mitigate adverse environmental and social impacts in a transboundary context. While the environmental impact assessment procedures in Mongolia are considered comprehensive, the implementation and practical application have so far been insufficient and conducted late in the permitting process (UNECE 2018). Moreover, neither China nor Mongolia has signed onto the Espoo convention and protocol of Strategic Environmental Assessment. A recent study found that the use of strategic environmental assessments to determine long-term, regional and multisectoral effects of large infrastructure projects is not common in the Belt and Road development agenda.

When it comes to development financing, the Multilateral development banks (MDBs) have developed strong environmental and social safeguards for infrastructure lending based on decades of experience and best practices, often in consultation with civil society

groups. Among the existing safeguards, the World Bank's Environmental and Social Framework and the IFC Performance Standards are broadly used as international benchmarks for good practices. MDBs such as the Asian Development Bank and the European Bank for Reconstruction and Development are already active in Mongolia investing in low-carbon and sustainable infrastructure projects such as wind power and urban public transportation projects. The Chinese BRI financiers now have a real opportunity to collaborate with MDBs to promote sustainable lending practices and enforce more stringent environmental and social safeguards in infrastructure projects. In 2019, 30 financial institutions, including major BRI lenders, have come together the first time to adopt the *Green Investment Principles for the Belt and Road*.

Furthermore, a set of industry-led voluntary standards and rating systems for sustainable infrastructure, such as the SuRe® and Envision® standards, provides a useful framework for investors and project developers to integrate sustainable approaches and best practices throughout the project phases. In the context of BRI, Chinese industry associations such as the China International Contractors Association have incorporated concepts from leading sustainability standards to develop the guidelines for sustainable infrastructure. The China Chamber of Commerce of Metals, Minerals and Chemicals Importers and Exporters also developed sustainability guidelines for Chinese outbound mining operations. In particular, the guidelines consider relevant international rules such as the Extractive Industries Transparency Initiative, the International Council on Mining and Metals' good practice environmental, social and governance requirements, and OECD guidelines.

Mongolia vision 2030 and environmental sustainability



On May 27, 2015, the Vice Premier of China’s State Council, Zhang Gaoli, stated in a conference that China will be investing US \$890 billion in some 900 projects to build six economic corridors under the BRI framework. The China–Mongolia–Russia economic corridor may lead to a green economy for Mongolia. Five years on, evidence suggests that reaching this highly desirable destination will require specific intentions supported by rigorous planning and assessment. The following observations arise from this analysis of the CMR corridor in the context of how Mongolia may realize its vision for sustainable development.

A strategic environmental and social assessment for the entire CMR economic corridor would establish the basis for ensuring the consideration of environmental and social outcomes and for determining whether those outcomes align with Mongolia’s vision for its future. Such an assessment would focus on building resilience and flexibility into infrastructure plans to account for uncertainties over time and space concerning technologies, demographics, urbanization, lifestyles, climate and financial sustainability. Coordination across countries and implementing partners would help ensure that risks and impacts are measured and managed in a consistent manner.

An integrated approach to infrastructure planning that applies sustainability criteria and incentivizes investment in sustainable infrastructure would lead to sustained development gains in the long run. The three parties to the CMR economic corridor have taken a step in that direction by establishing a joint centre for investment planning. In addition, the Ministry of Foreign Affairs of Mongolia is creating a dedicated investment research centre to coordinate the implementation of corridor programmes with its counterparts

in China and Russia. In response to the UNEA resolution on sustainable infrastructure, the United Nations Environment Programme is preparing a compilation of international best practices and guidelines to support building country capacity and technical expertise.

Incorporating vigorous environmental impact assessment (EIA) procedures, including strategic environmental assessments and cumulative impact assessments, into the decision-making processes of infrastructure projects would allow risks to be identified and mitigation measures to be taken at an early stage. In particular, for extractive projects, cumulative impact assessments can identify combined project impacts within a certain region or basin. Transportation infrastructure across borders would benefit from the application of a transboundary EIA, a process to be further explored under the environmental cooperation framework of the CMR economic corridor.

Mongolia has the opportunity to enhance environmental cooperation with China, Russia and the international community on issues of transboundary waters, natural heritage sites and protected areas. Most recently, a team consisting of scientists from China, Mongolia, Russia and Kazakhstan has embarked on a multi-year research project to conduct a field survey and baseline study on ecological and biodiversity risks, and to establish partnerships with protected areas in the CMR corridor (ANSO 2020). As regional cooperation deepens, new opportunities for collaboration may arise in joint environmental monitoring and information exchange; sharing good practices and lessons learned on pollution and conservation measures; capacity-building and partnerships for enhanced transboundary environmental management; integrated natural resources management; and the promotion of eco-tourism.



As we finish writing this report in May 2020, Covid-19 seems to have forever changed our world. Transport links and movement of people were greatly discouraged, while economic activities being reduced to essential. As countries start planning for a post-pandemic recovery, the United Nations urges Governments to seize the opportunity to “build back better” by creating more sustainable, resilient and inclusive societies.

Mongolia has demonstrated initial success in containing the virus at an early stage. Yet the crisis also exposes vulnerabilities in its health care systems, particularly for rural population. As a major commodity exporter, Mongolia’s economy is facing greater uncertainties at a time when global trade was nearly brought to a halt. More than ever, Mongolia needs to build a resilient economy that invests in sustainable infrastructure and creates green jobs. Greening the China-Mongolia-Russia economic corridor is an opportunity not to miss.

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Greening

the China–Mongolia–Russia economic corridor

A Visual Synthesis

Strategically located between Russia and China, Mongolia is ready to seize an exceptional development opportunity by signing onto a trilateral economic corridor project proposed under the Belt and Road Initiative. As a part of multi-billion dollar infrastructure investments in railways, roads, energy supply and mines, the China-Mongolia-Russia corridor aims to improve transportation among the three countries and further expand trade networks across Eurasia.

For centuries, Mongolia's vast steppes and rich natural resources have sustained a unique nomadic lifestyle. With a mining boom and rapid urbanization, the country is facing increased pressure on its land and fragile ecosystems. In this context, the Government of Mongolia set out aspirational 2030 Green Development Goals to transform the country's economy from a resource-intensive growth model into one that is climate-resilient and efficient, while preserving its unique environment.

Will the China–Mongolia–Russia economic corridor incentivize sustainable infrastructure investment towards a green economy for Mongolia? What are the implications of infrastructure development for the environmental sustainability for Mongolia? What are the challenges and opportunities? This report offers an analysis of the key development projects, environmental pressure points and approaches to mitigation. Greening the China–Mongolia–Russia economic corridor – an opportunity not to miss – will take rigorous infrastructure planning, the implementation of strong sustainability criteria and safeguards and active cooperation among country stakeholders.

